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CONTRACTIONS OF TITLES.

The following is a list of the contractions and the corresponding full titles of Journals from which abstracts are most frequently prepared for the "Pharmaceutical Journal." The titles prefixed by an asterisk (*) are those of official Journals.

Amer. Drugg. = American Druggist. New York. Semi-Monthly.

Amer. Journ. Pharm. = American Journal of Pharmacy. Philadelphia. Monthly.

Annalen = Justus Liebig's Annalen der Chemie. Leipzig. Monthly.

Annales de Chim. Analyt. = Annales de Chemie Analytique. Paris. Monthly.

* *Apot. Zeit.* = Apotheker-Zeitung. Organ of the Deutsche Apotheker-Verein. Berlin. Twice a week.

* *Apot. Zeit. Rep.* = Repertorium der Pharmazie. Supplement to the Apotheker-Zeitung.

* *Archiv* = Archiv der Pharmacie. Berlin: J. Greiss. Monthly.

* *Berichte* = Berichte der deutschen chemischen Gesellschaft. Berlin. Once or twice a month.

Berichte Pharm. = Berichte der deutschen pharmaceutischen Gesellschaft. Berlin. Monthly.

* *Brit. Med. Journ.* = British Medical Journal, London. Weekly.

Bull. Com. = Bulletin Commercial. Supplement to L'union Pharmaceutique. Paris: Pharmacie Centrale de France. Monthly.

Bull. gén. de Therapeut. = Bulletin général de Therapeutique. Paris. Weekly.

* *Can. Pharm. Journ.* = Canadian Pharmaceutical Journal. Toronto. Monthly.

Cape Agricul. Journ. = Agricultural Journal, Cape of Good Hope, Cape Town. Monthly.

Chem. Central-Blatt = Chemisches Central-Blatt. Berlin. Weekly.

Chem. News. = Chemical News. London. Weekly.

Chem. Zeit. = Chemiker Zeitung. Cöthen. Twice a week.

Chem. Zeit. Rep. = Chemisches Repertorium. Supplement to the Chemiker Zeitung.

* *Comp. rend.* = Comptes rendus des séances de l'Académie des Sciences. Paris: Gauthier-Villars. Weekly.

Deuts. Am. Apot. Zeit. = Deutsch Americanische Apotheker Zeitung. New York.

Gard. Chron. = Gardener's Chronicle. London. Weekly.

Journ. Amer. Chem. Soc. = Journal of the American Chemical Society. Easton, Pa. Monthly.

* *Journ. Chem. Ind.* = Journal of the Society of Chemical Industry. Monthly.

Journ. de Pharm. d'Anvers = Journal de Pharmacie, Organe de la Société de Pharmacie d'Anvers. Anvers. Monthly.

* *Journ. Pharm. Chim.* = Journal de Pharmacie et de Chimie, Paris: G. Masson. Twice a month.

Journ. Zahnheil. = Journal für Zahnheilkunde. Berlin.

Med. Press = Medical Press and Circular. London: A. A. Tindall. Weekly.

Mod. Med. = Modern Medicine and Bacteriological Review. Battle Creek, Mich., U.S.A. Monthly.

Mon. Scient. = Moniteur Scientifique. Paris. Monthly.

Münch. med. Woch. = Münchener medicinische Wochenschrift. Munich. Weekly.

Nat. Drugg. = National Druggist, New York. Monthly.

Nouv. Rem. = Les nouveaux Remèdes. Paris. Twice a month.

Oesterr. Zeits. für Pharm. = Zeitschrift des allgem. oesterreich. Apotheker-Vereines. Wien. Weekly.

Pediat. = Pediatrics. London and New York. Twice a month.

Pharm. Centralh. = Pharmaceutische Centralhalle. Dresden. Weekly.

Pharm. Post = Pharmaceutische Post. Vienna. Weekly.

Pharm. Woch. = Pharmaceutische Wochenschrift. Berlin. Weekly.

Pharm. Zeit. = Pharmaceutische Zeitung. Berlin: J. Springer. Twice a week.

* *Proc. Chem. Soc.* = Proceedings of the Chemical Society. London. About twice a month.

Répertoire = Répertoire de Pharmacie, Archives de Pharmacie et Journal de Chimie médicale réunis. Paris. Monthly.

Rev. Med. Pharm. = Revue medico-pharmaceutique. Paris. Monthly.

Scient. Amer. = Scientific American. New York. Weekly.

Schweiz. Woch. = Schweizerische Wochenschrift für Chemie und Pharmacie. Zurich. Weekly.

Therap. Monats. = Therapeutische Monatshefte. Berlin.

Union Pharm. = L'union Pharmaceutique. Paris: Pharmacie centrale de France. Monthly.

Wien. klin. Rund. = Wiener klinische Rundschau. Vienna: A. Hölder.

Zahn. Rund. = Zahnaertliche Rundschau. Berlin.

Zahntech. Reform = Die Zahntechnische Reform. Berlin: R. F. Funcke.

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THURSDAY, DECEMBER 31, 1903.

THE EDITOR AND STAFF wish all readers of the *Pharmaceutical Journal* a happy and prosperous New Year.

FOR SELLING BAKING POWDER containing 28 per cent. of crystallised alum, a Norwich tradesman has been fined £2 with 10s. costs.

A VERY PRACTICAL article on dispensing appears in the Students' Columns this week. The marking of the examination papers is being proceeded with, and it is pleasing to note that almost all the papers are of a very satisfactory character.

CHEMISTS AND DRUGGISTS would do well to keep in touch with local members of Parliament in view of the approaching Session. The managing director of a drug and fancy goods company appears still to be coaching the Legislature.

A PROCESS FOR MANUFACTURING CAMPHOR artificially is briefly described in this issue. What effect this is likely to have on the camphor market in the future remains to be seen; but in the meantime English refiners have raised the price twopence per pound.

FOR ADVISING A CLIENT, who eventually became a confirmed morphine victim, to take morphine, and providing him with the same, five Paris chemists have been condemned to sentences varying from a fine of £20 to three months' imprisonment.

A PROSECUTION of an Industrial Co-operative Society, under the Sale of Food and Drugs Acts, has failed, in the face of a warranty from the manufacturers. It was alleged that "quinine wine," as supplied by the defendants, was deficient in quinine, and contained salicylic acid.

IN THE SECOND LIST of members of Mr. CHAMBERLAIN'S Tariff Commission, there still appears no name of any person in any way associated with "drugs." It is stated that it is impossible to include direct representatives of many important industries, and it may be that Mr. CHAMBERLAIN has overlooked the drug trade.

FIVE PAPERS of a scientific character were communicated at the evening meeting of the Pharmaceutical Society in Edinburgh, held on December 23. Several of these communications arose out of certain points suggested by the recent publication of the 'Digest of Criticisms,' by Mr. WILLIAM CHATTAWAY, F.I.C., for the General Medical Council.

THE BENEVOLENT FUND of the Pharmaceutical Society is still in need of contributions. It is especially at this time of the year that the needs of those who have fallen by the way should appeal to their more fortunate fellow craftsmen. Thanks are due to the Divisional Secretary for North Lambeth, who has collected a useful sum of money for the Fund from the chemists in his division.

MEMBERS AND STUDENT-ASSOCIATES OF THE PHARMACEUTICAL SOCIETY who have not already subscribed for a copy of the 'Pharmaceutical Journal Formulary' should note the special announcement in this week's Inset, and remember that our telegraphic address is "Pharmaceutical Journal, London"—and telephone number—3226 Gerrard. No further opportunity will be afforded of subscribing for copies of the volume at the reduced rate of 5s. 6d. and, after January 1, the price of the book will be one guinea net.

FOLLOWING ON A CASE of attempted suicide the Chief Constable of Lincoln has successfully instituted proceedings, under Section 17 of the Pharmacy Act, 1868, against the unqualified proprietor of a drug store, who supplied laudanum in an unlabelled bottle. For the defence it was urged that no charge was made for the poison; but, in the face of evidence to the contrary, the magistrates did not believe this story, and inflicted a penalty of 30s., the mayor adding that if the defendant came there again he would get into very serious trouble.

THE LAST WEEK OF THE YEAR has been one of the quietest so far as the markets in drugs and chemicals are concerned. As anticipated, English refiners have raised the price of refined camphor 2d. per lb.

THE SOCIETY AND ITS JOURNAL IN 1903.

IT cannot be claimed that the year which has just reached its close has been entirely satisfactory to the chemists and druggists of Great Britain. True, there has been no war to exert its adverse influence on national prosperity, no general election, and no Royal coronation to disturb the even tenour of the pharmacist's way. But the weather has been execrable, the national health—perhaps as a consequence—exceptionally good, rumours of war and threats of political upheaval manifold, and the general trade of the country, from one cause or another, has been depressed. That alone would have been sufficient to make 1903 a bad year for pharmacy. But other matters have arisen to bring trouble and unrest to the registered chemist. In the first place, the Council and officers of the Pharmaceutical Society have continually had to take up a defensive attitude against the restless activity of persons who, not having acquired any knowledge of drugs, are anxious to be entrusted by the Legislature with powers to sell poisons. Those persons scored what appeared at the time to be a signal success, when the Departmental Committee on Poisons issued its report in February last. For a time, indeed, it appeared not improbable that the Government might introduce a Bill, to give practically free trade in poisons to the hosts of the unqualified. That possibility has not yet, so far as is definitely known, absolutely disappeared, but it has certainly receded

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into the dark regions of the remotely improbable. For that fact, credit is due to Mr. WALTER HILLS for his well-reasoned Minority Report, and to many members of the Pharmaceutical Society for loyally supporting the efforts of their Council in exposing the interested inconsistencies and the dangerous absurdities embodied in the report of the Committee. Now that the British Medical Association has also declared its uncompromising opposition to the same proposals, the threatened Poisons Bill may be regarded as practically damned before its birth.

The Pharmacy Acts Amendment Bill, read a first time in the House of Commons early in May, met with much opposition and made little progress, but its introduction has had the effect of directing attention to the anomalies of "company-pharmacy," and, as a matter of tactics, has been largely justified. The fact has also been made abundantly clear to such registered chemists as have eyes to see, that if they expect Parliament to listen to their grievances, it is necessary to be absolutely united as to their demands, as well as persistent in their efforts. In this connection it is not unfair to point out that support of the Pharmaceutical Society and active interest in the doings of the Society and its enemies, as recorded week by week in its official journal, are the means which are obviously the most likely to achieve the end in view. Specially to be commended is the example set by several members of the Society in the provinces, who by following the advice officially given in the *Pharmaceutical Journal*, were able, last spring and summer, to prevent the passing of resolutions hostile to the main principle of the Pharmacy Acts by various agricultural societies and chambers of commerce.

The history of the Medicine Stamp difficulties, with the kaleidoscopic changes in the "views" of the Board of Inland Revenue, has already been given almost *ad nauseam* Unfortunately, there is reason to believe that the end is not yet in sight. The action of the *Pharmaceutical Journal* in assisting chemists towards the solution of their more pressing difficulties is sufficiently familiar to readers, and, if one may judge from very numerous letters of kindly congratulation, not a little satisfactory. Requests for advice on the stamping of medicines have arrived by nearly every post for several months past, a circumstance which shows that, whatever may have been the case in the past, it is now generally recognised that membership of the Society is an actual advantage to the business man, whether his pharmacy be in the West-End of London or in some isolated part of the country. Members will be glad to know that there is every prospect that the Registrar's Report for 1903 will show a substantial increase in the number of subscribers, and it is hoped that the prospects of the Pharmacy Bill next Session may be improved by a very large accession of strength.

It may be permitted, perhaps, at the beginning of the seventy-second volume of the *Pharmaceutical Journal*, to refer briefly to one or two characteristics of the last two volumes. It will be seen, on reference to the earlier volumes of the Journal, that most of the recent changes have been simply reversions to methods which commended themselves strongly to the first Editor—JACOB BELL; methods, too, which have been copied with satisfactory results by trade journals which are prone to congratulate themselves upon their "originality." So far as the Journal is concerned, the main question is: Have the changes been for the better? That question must be answered by others, but of this members of the Society may be assured—that the changes in the Journal have enabled it to appeal, and not in vain, to a much wider circle of readers than in the past. It should be noted that, in spite of the increased space devoted to news and to commercial matters, there has been no falling off, in quantity or quality, of the original scientific contributions for which the *Pharmaceutical Journal* has always been noted. The needs of the scientific pharmacist have, it is believed, been met as fully as at any previous period, but in addition an endeavour has been made to supply information required by all chemists and druggists, as business men. No attempt has been made to put in practice the Pauline doctrine of "all things to all men," but it has been, and it will continue to be, the aim of this Journal to be useful, interesting, and educative to all registered chemists and their apprentices.

The rejuvenated Students' Columns have, since the beginning of September, found their proper niche, and the thirty-seven students who entered for the recent competition are to be congratulated on their zeal and on the intelligence with which, as their papers prove, they have read the articles and studied the subject-matter thereof. Another new development of the year has been the inauguration of the coloured "Inset" with its notices of forthcoming meetings of local associations. The expense of printing the notices and distributing the "Insets" *gratis* to members of the various associations has been great. But those responsible for the conduct of the Journal will be fully satisfied if, as they believe, the result is more close co-operation of the associations with the parent Society, and a still more universal recognition—as a medium for communication between chemists—of the *Pharmaceutical Journal*, which is the joint property of some six thousand registered persons, to whose interest it is to help in raising the Journal to the summit of literary and financial success.

INDIAN MATERIA MEDICA.

THERE has recently been presented to the Library of the Pharmaceutical Society one of the most recent and complete treatises on the materia medica of India. Messrs. KHORY and KATRAK, the authors, have produced a two-volume work, in which Indian materia medica and therapeutics are treated at some length. To European readers, that part of the book which deals with familiar drugs is not of great value; moreover, the arrangement of the work leaves much to be desired. For instance, after oxygen the authors deal with ozone, and then with Sanitas; after hydrogen comes hydrogen peroxide, ozonic toilet vinegar, water, saline and other baths, including Turkish baths. Unfortunately, also, the index is hardly so satisfactory as it might be. Over two hundred pages of the first volume are devoted to therapeutical notes, but the number of remedies suggested for each disease is so large that this section is a little bewildering. With regard to the more purely Indian portion, Messrs. KHORY and KATRAK are able to write from wide experience, and the enormous variety of native dialects, each with its synonym for every plant, must have complicated enormously the labours of the authors. A noticeable and useful characteristic of the book is that Indian drugs are given side by side with similar drugs used in Europe. The doses of many of the native remedies are given for the first time, these having been omitted from most works that have been published on Indian materia medica. The attention of a well-known firm of manufacturers will probably be called to the definitions given by the authors of certain words registered as trade marks. As a whole, the work is distinctly in advance of most books which have been written on Indian materia medica.

AN ATTEMPT TO CREATE PREJUDICE.

WE have been favoured by the Secretary of the Pharmaceutical Society with the following copy of a letter which has been sent to him by one of the Society's Divisional Secretaries :—

> ATTEMPTED MONOPOLY IN THE DRUG TRADE.
>
> PHARMACY ACT AMENDMENT BILL, 1903.
>
> The above Bill, containing a clause (No. 7) which would enforce a directorate composed solely of qualified chemists upon the board of directors of stores (like the Army and Navy), or any limited company carrying on business as chemists and druggists is, I understand, to be reintroduced next Session. The promoters are trying to pledge members to support the Bill, but I feel sure that if its effect was clearly explained to each member such Bill will receive no support.
>
> It is only by misrepresenting its effects that the promoters can gain supporters, and I trust members of the House of Commons will not pledge themselves outright to vote for the Bill next Session without hearing both sides of the question.
>
> As a sample of the manner in which the Bill is being promoted, I might say that last Session the honourable member in charge of the Bill was deliberately misled by the promoters into believing that this clause only required one member of the directorate of such companies to be a qualified chemist, whereas the Bill is (cunningly) worded to require that every such director must be a qualified chemist.
>
> The purpose of the present will be served if you will be good enough to consider the point above mentioned before definitely promising any private chemist or member of the Pharmaceutical Society to vote for the Bill.
>
> There are other clauses of the Bill most detrimental to the public interest on which I should like to write you more fully as soon as the Bill is before the House.
>
> Yours faithfully,
> (Sd.) JESSE BOOT,
> December, 1903. Chairman.

The letter has apparently been sent to members of Parliament, as well as to the *Manchester Guardian* and other provincial newspapers. It seems unnecessary to comment upon the letter, since it carries its own condemnation.

MEDICINE STAMP DUTY: "BREAKING BULK."

Mr. EDWIN FOWLER, of Hull, writes in reference to the editorial note on the above subject, which appeared in the *Pharmaceutical Journal* of December 26, at page 942. Mr. FOWLER has sent copies of correspondence with the Board of Inland Revenue, which shows that he has pointed out repeatedly the inconsistency of allowing a chemist to break bulk of another person's proprietary without fresh payment of Medicine Stamp Duty, while not permitting the retailer to do the same in the case of his own proprietary articles. Mr. FOWLER asks that strong representations should now be made to the authorities, while they still retain an open mind, asking for the total withdrawal of concession to licensed vendors with regard to the breaking of bulk, for the following reasons:—(1) Because the concession opens the way to unlimited fraud. (2) Because the Revenue would greatly gain by such withdrawal. (3) Because if the concession continues many chemists will be swamped by the thousands of small licensed hucksters who see in it a golden opportunity for developing into miniature drug stores. In a letter to Mr. FOWLER, dated October 9, the Board stated that the "practice of allowing licensed vendors to break open stamped packets of powders and retail the contents singly without payment of further duty is a concession, and they are not prepared to extend this concession . . . ," but the suggestion that the concession should be altogether withdrawn was not referred to.

THE CALENDAR FOR 1904.

PROMPTLY with the closing day of the old year the new edition of the Calendar of the Society makes its appearance, and it is possible to review briefly its contents in the first number of the Journal for 1904. One cannot fail to be favourably impressed with this improvement upon the former conditions of issue which delayed publication until towards the end of January, and hampered the usefulness of the work by imparting a veneer of antiquity to it (in fancy, at any rate) even before the booksellers received their copies. This year's new features should prove acceptable to those who desire to possess an accurate idea of the aims and work of the Society and its Council, as well as a sound knowledge of the machinery by which the work is performed and the objects advanced. For the first time on record the standing orders of the Council are given to the world; hence prospective Councillors and potential Presidents may acquire at leisure a perfect familiarity with the rules of the political game as played in Bloomsbury Square. The arrangements under which the various committees are appointed under the new procedure are also explained. The Boards of Examiners are now dignified with a position commensurate with their importance, and an explanatory note accompanies the bald statement of the names of the examiners. An innovation, too, is to be noted in the introduction of the names of the Privy Council visitors and the superintendents of written examinations. The almanack appears to be carefully and judiciously compiled, and the reference therein to the date of the Tabloid judgment is sufficient evidence of its freshness. The Calendar retains the old items of perennial interest—the Major Examination Questions, the Prize and Scholarship Questions, School Prize List, and so forth—but there is something new and of distinct value in the pages devoted to the subject of Medicine Stamp Duty. This subject is a burning one with chemists and druggists and full of pitfalls, but an average business man would be able, with the aid of the Calendar, easily to master the principles which govern the administration of the Stamp Acts. In several instances recent events have found prompt recognition in the present edition, but it savours of intelligent anticipation to find the B.Sc. of Mr. HAROLD DEANE, and the gift of Sir THOMAS HANBURY to future Hanbury medallists duly figuring in their appropriate pages. Every member of the Society should possess a copy of the official Calendar, if only for the purpose of informing himself upon official matters, and the two shillings charged for copies may be truly regarded in the light of a sound investment.

ABSTRACTS—SCIENTIFIC AND TECHNICAL

A REVIEW OF CURRENT WORK IN PHARMACOPEDICS AND ALLIED SCIENCES

Determination of Argon in the Atmosphere.

Since metallic calcium at a red heat absorbs both oxygen, nitrogen, and hydrogen, H. Moissan has employed it for the determination of argon in atmospheric air. The air is passed, first over a mixture of quicklime and magnesium, then over small crystals of pure metallic calcium, both heated to redness. The residual argon is then measured. The amount present in the atmosphere is found to be remarkably constant. Air from the observatory on Mont Blanc gave 0·9352 per cent.; from Paris, 0·9337 per cent.; from London, 0·9325 per cent.; from Mont Pelée in Martinique, 0·9365 per cent. In fact, specimens air taken at various altitudes from sea level to a height of 5,800 metres, show a practically constant amount of argon. One sample only, taken from the Atlantic Ocean, gave 0·9492 per cent. of argon. These results confirm the statements of Dumas and Boussingault on the constancy of the constitution of the earth's atmosphere.—*Comptes rend.*, **137**, 600.

Heroin Hydrochloride.

Attention is called to the ease with which this substance is decomposed in solutions, particularly in presence of acid, acetic acid being split off by hydrolysis with regeneration of morphine. For this reason heroin should be given in the dry form, in cachets, pills, tablets, or powders.—*Pharm.-Cent.*, through *Chem. Zeit. Rep.*, 1903, 205.

Jamaica Sarsaparilla from Honduras?

Pharmacists and botanists are still in some doubt as to whether the original Jamaica sarsaparilla, produced in New Grenada, was identical with that now coming from Costa Rica, and referable to *Smilax ornata* or *S. officinalis*. H. H. Rusby has examined specimens of sarsaparilla, which undoubtedly represent the drug grown in Honduras. The specimens were diagnosed by experienced handlers of the drug to be not Honduras but Jamaica sarsaparilla. It is thus evident that two different varieties are produced in Honduras, and it is probable, according to Rusby, "that we have Central American Jamaica sarsaparilla collected in Honduras, though it is possible that it is a closely related species." The appearance of the plant agrees very closely with the pictures and descriptions of *Smilax ornata*, Hooker. On the other hand, the specimens examined represent a pistillate and fruiting plant, grown naturally, while *S. ornata* is founded upon a male plant, grown under glass. The following differences must be considered. The stem of *S. ornata* is described as sparsely aculeate, whereas in the specimen it is profusely so at the base: the junior leaves are lightly cordate, whereas in the Honduras specimen they are rounded. The petioles of *S. ornata* are shorter. In Rusby's specimen the larger leaf-blades show a distinct tendency to become suddenly contracted about halfway up, and more so on one side. Lastly, attention is called to a peculiarity not figured or described in any other sarsaparilla-yielding smilax, namely, a peculiar toothing of the sheathing bags of the petiole. This character is of sufficient importance to mark a distinct species, provided it does not occur in *S. ornata*. It seems more likely that it does occur, but has been overlooked, especially since it seems to be wanting from all except the very oldest leaves. Provisionally, and until more is learnt of the characters of *S. ornata*, it is necessary to regard the plant as of that species.—*Druggists' Circular*, November, 1903, 224.

Resin in Convolvulaceous Roots.

Attention has often been directed to the comparatively small percentage of resin at present found in jalap root. G. Weigel, on the ground of numerous analyses made in Hamburg, asserts that the average percentage is higher than is usually stated. Out of fifty-five lots of root twenty-eight showed from 12 to 18 per cent., the remainder mostly about 8 to 10 per cent., although the quantity fell as low as 4·6 per cent. The largest roots contain most resin, and these are bought up by the makers of jalapin. Scammony root he finds to contain from 5·5 to 13 per cent. of resin, the average being about 10 per cent., a figure that agrees fairly well with that published by Barclay (8·6 per cent.). Orizaba jalap contains more than scammony root, viz., on the average of 17 or 18 per cent.; the resin is identical with the resin of scammony root.—*Pharm. Centralh.*, **44**, 790.

Mexican Materia Medica.

The Mexican Pharmacopœia is the work usually consulted in this country concerning the materia medica of Mexico, but it does not include many of the native remedies used in that country. For some years past the Instituto Medico Nacional has taken up a definite series of these remedies and subjected them to botanical, chemical, and pharmacological investigation, and has published the results in a work called 'Materia Medica Mexicana,' of which the first part appeared in 1895 and the fourth part is now in the press. The programme for investigation during 1903 has included the following herbs:—"Anona morada" (Anonaceæ), "E. scobilla" (Compositæ), "Doradilla" (Lycopodiaceæ), "Mirtillo" (Labiatæ), "Naranjillo" (Solanaceæ), "Tlacopatle" (Aristolochiaceæ), "Tlatlancuaya" (Amaranthaceæ), "Copalchi" (Rubiaceæ), "Coca silvestre de Mexico" (Linaceæ), "Lirillo" (Liliaceæ), "Camote del cerro" (Dioscoreaceæ), and "Zapotillo" (Solanaceæ). Some of the results obtained during past years will be sent to the St. Louis Exhibition, the following being mentioned in the Mexican catalogue already prepared, viz., pipitzahoic acid psoraline, calandreine, piquerine, briqueline, bocconine, plumbagin, casimiroin, oil of the seeds of *Chenopodium fœtidum*, oil of *Licania arborea*, of *Thevetia ycotli*, solid and liquid oils of *Argemone mexicana*, essential oils of *Schinus molle*, *Artemisia mexicana*, and *Taxodium mucronatum*. With the exception of pipitzahoic acid and the oil of *Argemone mexicana*, it would probably be a difficult task to find any of the above in a European pharmacy. Of twenty-four plants recently subjected to clinical experiments several have given good results. "Nextalmalxochitl" proves to be superior to cantharides as a counter-irritant, since it does not produce cystitis, and is easy of application. "Crameria del pais" is useful in acute enteritis, but valueless in chronic cases. "Tacopatle" is useful as a stimulant; "Peyote" is effective as a cardiac stimulant, but produces visual hallucinations; "Cicutilla" is an efficacious analgesic in articular and subacute muscular rheumatism. "Salvia de bolita" is an excellent antihydrotic, useful to control the night sweats in phthisis; "Tepozan" and "Tejòcote" are useful diuretics; "Miamole Cuapinole" bark, and "Tecuampatli" and "Yerba de Zorillo" are good purgatives; "Yerba de la Cucaracha" is an excellent insecticide; and "Palillo" is a good anodyne in gastralgia.—*Anales del Institute Medico Nacional*, vi., 1.

Test-paper for Oxidation and Reduction.

C. Wurster uses paper saturated with a solution of tetramethyl-p-phenylenediamine, which becomes blue-violet in presence of oxidising agents. By means of this test-paper the oxidising action of sweat, saliva, and many plant juices may be recognised.—*Chem. Zeit.*, 1903, 651.

NOTES ON THE 'DIGEST OF RESEARCHES AND CRITICISMS.'*

BY THOMAS MABEN, PH.C., F.C.S.

I have much pleasure in acceding to the request to give some notes on the "Digest," the more willingly because I have at my disposal, for the purposes of illustration, a series of useful laboratory figures, most of which have not previously been published. These figures have been obtained in the course of manufacturing operations on a large scale, and they may be accepted as giving authentic information regarding the various drugs mentioned. Prefacing the notes with a remark that Mr. Chattaway has produced a very useful summary, a few omissions notwithstanding, I shall refer to the various points, as far as possible, in alphabetical order.

Belladonna.—Regarding the green extract of belladonna, it is stated that "a standard of 1 per cent. (of atropine) would appear to be reasonable," various authorities being quoted, amongst others, Farr and Wright. The editor, however, ignores Farr and Wright's more important recommendation that this extract should be replaced by an alcoholic extract of the leaves, they having found a yield of 2·86 per cent. of alkaloid in an extract so prepared, as compared with 0·98 per cent. from a B.P. green extract. Belladonna leaves vary in alkaloidal content from 0·24 to 0·6 per cent., the average being about 0·35 per cent., and, if we assume a yield of 3 to 3½ oz. of extract from a pound of leaves, a reasonable standard would fall between 1·5 and 2 per cent. In view, however, of the very low standard of 1 per cent. adopted for the root extract, it is probable that a higher figure for the leaf extract would be objected to. Why not increase the strength of the root extract? It is unreasonable that there should only be the difference of 0·25 of alkaloid between the liquid and the solid extracts.

Coca.—Moor suggests that the total alkaloids in the liquid extract should be at least 0·5 per cent. The standard should be based on cocaine, which is the most important constituent, and, as the leaves contain from 0·42 to 0·8 per cent. of that alkaloid, 0·5 of cocaine would be a rational figure.

Colchicum.—Schultze is quoted as stating that the corms contain only two-thirds the alkaloids of the seeds. As a general statement this cannot be accepted. The seeds contain from 0·32 to 0·8 per cent., and the corms 0·3 to 0·75 per cent. of colchicine, the average in each case being over 0·5 per cent., so that difference in the alkaloidal values need not be taken as an excuse for rejecting the corms. On the basis of these figures standards might be adopted for the tincture, wine, and extract, that suggested for the first being 0·1 per cent. of colchicine, which is higher than the 0·75 per cent. recommended by Barclay.

Gelsemium.—Barclay is quoted as proposing 0·025 per cent. as a standard for the tincture. Would the total alkaloids not be a safer basis? Stockman and Hill state that gelseminine is the constituent which chiefly determines the effect of gelsemium preparations, and Greenish that gelseminine is much more poisonous than gelsemine. The rhizome contains from 0·38 to 0·7 of total alkaloids, so that 0·5 per cent. might be regarded as a suitable standard, equal to 0·05 per cent. of total alkaloids for the tincture.

Hyoscyamus.—The leaves, extract, and tincture are dealt with in the "Digest." For the first-named, 0·8 per cent. of alkaloid is quoted as a probable standard. Henbane leaves contain from 0·73 to 0·13 per cent. of alkaloid, the average being about 0·1, and it would seem to be inadvisable to adopt a lower standard. The remarks applied to green extract of belladonna also apply to extract of henbane, which might well be replaced by a spirituous extract containing 0·5 per cent. of alkaloid. Naylor and Bryant found 0·425 per cent. in a sample of B.P. extract, so that the figure named for spirituous extract is not excessive. On the same basis, the strength of the tincture would be 0·01 per cent. of alkaloid.

Jaborandi.—Jaborandi leaves contain from 0·23 to 1 per cent. of pilocarpine, so that the liquid extract ought to contain at least 0·5 per cent. of that alkaloid, on which basis the tincture would contain 0·1 per cent., the standard quoted in the "Digest" of 0·048 per cent. being too low.

Jalap.—Jalap root yields from 5 to 16 per cent. of resin, the average being 8 per cent., so that the B.P. requirement of 9 to 11 per cent. is rather high, apart from the recent deterioration of root to which Umney called attention. The tincture standard of 1·5 per cent. is more reasonable. The extractive (in a 1 in 1 fluid extract) varies from 12·5 to 24 per cent., and, assuming an average of about 20 per cent., the extract—which Hoseason recommends to be standardised—ought to contain not less than 35 per cent. of resin.

Podophyllum.—The process for the determination of the resin may account for the varying results obtained in different laboratories. The series of figures from which I have quoted gives a range of from 3 to 4·6 per cent. of resin, with an average of about 4·25. Mr. Dott has found from 3·5 to 5 per cent., and Mr. Umney recommends 5 per cent. as a standard—a figure that appears to be too high.

Tinct. Conii.—Conium fruit contains from 0·36 to 0·91 per cent. of coniine, based on acid titration. Some observers record much higher figures. A standard of 0·5 per cent. for the fruit would imply 0·1 per cent. for the tincture, which is slightly higher than the 0·09 per cent. proposed by Barclay.

Tinct. Digitalis.—Chemical or physical standards are of little value in this preparation, but it may be cited that the extractive, in a 1 in 1 fluid extract, varies from 21 to 35 per cent., the mean being 28. If, therefore, a tincture standard based on extractive were desired, a figure of 3·5 Gm. per 100 C.c. would be quite reasonable.

Tinct. Hamamelidis.—Witch-hazel bark fluid extract (1 in 1) yields an extractive varying from 21 to 33 per cent., with an average of about 25. The standard of 2 per cent. for the tincture, recommended by various writers, seems on the safe side.

Tinct. Krameriæ.—Peruvian rhatany (*Krameria triandra*), for which alone I have figures, yields (1 in 1) from 24 to 43 per cent. extractive, and 25 may be regarded as a safe minimum, so that the tincture should not contain less than 5 per cent. of extractive, as recommended by Barclay and Umney.

Tinct. Lupuli.—The extractive from hops is exceedingly variable, the range (1 in 1) being from 9 to 22 per cent., with an average of about 15. The standard suggested, 4 per cent. extractive, therefore seems high.

Tinct. Myrrhæ.—The extractive from myrrh (1 in 1, 94 per cent. alcohol) varies from 15 to 31·6 per cent., the average being under 25. The standard adopted for tincture should not be more than 5 per cent. of extractive.

Tinct. Quillaiæ.—Using a somewhat weaker spirit than is specified in the B.P., a fluid extract (1 in 1) of soap bark yields extractive varying from 29·5 to 45·3 per cent., the average being over 35 per cent. It would appear, therefore, that by reducing the strength of the spirit a tincture could be had containing nearly 50 per cent. more extractive than is suggested by various writers.

Tinct. Senegæ.—The extractive from the root (1 in 1) varies from 23 to 30 per cent., the average being about 26. The extractive from the tincture ought not to exceed 5 Gm. in 100 C.c. Suggestions have been made for 4·5, 4·6, and 6.

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*Communication to the Pharmaceutical Society of Great Britain, read at an Evening Meeting in Edinburgh, December 23, 1903.

Tinct. Stramonii.—The alkaloid in stramonium leaves varies from 0·27 to 0·4, and a safe standard is 0·3. This would give a tincture containing 0·06 per cent. of alkaloid, which is 50 per cent. stronger than the figure recommended by Barclay.

Tinct. Zingiberis.—Ginger yields from 2·7 to 6 per cent. of extractive (1 in 1), the average being under 5 per cent. Barclay's suggestion of 0·4 per cent. extractive as a standard for the tincture is to be preferred to Umney's 0·5.

Pepsin Preparations.—The "Digest" quotes Sir Charles Cameron's statement as to the want of digestive power of various pepsin and glycerin of pepsin samples examined by him in Ireland. Being much struck with the figures, I referred to the original report of the paper, and I find that all the samples were taken from Poor Law Unions. There is no indication of this in the "Digest." Sir Charles regrets the fact that the B.P. gives no process for preparing pepsin, "as I have no doubt the imperfectness in preparing pepsin is the cause of so many bad specimens being met with." If he had been a practical pharmacist, he would have known that there is any quantity of B.P. pepsin to be had. Every pharmacist can ensure the digestive power of the various preparations by making them himself from soluble pepsin, scale or powder. A frequent error in making glycerin of pepsin, which may possibly account for some of Cameron's weak samples, is to dilute the concentrated glycerole, following a formula that was in common use before the preparation was made official. I happen to know that this error is often made in Scotland, and pharmacists should be careful to avoid it. The B.P. glycerin of persin should always be made direct from soluble pepsin. The concentrated glycerole can also be made if desired by using 1 oz. 10 gr. B.P. pepsin, 4 fl. oz. of glycerin, 3 fl. drm. of diluted hydrochloric acid, and water to 8 oz. A more important matter is the want of definiteness in the B.P. directions. In the albumin test the mixture is to be shaken "frequently." This is very indefinite; it may mean two, three, four, or six times an hour. A pepsin that is tested by shaking every half-hour may be condemned, whereas the same pepsin, shaken every fifteen minutes, may be of full strength as to digestive power. I can also corroborate Bird's statement as to the insolubility of pepsin in alcohol; here, too, the B.P. is in error. In both these tests the directions of the U.S.P. might well be followed by the B.P.

Detannated Wines.—It is nearly twenty years since I first commenced to remove the tannin from sherry and orange wines. Some two years later I published the process, and in 1891 it was accepted by the Formulary Committee, and appeared in the B.P.C. Formulary. During all these years I have never made a batch of quinine wine or of ipecacuanha wine save from detannated wine, and it was certainly very rarely, if ever, that a deposit was seen in either of these wines. I admit that the process is not perfect, as the last trace of tannin is not removed, and there is a loss of 10 to 15 per cent. of wine; but I have tried every other process that I have met with, and I cannot say that I have seen a better than that published in the B.P.C. Formulary. In 1886 Mr. Adam Gibson and myself proved, or thought we had proved, that the presence of tannin was to blame for the deterioration of ipecacuanha wine; but reforms come slowly, and it is hardly surprising that the B.P. still "muddles along" in the good old paths. Now that this "Digest" quotes Mr. Moor, emphasising his dictum with all the force of italic letters, that "*a detannated wine should always be used*" in the preparation of ipecacuanha wine, and giving figures showing the loss of quinine due to the use of ordinary orange wine, we may perforce see some improvement in the next B.P. It will not come a moment too soon, as the condition of much of the quinine wine of commerce and of a good deal of the ipecacuanha wine is a standing reproach to British pharmacy.

NOTES SUGGESTED BY MR. CHATTAWAY'S REPORT ON THE REVISION OF THE PHARMACOPŒIA.*

BY D. B. DOTT, PH.C., F.R.S.E., F.I.C.

This "Digest," as it is called, seems a fairly complete record of the more important work and criticisms bearing on the revision of the British Pharmacopœia, although one may venture the opinion that some cogent criticisms and suggestions are conspicuous by their absence. It appears to be a suitable occasion for any of us who have further remarks to make on the subject to give them in the form of short notes, avoiding repetition as much as possible, though a certain amount of reiteration is inevitable. On a general survey, I think one is struck with the amount of attention which has been given to determinations of extractive or total solids, and of ash. There are cases in which a standard of dry extractive is a useful guide, tending to show that a drug of average quality has been used, and that the exhaustion has been sufficiently complete; and yet even in those cases great care would need to be exercised in adopting standards, because if some of the published percentages were accepted as authoritative, they would form a new means for betraying the chemist into the hands of the public analyst. These standards are, no doubt, honestly given according to the sometimes peculiar experience of the particular compiler, but it would be a serious mistake to give them official sanction. Apart from great variations in crude drugs, some preparations are improved by the removal of a portion of their useless solids, becoming thereby more permanent and presenting a better appearance. This fact is recognised in all those instances where objectionable matter is removed by coagulation or precipitation by alcohol. Speaking generally, it seems superfluous to ask a percentage of solids in galenicals which have a prescribed standard of alkaloid, to which latter their activity is admittedly due. One can comprehend a meaning in fixing a standard of solids for liquid extract of cascara sagrada, but it seems a waste of print to state total solids for tincture of chloroform and morphine, ammoniated tincture of quinine, and the like. The estimation of inorganic matter by incineration is often a useful means of detecting adulteration, and it is a comparatively simple operation, not requiring high chemical or microscopical skill. When one finds 12 per cent. of ash in saffron or 1 per cent. in tartaric acid, no further investigation is necessary. But it would be easily possible to overdo this business of ash standards, more especially when there are other sufficient tests to show the authenticity of the sample. When we read that the ash left by burning rhubarb varies from 7 to 28 per cent., it is evident that we have not got hold of a very valuable criterion of purity. In other cases, a sharp limit for inorganic matter would seem a superfluous requirement. For example, Mr. J. C. Umney suggests 7·5 per cent. in the case of araroba. It might just as well be 15, if the proper proportion of chrysarobin is present.

As regards assay processes, the compilers of the Pharmacopœia should aim at simplicity of method, so far as that is compatible with practical accuracy. Probably a mixture of chloroform and ether would suffice as solvent in all the alkaloidal assays, in which the alkaloids are dissolved from an alkaline solution. In the case of belladonna, there is no need for dissolving in acid and titrating back with soda. It is quite sufficient to dissolve in alcohol and titrate directly with centinormal acid. In every case, whenever possible, the result of an assay should be a weighed quantity, and the titration regarded more as a check and control. Two assistants may get identical results by weighing, but differ materially in their volumetric judgments. I am referring specially to the determinations of alkaloids.

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*Communication to the Pharmaceutical Society of Great Britain, read an Evening Meeting in Edinburgh, December 23, 1903

Opium Preparations.—Mr. Chattaway only makes one reference to this class, and it is to the opinion of the late Mr. Conroy and of Mr. Dowzard that the standard for opium powder is too low. No doubt only an inferior or adulterated opium will yield so little as 10 per cent. of morphine, but, seeing that the powder must be standardised, it seems questionable whether there would be any advantage in changing from 10 to 12, while a change to 14 would certainly be opposed from the dosage point of view.

There is an inconsistency in the standard for extract of opium as compared with the other preparations. To bring the extract into line with the powders, etc., the percentage of morphine required should not be stated as 20, but as 19 to 21. The point is one of practical importance, as, in working with an opium rich in extract, 20 per cent. can only be obtained by making the extract excessively stiff. I would suggest 18·5 to 19·5 as a more suitable standard of anhydrous morphine.

With regard to the assay of opium and its preparations, no paper of any importance has recently been published, with the exception of that which appeared in the last issue of the *Pharmaceutical Journal*, page 909, by E. Dowzard. I agree with much that Mr. Dowzard says, but do not think his statement of the case is quite complete. The B.P. method is only applicable to opium in fine powder, and the time allowed is sufficient if the opium is very thoroughly and diligently mixed with the lime and water. Mr. Dowzard refers to the difficulty in obtaining 104 C.c. of filtrate. It might have been better arranged, but that can hardly be regarded as an essential part of the process; a less quantity can be collected, as in his own method, and calculation made accordingly. Here it may be noted that 104 C.c. is undoubtedly an excessive proportion. The extractive from 10 Gm. of opium powder, after treatment with lime, does not measure in solution 4 C.c. It would be nearer the truth to say 2 C.c. I do not think there is much in the alleged clumsiness of the official method. Reference is presumably made to the operation of mixing in a mortar. This time-honoured pharmaceutic method has one decided advantage: where there is a tendency to the formation of lumps or clots, it is exceedingly difficult to get rid of them by mere shaking in a flask. The pestle in such a case is very effective. There may be no absolute necessity for drying the precipitate previous to titration, but I feel sure that nearly every analyst would agree that it is safer to do so. One makes sure that no traces of ammonia are present, and the weight of the precipitate is a check on the final result. Indeed, the Japanese Pharmacopœia relies entirely on the weight. (I notice that Mr. Matthews at last Conference meeting stated that a temperature somewhat above 100° C. is necessary to render morphine anhydrous, mentioning 110° C. (B.P.) and 120° C. (Göhlich). It may be convenient to dry at 105°-110° C., but morphine undoubtedly loses all its combined water at 100° C.) The suggestion to use a burette divided into twentieths of a cubic centimetre appears superfluous. Very minute accuracy is not practically obtainable, and, of course, one can use N/20 acid if he thinks preferable. Larger errors easily arise. Assuming that Mr. Dowzard's proportion of 51·6 C.c. is correct (I think it is too high) for a particular opium, it would not be so for another. The variation in extract makes a marked difference in the volume. If we pretend to great accuracy in any such process, we must previously in every case determine the volume of the extract, after the portion precipitable by lime has been separated. In brief, all such methods are only approximate, but may be quite satisfactory for the purpose in view.

I concur with Dr. Dowzard's opinion of the official process for the estimation of tincture, and have often remarked it must give a stronger tincture than was intended. The error is perhaps not so serious as alleged, but a mistake it undoubtedly is, and Mr. Dowzard deserves credit for the care with which he has investigated the matter. I have not found the proportion of extract precipitated by lime quite so great as 0·87 from 3·24 Gm. Mr. Dowzard does not state how he corrected for the lime dissolved along with the extract. The amount is increased by extract over and above that in combination with alkaloid. Be that as it may, there can be little doubt that in the B.P. method for estimating tincture of opium the volume should be made up to 82 C.c., not to 85 C.c. I can believe the error is founded on a paper contributed by "the wrong Mr. Wright."

GLYCERINUM ACIDI BORICI.*

BY GEORGE LUNAN, PH.C.

The complaint of A. C. Abraham that the process for glycerin of boric acid is troublesome is justified by general experience in making the preparation.

D. Gilmour has advocated a plain solution of boric acid in glycerin, or, as an alternative, a solution of glyceryl borate in glycerin, equal to a strength of boric acid in glycerin 1 in 4.

J. P. Gilmour has pointed out that by direct heating the preparation can be made in half an hour.

In order to produce a process which could be manipulated in an hour with a satisfactory result, I have tried the following, viz.: (1) Heating boric acid so as to produce, as nearly as possible, boric anhydride—

$$2H_3BO_3 + \text{Heat} = B_2O_3 + 3H_2O$$

and combining the boric oxide with glycerin.

$$B_2O_3 + 2C_3H_5(HO)_3 = 2C_3H_5, BO_3 + 3H_2O.$$

(2) combining ready prepared boric oxide with glycerin.

Both processes, though comparatively quick, give dark-coloured products.

J. P. Gilmour's process of direct heat to ebullition is a very good one, and yields a very satisfactory product in a very short time.

This led to a closer examination of the official monograph, with a view to making it less tedious and troublesome.

Nine ounces of glycerin were heated to 100° C., 6 oz. of boric acid in powder added and dissolved, the temperature raised to 118° C., when ebullition began, and was continued for twenty minutes, and to maintain it the temperature had risen to 150° C. The product then weighed 11 oz. By further boiling, in ten minutes the product was reduced to 10 oz., but the temperature had risen to 175° C. Further reduction at a lower temperature with a hygroscopic substance, such as glycerin, would take a long time. The product—a glassy, vitreous mass—was now dissolved by the aid of further heat in 10 oz. of glycerin. It is shown in Sample No. 1—a fairly satisfactory preparation, but much too highly coloured, and, as previously noted, too viscous for ordinary manipulation.

Nineteen ounces of glycerin—the full quantity of the monograph—were heated to 100° C., 6 oz. of boric acid, in crystals, added and dissolved, the temperature raised to 118° C., when ebullition began; continued for twenty minutes, when

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[*] Communication to the Pharmaceutical Society of Great Britain, read at an Evening Meeting in Edinburgh, December 23, 1903.

the temperature reached 148° C., and the product weighed 21 oz. Further heating for twenty minutes under 150° C. brought the weight to 20 oz. This is shown in No. 2—a more highly satisfactory preparation, brighter and white in colour, but, like No. 1, too viscous for ordinary manipulation.

By repeating the previous process, but using 5 in place of 6 oz. of crystallised boric acid, the product shown in No. 3 is obtained. It is perfectly clear and water-white. This I consider a very practical product, easily prepared, and not differing materially in chemical composition from the B.P. preparation, except that the conversion into glyceryl borate may not be so complete, but that it is more than partial is shown by its remaining in solution.

It is notable that the temperature at which a solution of boric acid in glycerin begins to boil is so low as 118° C.; that, on account of increasing viscosity, to keep up ebullition, the temperature rises rapidly; that, to modify that circumstance, using the whole of the glycerin at the beginning of the process is an advantage, and that crystallised boric acid gives a cleaner and brighter solution than the powder.

NOTE ON ARSENIOUS IODIDE.*

BY WILLIAM DUNCAN, PH.C., F.C.S.

This salt was for the first time inserted in the 1885 Pharmacopœia, chiefly, I suppose, for preparing the then officialised Donovan's Solution. Beyond a short description as to colour, crystalline structure, and solubility, little was said in the monograph, and no quantitative test as to purity was given. In 1893 (*P.J.* [3], **23**, 619) Mr. Dott, in a paper read at an evening meeting in Edinburgh, drew attention to the varying quality of commercial samples, pointing out that it was exceptional to meet with samples up to strength. Although the 1898 Pharmacopœia has been issued since then, no addition has been made to the "Characters and Tests." Little more is said than that arsenious iodide is entirely volatile, soluble in water and in alcohol, and the aqueous solution is neutral.

As it is necessary for the correct compounding of Donovan's Solution that arsenious iodine be strictly AsI_3, it may be useful to point out that the purity of the salt can be quickly determined by a volumetric process, which is much more expeditious that the gravimetric method usually followed, and for practical purposes quite as accurate. This process consists in titration with the official standard iodine solution.

It may seem remarkable that an iodide can be estimated with iodine, but when the action of water on the salt, as on all the iodides of the nitrogen group, is considered, the possibility of such a process becomes apparent. When the salt is added to water, dissociation into arsenious oxide and hydriodic acid begins, and proceeds until an equilibrium is produced, in accordance with the reversible equation:—

$$2AsI_3 + 3H_2O \overset{\rightarrow}{\underset{\leftarrow}{=}} As_2O_3 + 6HI.$$

If the hydriodic acid be removed out of the sphere of action by addition of alkali, hydrolysis proceeds till all the salt is decomposed, and a solution of arsenious oxide and alkali iodide results. Titration of the former thus becomes possible according to the following equation:-

$$2AsI_3 + 5H_2O + 2I_2 = As_2O_5 + 10HI.$$

That is, 1 C.c. of an N/10 iodine solution equals 0·02261 Gm. AsI_3.

A weighed quantity of the salt should be dissolved in an aqueous solution of sodium or potassium bicarbonate, and the iodine run in till oxidation is complete. The following determinations illustrate the accuracy of the method:—

0·106 Gm. AsI_3 required 4·7 C.c. N/10 iodine = 100·1 per cent.
0·0832 Gm. AsI_3 required 3·7 C.c. N/10 iodine = 100·5 per cent.

The variations in the commercial salt may sometimes be due to unskilful manufacture, especially when metal arsenium is used. I think, however, it is chiefly due to faulty storage, such as undue exposure to light and moist air. The anhydrous salt, prepared by crystallising from boiling carbon disulphide, keeps fairly well, provided moisture be excluded. I show a sample made in this way.

CAFFEINÆ CITRAS.*

BY GEORGE F. MERSON, PH.C., F.C.S.

I find I have a note on this subject to the effect that it is not necessary to use the B.P. quantity of water to dissolve the citric acid in making caffeine citrate. Much less—say one half—will do just as well. I have found, however, that there is no need whatever to use any water at all. All that is necessary is to mix the alkaloid with the citric acid, sift through a No. 40 sieve, dry on the "granulating tray" or on a water-bath, powder and sift. The product is superior in appearance to that made by the official process, and is infinitely less trouble to prepare. In making by the official process, the salt turns yellowish on the surface when drying on the water-bath, and becomes as hard as a brick, giving much trouble in reducing to fine powder. I speak, of course, from the point of view of the retail pharmacist making, say, from a half to one pound of the citrate. The "dry process" I suggest is satisfactory in every way, and there is no difference, in behaviour with solvents, between that made strictly B.P. and the product of the process I suggest.

THE MANUFACTURE OF ARTIFICIAL CAMPHOR.†

BY A. FREDERICK COLLINS.

In the steam-jacketed reaction tanks oil of turpentine weighing at least two thousand pounds is placed, together with anhydrous oxalic acid, the result of this reaction being pinyl oxalate and pinyl formate. After the completion of this step in the process, the mass, which is liquid, is pumped into a set of stills for treatment. Here it is distilled with live steam in the presence of an alkali, the resultant formation occurring as ordinary camphor and borneol camphor dissolved in the oily products of the reaction. These oils are fractionally distilled to extract the camphor and borneol further. After the pleasant-smelling oils have passed over, the camphor and borneol distil in the steam and are precipitated in the condenser in a white mass somewhat resembling boiled rice. The crude product is then forced by compressed air through a filter press, and thoroughly washed to free it from all traces of oil, when it is dropped into an oxidising tank, where the borneal oxidises into ordinary camphor.

The mass is again transferred to a rapidly-revolving centrifugal machine, where the oxidising liquors are thrown out, and the camphor, being heavier, remains behind, comparatively pure, but stained from the oxidising compound, so that it resembles light-brown sugar. After removal from the separator it is placed in a large stem-jacketed sublimer. In this vessel a slow heat frees it from any water it may contain, and the temperature is then raised to the boiling point of camphor, and a rapid current of air projected over the surface of the pan, blowing the camphor into a condensing chamber, where it settles in the form of snowflake-like crystals.

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*Communication to the Pharmaceutical Society of Great Britain, read at an Evening Meeting in Edinburgh, December 23, 1903.

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† From the *Scientific American*, **89**, 368.

The subliming pan and its condensing chamber are so arranged that from the time the crude camphor is put in to the time it comes out human hands do not touch it, but it is transferred mechanically into paper-lined barrels, thus insuring absolute freedom from dust or any extraneous matter or impurities. The yield of camphor by this process is from 25 to 30 per cent. of the weight of turpentine used. In addition to camphor, there are a number of light oils produced in the process, which are also found in nature—namely, dipentine, oil of lemon, oil of lime, and a number of other natural terpenes and essential oils. The process of synthetically producing camphor takes about fifteen hours.

THE DETERMINATION OF THE ALCOHOLIC STRENGTH OF TINCTURE AND LINIMENT OF IODINE.

BY F. H. ALCOCK.

Several methods have been recommended from time to time for the above purpose. The following occurred to me as a useful method, and with careful management seems to act very well. Take a convenient quantity of the liquid, and shake with an excess of metallic mercury; the change is very rapid, mercuric iodide being produced, which dissolves in the potassium iodide to a colourless solution or nearly so, if B.P. spirit has been used. When methylated spirit has been used the colour of the solution is dark yellow, and by this means its presence can be detected. In early experiments the distillation was then proceeded with in the usual way, when it was found that the distillate always contained small but distinct quantities of mercuric iodide, thereby vitiating the specific gravity results. The difficulty was afterwards readily overcome by the addition, after complete chemical change has been effected, of a small quantity of solution of potassium or sodium hydroxide. Some such method deserves a place in the B.P., for in very few instances is there any test applied to ensure the correct alcoholic strength of those preparations in which this costly solvent is used.

THE STUDENTS' COLUMNS.

THE DISPENSING OF MEDICINES—(3).

MIXTURES (*Continued*).

℞	Potas. bromid........................	ʒi.
	Syr. aurantii	ʒii.
	Aq..............................ad	℥iss.

M. ft. mist.; capiat ʒi. ex aq. q.q.h.

The above may be taken as a type of the simplest form of mixture, since it contains but one basis, which is soluble in the vehicle, and one corrective which is miscible with the solution of the basis. There are therefore no difficulties ahead, so the student having satisfied himself that the doses are within the official limit and that there will be no chemical action between the ingredients, may proceed to work by weighing out the potassium bromide. Having done so, he finds himself wondering what means he must adopt in order to get the solid substance dissolved in the vehicle, a reference to the B.P. having informed him that it is soluble in two parts of water. Four methods are open to him, and the merits and demerits of these may be suitably discussed here, since the question of solution is ever present at the dispensing counter. In connection with this, the student must understand that it is a recognised law in dispensing that all solid substances soluble in the vehicle should be brought into a state of solution before the mixture is sent out. Dispensers ought never to put them into the bottle and trust to the chance of them being dissolved before the bottle reaches the patient. The first method of solution is to put the substance into the bottle, add a portion of the vehicle, and shake until the substance has dissolved. This method is only applicable to a few substances, for example, potassium iodide, sodium iodide—which are very readily soluble in an aqueous vehicle and whose solutions rarely or never require straining. Moreover it is not a method to be advocated for general use at the dispensing counter. The second method is to put the substance into a graduated measure, add a portion of the vehicle and stir with a rod until the substance be dissolved. This method, like the first, is only suitable for readily soluble substances. For one class of mixtures, *i.e.*, quinine, to be treated of later on, it is the most suitable method, but with this exception, a mortar and pestle are to be preferred for almost every case of solution. The third method is to place the solid substance in a mortar, and if not already in powder, reduce it to powder, then add a portion of the vehicle, and rub until solution be brought about. The fourth method consists in heating the solid substance and a portion of the vehicle together in a florence flask until solution be completed, then cooling and adding the other ingredients. This method is much to be deprecated for several reasons, the principal of which is that a solution of a substance prepared as above may be cooled down and show no signs of depositing crystals, and yet at the expiry of half a dozen hours may show an abundant crop, much to the astonishment of the patient and the subsequent confusion of the dispenser. Having duly considered these four ways of procedure, the student will then set about dissolving the potassium bromide, utilising either the second or third method for this purpose, and taking about half an ounce of he vehicle. If the second method be adopted, when solution is complete, the liquid is transferred to another measure containing the syrup of orange peel, the solution measure rinsed out with some more of the vehicle, and the mixture adjusted to the proper quantity, viz., 1½ oz., by the addition of vehicle in sufficient quantity. Finally, the mixture after thorough stirring, should be strained through a piece of muslin of fine mesh. If the third method be adopted, and it is strongly recommended, the procedure is practically the same, the mortar merely taking the place of the solution measure. Here it may be emphasised that bottles should never be taken as holding exactly their stated quantities, as no matter how carefully they be made, variation will occur. When an excess of a soluble substance is ordered as in this prescription:—

℞	Sodii bicarb...........................	ʒvi.
	Tinct. calumbæ......................	ʒii.
	Aq. menth. pip.....................ad	℥iv.

the student should first measure 4 fl. oz. of water into the bottle, and, after making a temporary mark with a piece of gummed paper, pour out the water. He should then weigh out the sodium bicarbonate, place it in a mortar, and triturate it with 2½ oz. of the peppermint water for about five minutes, by which time the water will be practically saturated. The contents of the mortar are now transferred as completely as possible to the bottle, and the mortar carefully rinsed out with the tincture of calumba and sufficient of the vehicle to bring the level of the liquid up to the mark on the bottle. With regard to a prescription like the above, containing an excess of a soluble substance, some may say that, inasmuch as there will be in any case a portion undissolved, it is unnecessary to bother about dissolving any of it. This, however, is not good advice for beginners because of its seductive influence towards adopting the method which will give him the least trouble. It cannot be too strongly impressed upon the beginner that, if he wishes to be a successful dispenser, he must never allow personal trouble or convenience to influence him in his work.

A somewhat similar type of mixture to the foregoing, but one in which the solid substance is insoluble in the vehicle, is the following:—

℞ Bismuth. carb. .... ʒii.
Tr. gentian. co. .... ʒiv.
Glycerin .... ʒiv.
Aq. ....ad ℥iv.
Ft. mist. Sig., ℥ss. ante cibum.

This prescription will bring the student face to face with a new circumstance, and naturally he will ask himself if it (*i.e.*, the bismuth carbonate) must necessarily be dissolved by some means or other, since it is not soluble in the vehicle. With regard to this point the student may be informed that if a substance be in its natural condition insoluble in the vehicle, no substance should be added to it to make it soluble in the vehicle, unless direct instructions to this effect be given by the prescriber. On the other hand he may without direct instructions from the prescriber add to the ingredients in the above prescription some simple inert substance such as gum tragacanth, which while being without any chemical action upon the solid substance, will by rendering the vehicle more viscid (thicker) prevent it (*i.e.*, the solid substance) falling rapidly to the bottom of the bottle, the intention of this being to enable the patient to get as near as is possible 15 grains of the bismuth carbonate each time he pours out half an ounce of the mixture. Before proceeding to the discussion of the dispensing of this mixture it will be for the benefit of the student to devote a few words to this substance tragacanth because of its great utility in dispensing. Its natural history and chemistry he will find in any book of materia medica. What he is desired to study just now is its behaviour towards water, because it is mainly on account of this that it is utilised at the dispensing counter. Let him weigh out three portions of powdered tragacanth each containing 6 grains, and place each portion in a dry mortar. To the first portion gradually add with constant trituration 2 drachms of water, to the second in a similar way, 2 drachms of alcohol (60 per cent.), and to the third, the same quantity of glycerin. On comparing these the student will find that in the first case he has got the gum partly in lumps and partly in the form of a clear jelly, and in the other two cases there is no evidence of change. To the contents of each mortar let him now add, with trituration, 1 oz. of water and compare the resulting products. In the first case he will find the product is somewhat as before, but the other two are smooth translucent jellies without any lumps. When tragacanth comes in contact with water it absorbs the water and rapidly swells up. With alcohol and glycerin this does not take place, there is little or no absorption, and, consequently, no swelling up into a jelly-like product. It is this difference in action which is taken advantage of in dispensing. When the student triturated the gum with the alcohol (or the glycerin) he was enabled to get the particles finely distributed throughout the alcohol, so that when the water was added these particles absorbed the water equally, hence a product equal throughout, whilst, when he used water only, some of the particles swelled up and formed a coating to some of the other particles, preventing the water getting at them properly, hence the lumpy appearance of the product.

In dispensing the above prescription the student will be able to apply this acquired knowledge. He should proceed thus;—In a dry mortar place the bismuth carbonate and 8 grains of powdered tragacanth. Mix these, and triturate with the mixed glycerin and compound tincture of gentian until a perfectly smooth cream is produced, then add quickly, with brisk trituration, 1½ oz. of water. Transfer contents of mortar to bottle and rinse out mortar with portions of the vehicle, finally adding sufficient of this to produce the desired quantity of mixture. He should, likewise, make up this mixture without tragacanth and compare them after standing for half an hour.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN.

EVENING MEETING IN EDINBURGH.

Wednesday, December 23, 1903, in the Society's House, 36, York Place, Edinburgh, Mr. D. B. Dott, F.I.C., F.R.S.E., in the chair.

The minutes of last meeting were read and approved.

Apologies for absence were intimated from Messrs. Cowie, Ewing, Davidson, Dunlop, D. Gilmour, Guyer, Lunan, Lyon, Maben, McDiarmid, Merson, and Stephenson.

The first communication was a

Note on Arsenious Iodide.

BY MR. WILLIAM DUNCAN, PH.C., F.C.S.

The author suggested volumetric determination of the salt by means of standard iodine solution. The paper is printed in full at page 8.

Dr. Coull said he remembered a note on this subject by Mr. Dott in 1893, in connection with which he (Dr. Coull) made some suggestion as to a process for its manufacture. The sample shown by Mr. Duncan was very much finer than any commercial samples he had ever seen, and he would like to know by what process it was made.

Mr. Rutherford Hill said he was afraid many of the B.P standardisation tests were not used by ordinary pharmacists, but only by experts retained by the wholesale makers. In the case of such powerful drugs as hydrocyanic acid, arsenical preparations and such like, it was essential that the ordinary pharmacist should personally satisfy himself as to the absolute accuracy of the substances he employed. This test suggested by Mr. Duncan had the merit that it could readily be applied by the ordinary pharmacist. It had nothing to do with any mere question of solubility or volatility, but gave quickly and accurately the arsenic content of the salt, which is the most important point.

The Chairman, in moving a vote of thanks to Mr. Duncan said this was a most useful note, and the addition of the test proposed would be an acquisition to the Pharmacopœia.

Mr. Duncan, in replying, said the sample exhibited was made by the process alluded to by Dr. Coull in 1893, in which potassium iodide was added to a solution of arsenious chloride. The product was recrystallised from boiling carbon bisulphide. The sample had been kept in the same porcelain basin, merely covered with a piece of paper, for about two years. It had, apparently, kept perfectly, and it was reasonably stable if kept free from moisture and not too much exposed to strong sunlight. He had observed that, at ordinary temperature, it appeared to be slowly volatilised. He had found distinct traces of arsenic in the paper covering the basin, and it seemed to be in the form of arsenious iodide. The B.P. characters required that it should give a neutral solution in water. It gave a neutral solution in alcohol, but he had never found a sample that would give a neutral solution with water. The reason was obvious, and depended on the fact that the salt immediately dissociates in presence of water. Some text-books said it did not form oxyiodides on the addition of water. His experience was quite different, and it certainly formed probably several oxyiodides. The volumetric method which he had given for the salt could also be applied in determining the arsenic content of Donovan's solution.

Pharmacopœia Revision.

A series of communications on certain points suggested by the recent publication of the 'Digest of Criticisms,' by Mr. William Chattaway, F.I.C., for the General Medical Council were then submitted. The first consisted of—

Notes Suggested by Mr. Chattaway's Report.

By Mr. D. B. Dott, Ph.C., F.I.C., F.R.S.E.

The next communication was—

Notes on the 'Digest of Researches and Criticisms.'

By Mr. Thomas Maben, Ph.C., F.C.S.

The next communication was on—

Glycerinum Acidi Borici.

By Mr. George Lunan, Ph.C.

The next communication was on—

Caffeine Citras.

By Mr. George F. Merson, Ph.C., F.C.S.

The above-mentioned papers are printed at pages 5 to 8.

Mr. **Duncan** said he had only just received a copy of the "Digest," and was hardly prepared to say much about it. Looking just at the first page he observed a suggestion that the B.P. should indicate that not more than 2 per cent. of gum acacia should be insoluble in water. The B.P. defined Acaciæ Gummi as entirely soluble in water, and he did not see why that should be departed from. In regard to the melting-point of acetanilide the "Digest" noted the remark of Tyrer and Levy that the official figure was higher than could be found in commercial samples. It must be noticed, however, that the B.P. said the acetanilide must be dry before taking the melting-point. He had that day taken the melting-point of a carefully dried commercial sample, and it was found to be 113°·5 C., as required by the B.P.

Dr. **Coull** said he agreed with Mr. Dott in his remarks as to the extractive standards. Preparations could very often be improved by the removal of inert matters. A very good example of that was found in the case of liquid extract of cascara sagrada when made by the process suggested by Mr. Moss. By evaporation and redissolving a large quantity of insoluble matter was left, which Mr. Moss had shown to be inert. He also agreed with the remarks as to the present craze regarding percentages of ash. They were apt to be misleading because wholesalers would not always take the trouble to shake all the dust out of say a bundle of valerian root. In regard to opium they had got so accustomed to a standard of 10 per cent. that any change would cause confusion. It was seldom that an opium yielding so little as 10·5 per cent. was met with, and 12·5 per cent., or 14 per cent., or 14·5 per cent. were much more common. But it was always easy to standardise such opiums by the addition of exhausted opium marc, which was better than sugar of milk or any other form of inert matter. As observed by Mr. Dott the percentage of ash in such things as saffron was very useful. He would add also in the case of cochineal, of which he recently examined a sample giving 25 per cent. of ash, which indicated gross adulteration.

Mr. **Henry** said much yet remained to be done in the way of improving galenical preparations. In the case of ipecacuanha wine it was still liable to become turbid and unsightly. In fact he thought a clearer and more permanent preparation was got by the old process. Tincture of belladonna he also found gave a deposit after standing two or three weeks, and the same applied to nux vomica. He would like to shake hands with any pharmacist who had succeeded in making a satisfactory Liquor Bismuthi by the B.P. method. He noticed that Mr. Chattaway recommended the process of Cowley and Catford; but even it was not perfect. With regard to concentrated liquors his experience was that they were never prescribed, and might well be left out of the B.P. They were indebted to Mr. Lunan for the note on glycerin of boric acid, but the official preparation seemed to be too viscous and had not been taken up by prescribers, who still ordered the proprietary preparation. On page 18 of the "Digest" there is an error in saying Mr. D. Gilmour criticised the process for Glycerinum Boracis. It was Glycerinum Acidi Borici to which Mr. Gilmour referred in the reference quoted. He could confirm the recommendation to add more water to Linimentum Ammoniæ. His experience was that the present formula for Pil. Rhei Co. was quite satisfactory, and he did not think the 1885 formula was better, as stated by Dr. Hudson. In regard to Ung. Acidi Carbolici he was still of opinion that the recommendation he made to use wool fat as a basis instead of soft paraffin and add a little water gave the best result. The reference is to (*P.J.*, **81**, 1, 1898) but the "Digest" does not give it. The suggestion to use almond oil, white wax, and benzoated lard was open to the objection that heat would cause loss of acid. Any ointment of carbolic acid should be made by a cold process.

Mr. **Archibald Currie** said he could confirm the statement that concentrated liquors were never prescribed, and the sooner they were taken out of the B.P. the better. He had observed that in Ung. Potassii Iodidi the addition of 3 grains of potassium carbonate to the ounce did not seem sufficient, as, even an hour after being made, it began to colour. More should be added.

Mr. **Rutherford Hill** said it must be remembered that the "Digest" only included suggestions made up to the end of 1902, and, therefore, many suggestions made since that date were omitted. In connection with Liquor Bismuthi, referred to by Mr. Henry, he observed that the suggestion referred to by Mr. Duncan in a paper read at the Conference in Dundee last year was not included (*C. & D.*, 852, 1, 1902). He thought the formula there suggested gave a Liquor Bismuthi which met all requirements and might well be included in the B.P. He observed that in very few cases did Mr. Chattaway venture to express any opinion on the suggestions compiled by him. That rather detracted from the practical value of the report, and was in marked contrast to what they were used to in the case of his predecessor Dr. Attfield. He noted that in quoting a useful practical paper by Mr. Dey on liquid extract of taraxacum the reference was to the *Chemist and Druggist*, in which the paper was merely summarised. The full paper, with the exact figures and results, was given in the *Pharmaceutical Journal* of the same date. In the case of Lin. Terebinthinæ the suggestion of Alcock and Withers was quoted, but another suggestion by him (Mr. Hill), in the same issue of the *P.J.*, was omitted. He suggested a process by which a perfect liniment could be made in a few seconds by using an alcoholic solution of soap. The quantity of alcohol required was very small, and could hardly be objected to in a stimulating turpentine liniment. But if the alcohol was objected to he would point out that in the discussion on the suggestion it was mentioned by both Mr. Duncan and Mr. McDiarmid that a good liniment could be made in a few minutes by dissolving the soap in warm water. He had tried that method, and could confirm the statement that it worked well, but he thought the solution in alcohol was even better. Mr. Chattaway had done him the honour of mentioning the processes he suggested for making Liquor Ammonii Acetatis and Liquor Ammonii Citratis, but the abstract did not quite emphasise the real point of the suggestion. It was impossible to follow the present method of attaining neutrality, because by heating to drive off carbonic anhydride the ammonium salts were decomposed. Mr. J. P. Gilmour had suggested that this difficulty could be got over by using cochineal as indicator, as it was not acted on by carbonic acid. (*P.J.*, 95, I., 1903.) This answered well, but was inevitably accompanied by some loss of a variable quantity of material in removing a portion for examination. It was desirable to have the nearest approach to absolute accuracy, and he thought his suggestion met that requirement, as well as, in both cases, giving a product containing the full proportion of carbonic acid, so that it was more pleasant to take and kept better. Judging by samples of tincture of hops which he had examined, he was inclined to agree with Mr. Maben in saying that the standard of 4 Gm. extractive per 100 C.c. suggested by Umney was too high. He thought the method of making tincture of such a bulky material as hops by the maceration method did not give satisfactory or uniform results. It would be more likely to get a uniform preparation by making a tincture of lupulin. One strong impression had been made on his mind by glancing through the "Digest," and was confirmed by a remark of a correspondent. He thought the "Digest" dealt very largely with tests and standards which seemed designed to detect badly-made or fraudulent preparations. A great deal more attention should be given to fixing a process which, when faithfully followed, would yield a valuable and satisfactory product. That was of much greater importance than finding a method of dropping upon people who were either careless or dishonest.

Mr. Boa said he agreed with the remark that extractive could not be accepted as an indication of quality. That had been illustrated in a communication on tincture of gentian which he contributed to a meeting last session. In that case he showed that the best tincture of gentian yielded the smallest percentage of extractive. Mr. Maben's elaborate figures were very interesting, but he would like time to consider them carefully before accepting them. For example, he mentioned that fluid extract of digitalis (1 in 1) gave 21 to 35 per cent. of extractive, and on that basis suggested a standard of extractive for tincture of digitalis. Personally, he would never dream of making tincture of digitalis by diluting a 1 in 1 fluid extract, and he did not think they could fix an extractive standard in that way for a genuine B.P.-made tincture of digitalis. He thought, too, that a 5 per cent. extractive for tincture of myrrh was very modest, considering that they used 4 oz. of myrrh, three fourths of which was soluble in alcohol, in making a pint of tincture. He did not think Mr. Maben had any special licence to libel the pharmacists of Scotland by saying that it was a general practice to prepare Glycerinum Pepsinæ by diluting the concentrated glycerol of pepsin. Of course, any pharmacist was at liberty to dilute the glycerol with glycerin if he chose, but he did not think any self-respecting pharmacist would use such a diluted glycerol in dispensing prescriptions. There was a fairly good demand for Glycerinum Pepsinæ, and he did not think many pharmacists would use anything else. With regard to Vin. Ipecacuanhæ, it had not been shown that there was any deterioration in the activity if the wine by the new method was better than its predewas as to clearness, and he thought there was no reason why they should not follow the B.P. strictly. It was doubtful if the wine by the new method was better than its pre-decessor, and it was alleged that it was not so efficient. With regard to Mr. Merson's suggestion as to a process for caffeine citrate, he was inclined to take it with some reserve. He had not observed the tendency to become brownish towards the end of the process. If the directions of the book were followed in regard to constantly stirring towards the end of the operation, a satisfactory product was obtained free from colour. If it was merely allowed to remain untouched on the water-bath, he could imagine that it would be both coloured and hard. Mr. Lunan's results were good. This preparation had been a cause of much annoyance to the makers. He did not think that it was likely to receive much attention even yet, because it was too thick. If they could devise a properly workable preparation, medical practitioners would then prescribe it.

Mr. Dott said he agreed with Mr. Hill's reference to processes, which should have the first place. With regard to deposits forming in tinctures, that was practically inevitable where the method of making tinctures by diluting liquid extracts was adopted. It was often a question how far they were bound to stick literally to the Pharmacopœia. If, either by the addition or subtraction of something, they could avert a tendency to deposit, he thought it should be permissible to do so, provided the therapeutic value of the preparation was unimpaired. He was much interested by Mr. Maben's notes, but it was not possible to discuss them without more time for consideration. With regard to the standard of 0·75 per cent. of alkaloid for liquid extract of belladonna, he thought that figure had been fixed as the result of work on roots yielding a very high average percentage of alkaloids. It was quite unusual to find such roots in commerce. Good roots, containing 0·5 and even 0·6 or 0·4, were usual. In cases in which the chemistry of the alkaloids had not been fully worked out, and there was a doubt as to which gave the therapeutic effect, they could only standardise on the total alkaloids. He had found that it was difficult to get a supply of jaborandi that contained anything like the percentage of alkoloids which had been recorded, and in that he agreed with Messrs. Farr and Wright. He thought Umney's percentage of resin for podophyllum was too high. He had never got it so high. He also thought the standard of gingerin for ginger rhizome stated by Umney was too high. Mr. Merson's process for citrate of caffeine seemed a good one, but he would like to try it before expressing a definite opinion regarding it.

On the motion of Mr. Boa, who had temporarily taken the chair, a cordial vote of thanks was awarded to Mr. Dott, and Messrs. Maben, Lunan, and Merson were also thanked for their contributions.

Attention was then directed to the collection of plants collected by Mr. Edward J. Thompson, apprentice to Mr. W. S. Glass, who had gained the certificate in the Society's Herbarium Competition this year.

The Chairman complimented Mr. Thompson, and thanked him for the opportunity of seeing his collection, and

Mr. Thompson, in replying, strongly advocated field botany as an interesting and profitable hobby for pharmacy students.

Attention was also directed to some recent additions to the Museum, and to a large number of books, many of them ot considerable value, and greatly enriching the Library, which had been transferred from the London Library by order of the Council. Several new books, including the 'Proceedings of the American Pharmaceutical Association' and the 'Year-Book of Pharmacy,' had also been received; also photographs of the historic pharmacy of Messrs. T. and H. Smith and Co., which had now disappeared, and a photograph of the late Mr. Waldie, of Linlithgow, who was associated with Professor J. Y. Simpson in the introduction of chloroform as an anæsthetic, the latter sent by Mr. A. Spence.

On the motion of the Chairman, votes of thanks were awarded to the donors of books and specimens, and to the Council, and the meeting then closed.

LONDON CHEMISTS' ASSOCIATION.

ANNOUNCEMENTS.

The Committee of the London Chemists' Association has arranged that a dinner shall be held at the Hotel Cecil on Tuesday, January 26. It is intended to invite several members of Parliament to the dinner. Tickets, 7s. 6d. each, may be obtained from Mr. R. B. Betty, Hon. Secretary, 1, Park Street, Gloucester Gate, N.W.

A general meeting of the North London Branch of the same

Association will be held, by permission, at Messrs. Idris' works, Pratt Street, Camden Town, on Thursday, January 14, at 3.30 p.m. Mr. Pickering will read a paper on the outdoor system for assistants, Mr. Betty will introduce the subject of co-operative buying, and Mr. V. H. C. Baskin, L.P.S.I., will show, according to the agenda, "Photographic Apparati," with a demonstration of various cameras.

BRITISH PHARMACEUTICAL CONFERENCE.

MEETING OF FORMULARY COMMITTEE.

On Monday, December 21, 1903, at 16, Bloomsbury Square, London. Present: Mr. N. H. Martin (in the chair), Messrs. W. A. H. Naylor, Harold Wilson, J. C. Umney, and F. C. J. Bird, Secretary.

The minutes of the last meeting having been read and confirmed, a lengthy discussion took place relative to the projected publication of the Compendium Committee of the Pharmaceutical Society and the work of the B.P.C. Formulary Committee. Dr. Symes (Liverpool), Mr. Peter Boa (Edinburgh), and Mr. W. F. Wells (Dublin) had sent letters, which were read at the meeting, expressing their views on the subject.

A resolution to be submitted as a report to the Conference Executive by the Formulary Committee was then proposed by Mr. J. C. Umney, seconded by Mr. Naylor, and carried unanimously.

MEETING OF THE EXECUTIVE COMMITTEE.

Monday, December 21, 1903, at 16, Bloomsbury Square, London. Present:—Mr. T. H. W. Idris (President), in the chair; Messrs. Atkins, Holmes, Martin, Naylor, and Ransom (Vice-Presidents), Mr. J. C. Umney (Hon. Treasurer), Messrs. Peck and White (Hon. Secretaries), Mr. Bird, and Professor Greenish. Apologies for absence were received from Messrs. Antcliffe, Bourne, Beggs, Dott, Druce, Gadd, Matthews, Newsholme, Tyrer, and Wright (Buxton).

After the minutes of the last meeting had been read and confirmed, Mr. Peck read a letter from Miss Proctor, acknowledging the vote of condolence with the family of the later Barnard S. Proctor.

Mr. Peck then gave a report of the negotiations between the Compendium Committee of the Pharmaceutical Society and the Formulary Committee, and

Mr. Bird read the following resolution, which was recommended by the Formulary Committee for adoption by the Executive:—

> That if an invitation be received by the British Pharmaceutical Conference Executive from the Council of the Pharmaceutical Society of Great Britain for the members of the Formulary Committee to confer with them as to the necessity for and scope of the projected Compendium, the matter shall receive further consideration.

After an animated discussion, in which most of the members present took part, the resolution was adopted.

The date of the Sheffield meeting was then considered, and, on the motion of Mr. Atkins, seconded by Mr. Umney, August 8 was fixed, as recommended in a letter from Mr. Newsholme.

The Secretaries reported that an application had been made by a member for a grant of £5, towards the cost of an examination of damiana.

Mr. Martin moved, and Mr. Naylor seconded, that the grant be made, and it was agreed to.

GLASGOW AND WEST OF SCOTLAND PHARMACEUTICAL ASSOCIATION.

ORDINARY MEETING.

Thursday, December 17, 1903, at West Regent Street, Glasgow, Mr. W. L. Currie, President, in the chair.

The greater portion of the proceedings was reported in last week's issue, at pp. 952-953. It will be remembered that Mr. J. F. Tocher gave further arguments in support of his scheme for

Territorial Representation

on the Council of the Pharmaceutical Society, and that a discussion on the subject ensued.

Continuing the discussion,

Mr. Walker suggested that the matter should be passed through Parliament in a Bill. One strong reason why he was in favour of the idea was that the Society would get more members. The chemists would feel they were interested, and would like to have a vote in the election of a member for their district.

Mr. Riddell supported the motion.

Mr. Boyd said that, after all, it was not a very big thing they asked—it was only another member for Scotland. It was rather poor that they should only have two members; he thought they ought to have four.

Mr. Gilmour said he thought that some of the critics had overlooked the fact that Mr. Tocher's scheme was an accommodation to the present law. It would be, in his opinion, more satisfactory to have a general election, so that they could have the views of the whole country expressed at one time.

The Chairman said he would be one of the first to welcome a change in favour of territorial representation. He had advocated at all times triennial elections, even in the appointment of Divisional Secretaries. By territorial representation they would get a better reflection of the minds of the pharmacists throughout the country than they had at present. He was strongly in favour of Mr. Tocher's scheme.

Mr. Tocher having replied on the discussion,

The motion approving his scheme was then put to the meeting and unanimously adopted.

Optical Examination.

The Secretary, Mr. Gilmour, stated that Mr. Mitchell, chemist, Dumbarton, had made arrangements for the formation of a class for instruction in sight-testing in Glasgow, and arrangements had also been made with the British Optical Society for holding an examination in Glasgow. Hitherto a chemist had to go to London for this. The fee for tuition would be five guineas, and for the examination three guineas.

PRACTICAL NOTES AND FORMULÆ.

Bug Poison.

Corrosive sublimate, 1 oz.; alcohol (methylated), 12 oz.; carbolic acid, 3 drachms; water, 18 fl. oz. Dissolve. Label, "Poison; to be used with caution."—*Spatula*, **9**, 87.

Waterproofing Boots.

Heat fish oil, castor oil, or tallow to about 250° F. over a naked fire, and then add about one-fifth of the weight of the oil taken of either vulcanised or raw indiarubber, stirring well until the latter is dissolved. To colour, a little printer's ink may be used. One or two applications of this are sufficient to thoroughly waterproof a pair of boots for a season. Boots thus treated will take a common shoe blacking afterwards with ease. —*Sci. Amer.*, **87**, 462.

LEGAL INTELLIGENCE.

Pharmacy Act, 1868.

Prosecution at Lincoln under Section 17.

On Thursday, December 24, 1903, before the Lincoln City Magistrates, the Mayor (Alderman M. H. Footman) presiding, David Jones, of the "Medical Hall," 397, High Street, Lincoln, was summoned for "selling to a girl named Winifred Cheer a certain poison, being a preparation of opium, called laudanum, being a poison within the meaning of the Pharmacy Act, 1868, which poison was contained in a bottle which was not labelled with the name of the article, the word poison, and with the name and address of the seller, on December 7."

Mr. A. B. Porter, of the firm of Messrs. Page and Porter, prosecuted on behalf of the Chief Constable; and Mr. H. H. Williams (Messrs. Williams and Son) was for the defence.

Mr. Porter explained that the defendant was charged with a breach of Section 17 of the Pharmacy Act, 1868. If the charge was proved, there had been a breach of the Act, and defendant was liable to a fine not exceeding £5 and costs. He did not think there would be any dispute that the bottle was not properly labelled, but he thought the defence would be that, instead of there being any sale, the defendant gave the girl this preparation, and did not make any charge for it. He should call the girl, who would swear positively that she paid 4d. for what she got—that was 3d. for the contents of the bottle and 1d. for the bottle itself. It would be for the magistrates to decide whether it was probable that the defendant was in the habit of making his living by giving things away, and whether there was any sale.

Mr. Williams said they admitted the bottle contained laudanum, and that the bottle was not labelled as it should have been.

Dr. Jagger gave evidence to the effect that he saw the girl Cheer after she had taken laudanum on December 7, and, in cross-examination by Mr. Williams as to the quantity the girl had taken, said his treatment prevented her absorbing it. If she had absorbed all she had swallowed, he did not know what would have happened. She might have taken three ounces or three drachms.

Chief Constable Coleman deposed that on December 8 the girl Cheer was charged before the magistrates with attempting to commit suicide by poisoning. From information he received, he afterwards visited defendant, who said, "I have nothing to fear, I may as well tell you all about it." Witness produced the bottle, and defendant said: "Last night that girl came into my shop and said her father wanted to prepare some liniment, and wanted to put laudanum in it, and she wanted an ounce of laudanum. I stood and looked at her. She seemed perfectly calm and all right in her manner, and then I went behind and took this bottle, and I put about three drachms of laudanum in it. I went to her and said, 'This is all the laudanum I have, and, if it is any use to your father, he is welcome to it.' I then handed it to her, and she went away." The bottle was not labelled, the witness added.

Winifred Cheer, single, of 3, Monson Street, stated that she paid Mr. Jones 4d. for the small bottle of laudanum she obtained, giving him 6d., and received 2d. in change. Cross-examined, she said she had the money loose in her pocket, where she often carried coppers and small money.

Defendant went into the witness-box and stated that he had carried on business at this particular place for thirty-one years. He supplied the girl with three drachms of laudanum. She did not pay him anything for it, and she told him her father wanted to make up some oils with it. He had no right to sell poison, and therefore he did not charge for it. He gave it to the girl, whom he did not know, with the idea of securing her future custom.—In cross-examination, witness said this was his only reason for giving her the poison, in spite of the fact that he did not know where she came from. He admitted that the bottle was not labelled, and he now knew the serious consequences.

Cross-examined: He had paid penalties under the Pharmacy Act before. He knew of the Pharmacy Act, and in face of that knowledge he had given the poison away. He was not a registered chemist, but kept a "drug store." He did not stock poisons, but only kept them for his own private use.

For the defence, Mr. Williams said the defendant absolutely denied he sold the stuff, and he submitted that what defendant had said was perfectly consistent with the possibilities, that he gave the poison away. He had carried on the business for thirty years, and knew he was not entitled to sell poisons. All he could give was three drachms, and he gave the girl that because she said her father was making up some oils. The girl gave her evidence with a great deal of bias, and he submitted it was evidence which should be taken with a grain of salt. It was absolutely uncorroborated, and, in view of the open statement and free admission of the defendant to the Chief Constable, he submitted the girl's evidence was not such as could be relied upon, while the defendant's explanation was, taking all the facts into consideration, a perfectly reasonable one.

Mr. Porter quoted a similar case at Leeds, where the poison was obtained for analysis, and where the stipendary held that there had been an infringement of the Act.

The Magistrates' Clerk pointed out that in that case a charge was paid.

The Magistrates, after consultation in private, convicted the defendant, and fined him 30s., including costs, the Mayor adding that if he came there again defendant would get into very serious trouble.

Mr. Porter applied for the solicitor's and doctor's fee, but the latter only was allowed.

Sale of Food and Drugs Acts.

Baking Powder.

On Wednesday, December 23, 1903, at Norwich, Geo. Punt, of Angel Road, Norwich, was fined £2 and 10s. costs for selling baking powder containing 28 per cent. of crystallised alum.

Quinine Wine.

On Tuesday, December 22, 1903, at Stockport, the Stockport Industrial and Equitable Co-operation Society was prosecuted by the Town Council for selling orange quinine wine not of the nature, substance, and quality demanded by the purchaser.

Two bottles of the wine were purchased at separate shops owned by the Society. One contained only 10 grains of quinine hydrochloride, instead of 20 grains, and the other had a deficiency of 3·3 grains, while one grain of salicylic acid was added. For the prosecution, it was pointed out that the labels on the bottles stated that the wine was genuine "B.P.," and that the B.P. laid it down that one pint of quinine wine should contain 20 grains of quinine hydrochloride and no salicylic acid.

The defence produced an invoice showing that the wine was warranted by the makers, Messrs. Dutton and Sons, wholesale chemists, of Bolton, to be "genuine B.P.," and it was urged that this and the label constituted a warranty.

Mr. Risque, on behalf of Messrs. Dutton and Sons, took the responsibility of the warranty, and said that he was prepared to go into the compounding of the wine and prove that, as a matter of fact, it was of the nature, substance, and quality demanded.

Upon this both cases were dismissed.

POISONING CASES AND INQUESTS.

The number of deaths by poisoning reported as having occurred during the eight days ended Wednesday, December 30, 1903, was twelve :—

Poison.	Accident.	Suicide.
Alcohol	1	—
Carbolic Acid	—	1
Chloral Hydrate	1	—
Coal Gas	—	1
Creosote	1	—
Ether	1	—
Hellebore	1	—
Hydrochloric Acid	1	1
Laudanum	1	—
Nicotine	—	1
Phosphorus	1	—
Total	8	4

Alcohol.—A young man at Killamarsh died after drinking half a pint of undiluted rum.

Carbolic Acid.—In a case of suicide from carbolic acid poisoning at Manchester, a few days ago, Mr. Coroner Gibson told the jury he had not called before them the chemist who sold the stuff to the deceased because he had a right to sell the poison. There was no restriction on the sale of it, and he was very sorry that it was so.

Chloral Hydrate.—A veterinary surgeon was found dead at Lanark from chloral hydrate poisoning.

Coal Gas.—A man in North London committed suicide by inhaling coal gas.

Creosote.—An infant at Liverpool drank a quantity of creosote with fatal effect.

Ether.—A soldier died at Ancoats under the influence of ether administered for the purpose of an operation.

Hellebore.—A remarkable case of death from hellebore poisoning has occurred at East Grinstead Some hellebore powder had been bought from a chemist for outward use, the packet being labelled poison. An entry in the poison-book was also made, more than the statutory precautions having therefore been taken. The hellebore was taken in mistake for liquorice powder.

Hydrochloric Acid.—An inquest was held on Saturday last at Consett, near Newcastle, regarding the death of John George Piggins, aged one year and ten months. The mother stated that the child had got hold of some spirit of salt which was kept in a bottle on a shelf. The bottle was produced, and was labelled "Port Wine Essence." The father said he used the liquid in the process of soldering. The chemist from whom he purchased the stuff labelled the bottle "Poison," but witness had poured some into the bottle labelled "Port Wine Essence." A woman in the West-End of London committed suicide by taking hydrochloric acid.

Laudanum.—A child at Sunderland died after being given "two drops" of laudanum by its mother.

Nicotine.—"XL-All Fumigator" was taken by a woman at Monkton, who died as the result.

Phosphorus.—A child at Barnsley died as the result of sucking the heads of matches.

REVIEWS AND NOTICES OF BOOKS.

'Whitaker's Almanac,' 1904. Pp. 792 + 147. Price 2s. 6d. net. London: 12, Warwick Lane, Paternoster Row.

In the thirty-sixth annual volume of this indispensable book a considerable amount of space is devoted to the fiscal question, the speeches of public men on the subject being briefly summarised, and statistics of tariffs given somewhat fully. The general information, for which "Whitaker" has so wide a reputation, is as valuable as ever. Chemists and druggists are consulted by the public probably on as great a variety of subjects as any other class of men, birth registration and the postal rates to Timbuctoo being, perhaps, typical of subjects with which they are expected to be familiar. There is no easier method of answering such questions than by reference to the pages of 'Whitaker's Almanac.'

'The Analytical Chemistry of Uranium.' By Harry Brearley. Pp. 45. Price 2s. net. London: Longmans, Green and Co., 39, Paternoster Row. 1903.

The author of this short book has arranged in order the notes made in his laboratory during some years' experience of the determination of uranium. After briefly describing the gravimetric method of determining the metal, depending on its precipitation as alkaline uranate, which is weighed as such, ignited to oxide, or otherwise treated, Mr. Brearley gives directions for its determination as phosphate. The last two sections of the book are devoted to processes for the separation of uranium from various other substances, and to the analysis of uranium ores respectively. Throughout the directions are explicit and readable.

'Plant Disease, and its Relation to Animal Life.' By F. F. Wright. Pp. 160. Price 3s. 6d. London: Swan, Sonnenschein and Co., Limited, Paternoster Square. 1903.

Not very profound, and by no means uniformly accurate are the observations and deductions made by Mr. Wright. The first portion of the book consists of an attempt to prove that when an animal eats sufficient proteids it becomes immune to innumerable bacterial diseases. Another opinion of the author's is that blood rendered anæmic by eating chlorotic food is likely to produce a diseased liver, not that it is the diseased liver which produces anæmia. The assumption that foods are actually of a "normal chemical composition" is condemned as the fundamental mistake of the medical profession. Mr. Wright proceeds to advance a number of theories, more or less probable, of the causes of certain specified diseases. It may be doubted, however, whether his work will be taken very seriously by the medical profession.

NEW REMEDIES.

Gelatin in Infantile Diarrhœa.—Weill, Lumière, and Pèhu have demonstrated the value of gelatin in the treatment of infantile diarrhœa. They administered at first 15 grains of gelatin in sterilised 10 per cent. solution, liquefied immediately before used; the dose was gradually increased until 180 or 220 grains were being taken daily or the diarrhœa had ceased. Most cases were cured in five days under the gelatin treatment, when these consisted of simple localised enteritis and vomiting. In infective infantile cholera, with pyrexia and enlargement of the liver and spleen, gelatin treatment did not affect the general condition, although it modified the nature of the stools.—*B. M. J. Epit.*, 2/1902, 59.

MISCELLANEOUS NEWS.

Divisional Secretaries and other Members of the Pharmaceutical Society are requested to assist the Editor by sending local newspapers containing items of interest to chemists and druggists.

Wills.—The will of the late Mr. Charles Whitfield, chemist and druggist, of 158, Eccles New Road, Weaste, near Manchester, has been proved at £1,180 2s. 5d. gross, the net personalty being £311 15s.——The will of the late Mr. Jas. Beard, of Manchester, has been proved at £16,612 gross, the net personalty being £9,773.

Breaking into a Pharmacy.—During the night of Christmas the premises of Mr. J. T. Lambert, chemist and druggist, of Barnsley Road, Wombwell, were broken into, and 4s. 6d. taken from the till. A miner, named Herbert Vickers, was arrested in the shop by the police, and upon him was found the proceeds of other robberies in the district. Vickers was brought up on Monday and charged with shop-breaking and theft, and the magistrates committed him for trial.

Royal Photographic Society.—At the meeting of this Society, to be held on Tuesday, January 5, 1904, at 66, Russell Square, London, Mr. Henry W. Bennett will give a demonstration of silver printing. Synopsis :—(1) Type of negative, (2) the choice of a paper, (3) storage of paper and prints. Printing :—General precautions—estimating correct exposure, etc., preliminary washing and toning, choice of a toning bath, precautions necessary to ensure successful toning, estimating final colour, fixing and final washing, causes of fading, aids to permanence.

Fire.—On Tuesday, the 22nd ult., a fire broke out in the window of the branch of Messrs. Savage and Co., chemists, at 14, Listerhills Road, Bradford, and played considerable havoc with the Christmas display at the shop. A good show of perfumes and other fancy goods had been made with a cotton-wool setting, and night-lights were used for illuminations, and it is supposed that the cotton-wool had become ignited through the use of these lights. The fire was quickly discovered, and the people in the shop managed to deal with it before the fire brigade arrived.

Strychnine for Morphine.—An accidental poisoning case which the police have had reported to them nearly had fatal consequences to a French gentleman now staying at Queen Anne's Mansions, London. On Sunday night he asked for a small supply of morphine at a "well-known chemist's." Strychnine was supplied by mistake. Having taken the drug, the gentleman realised that there had been a serious mistake. He was at once driven to St. George's Hospital, where the prompt measures of the medical staff saved his life. He was detained all night, and suffered much from the shock.

From Chemist's Assistant to Premier.—The *Times* of Wednesday, December 30, 1903, published a notice of the life of the Rev. S. W. Baker, who recently died. Born in England about 1840, he went to Sydney when a boy, and was there employed as a chemist's assistant. Afterwards he entered the Wesleyan ministry, and was sent to Tonga as a missionary in the early sixties. Gaining an influence over the king of Tonga, Baker became Prime Minister of the island, his career being extraordinary and eventful. Subsequently he was banished, and he died quite recently in poverty.

Morphine Selling in Paris.—On December 24 the Tenth Correctional Chamber gave its decision in the action brought by M. Walschleger, who sued several chemists for advising him to use, and providing him with, morphine to give him relief from certain pains he suffered from. In the end the patient became a confirmed morphine victim, and before he was obliged to enter the hospital he had consumed £240 worth of the drug. The five defendants were condemned to sentences varying from a fine of £20 to three months' imprisonment for offences against the pharmacy laws and for causing bodily injury by imprudence. The plaintiff obtained £160 damages.

New Source of Radium.—According to the *Scientific American*, a new source has been discovered in the United States, Professor Alexander H. Phillips, of Princeton University, having reported the existence of radium in carnolite, an ore obtained in Utah. The professor found, on experimenting, that from 25 lb. of carnolite a sample of radio-active barium chloride can be obtained. Its activity, while not so powerful as that in radium extracted from pitchblende, is sufficient for many practical purposes. A company has been formed to place this new substance upon the market, and it is expected that it can be produced in paying quantities.

Manchester Pharmaceutical Association.—A soirée will be held on the evening of Wednesday, January 13, 1904, at the Municipal Art Gallery, Mosley Street, Manchester, from 7 to 10 o'clock. The programme, which will be of a comprehensive character, will include music, an exhibition of lantern views, illustrating the Canadian Rocky Mountains, the Caucasus, Norway, and the Swiss Alps in winter, with descriptions by Mr. Hermann Woolley, F.R.G.S.; an exhibition of radium and spinthariscopes; and a large collection of interesting microscopic objects. Tickets may be had from the hon. sec., Mr. J. C. Kidd, 551, Cheetham Hill Road, Manchester.

A Committee on Fruit Culture.—The President of the Board of Agriculture has appointed a Departmental Committee to inquire into and report upon the present position of fruit culture in Great Britain, and to consider whether any further measures may, with advantage, be taken for its promotion and encouragement. The committee consists of Mr. A. G. Boscawen, M.P., (chairman), Mr. C. W. Radcliffe Cooke, Mr. J. M. Hodge, Colonel Charles W. Long, M.P., Mr. George Monro, Mr. P. Spencer Pickering, M.A., F.R.S., Dr. W. Somerville, Mr. Edwin Vinson, and Rev. W. Wilks, M.A., secretary of the Royal Horticultural Society. Mr. Ernest Garnsey, of the Board of Agriculture, will act as secretary to the committee.

Dispensing in Bombay.—A lady in Bombay has written to the editor of *Truth*, asserting that chemists' mistakes in dispensing in that town are of frequent occurrence. This she attributes to "the lack of any proper system in India for the training of compounders, or any legal safeguards against the employment of unqualified persons." The writer of the letter recently discovered in the nick of time that hydrocyanic acid had been substituted for hydrochloric acid in a bottle of medicine. *Truth* suggests that if the facts are correctly represented, the question deserves the attention of the Indian Government, but adds that the lady's startling experience may very likely have prejudiced her mind against the local chemists in general.

British Optical Association.—At the December examinations of this Association the attendance was larger than at any previous time. The examination was divided into five parts, the first four of which were of a scientific or practical nature. The questions in the last section were of a different character, and ran as follows:—"What opinions do you hold as to the sphere of a general optician, and, if engaged at all in sight-testing, what should be his limits?" "Taking the view that a capable optologist is fully qualified to test all cases of defective vision where glasses are likely to be of use, to what extent should commercialism affect him?" "What plan would you recommend to a newly-qualified optologist of securing the goodwill of the necessary medical authorities in his own particular district?"

Prizes for the Wives and Daughters of Chemists.—Messrs. Wright, Layman, and Umney, Limited, have forwarded awards to the winners in the prize competition for chemists' wives and daughters for advertisements based on familiar quotations. The following is the list of successful competitors:—1, Ida Rutter, Newlands Park Pharmacy, Sydenham, S.E.; 2, E. Butler, 215, Fosse Road, N. Leicester; 3, Mrs. Hunter, Courtfield Gardens North, Warwick Road, Carlisle; 4, N. Dorothy Rutter, Newlands Park Pharmacy, Sydenham, S.E.; 5, Mrs. John Francis, 16, Palace Gates Road, Alexandra Park, N.; 6, Mrs. E. M. Wells, 41, Stone Street, Maidstone; 7, Mrs. H. S. Dunn, 3, Imperial Buildings, London Road, Forest Hill, S.E.; 8, Mrs. A. Jones, 38, King Street, Maidenhead, Berks; 9, Miss Mabel Pears, 16, Brunswick Road, Hove. The last six on the list receive consolation prizes.

A Reluctant Witness.—On Monday, December 28, at North London Police Court, a man named Robert Sothern, described as a chemist's traveller, surrendered to his bail to answer charges of embezzlement and of obtaining money by false pretences. The prosecutors were Messrs. Marion, James and Ker, his late employers. The defence was that the matter was one of account. — Mr. Dion Lees Daily, a chemist, of the Causeway, Teddington, was called to prove the payment of one of the sums in dispute. He, however, declined to say anything, in spite of having received a Crown Office subpœna. Mr. Daily said that he had been served with the subpœna during his business, and wanted to know whether his expenses would be guaranteed. Mr. Daily then gave evidence as to paying the accused 12s. on May 18 last.—Mr. Dickinson bound Mr. Daily over in the sum of £40 to appear and give evidence at any sessions to which the case might be committed.

A Birmingham Dinner.—Messrs. Southall Brothers and Barclay, Limited, Birmingham, gave their annual dinner to the staff at the Victoria Hotel, Birmingham, on Monday, December 28. All the directors were present, and the company also included the various representatives and heads of departments. Mr. Thomas Barclay (chairman of directors) presided, and the vice-chair was taken by Mr. Alfred Southall. After dinner the Chairman reviewed the work of the year, and spoke approvingly of the efficient way in which the heads of departments had carried out their duties. Mr. W. H. Lang, the South African representative of the firm, who has just returned from a four years' journey, related in an entertaining way some of his experiences during the war. A pleasant evening, varied with songs and other speeches, followed, at the conclusion of which a hearty vote of thanks to the directors was proposed by Mr. H. E. Thompson, seconded by Mr. C. E. Naish, and carried by acclamation.

"The Doctor," by Luke Fildes: A Warning.—We have been asked to warn doctors, chemists, and others against buying or in any way dealing with pirated copies of the well-known picture called "The Doctor," by Luke Fildes, R.A., of which Messrs. Thos. Agnew and Sons, of 39B, Old Bond Street, publish an engraving. The picture has been extensively reproduced in America, and from time to time pirated copies have been imported into the United Kingdom, either as engravings, or for use as advertisements, mainly in connection with American chemical preparations. Electrotypes of the picture have also been offered to printers and chemists in the United Kingdom by several American electrotype manufacturing firms. It is desirable that it should be as widely known as possible that the exhibition or use of any of these unlawful copies or electrotypes constitutes a breach of the Copyright Acts, and that the owners of the copyright take proceedings against all persons whom they may find committing such breaches.

Radium Developments.—M. Gerault Richard has laid upon the table of the Paris Chamber of Deputies a proposal to vote £6,000 to aid Professor Curie in pursuing his researches in connection with radium. At Monday's meeting of the Academy of Sciences Dr. Roux, of the Pasteur Institute, reported the results of some experiments made by M. Danis. Having hung a tube of radium above some young mice in a cage for a period of from fourteen to fifteen hours, he noticed twenty days afterwards that the mice commenced to lose their fur, and that when it grew again it was of a different colour. Those mice which had been grey turned white. When he increased the duration of exposure he observed that several hours afterwards the animals became paralysed, paralysis especially affecting the younger mice. A correspondent of the *Daily Mail* states that a professor in Pennsylvania believes that the skin of negroes, when treated with X-rays, can be turned white. Nearly every week brings forward some novel suggestion for possible effects of radio-activity or radiography.

The Adulteration of Spirits.—The County Analyst for Kent (Dr. M. A. Adams), in a report just issued by the County Council, deals with the amount of spirit adulteration practised in Kent. He states that during the ten years 1893 to 1902, 4,285 samples were tested, distributed among the several sorts of spirits as follows:—Brandy, 710; rum, 807; whisky, 1,615; gin, 1,153. Of these 12·16 per cent. were adulterated. In 1893 the adulteration rate stood at 15 per cent., but with some fluctuations the rate has been steadily brought down to 8·8 per cent. Thus there are 41·5 fewer transgressors, or, at all events, transgressions, than formerly. Further study of the figures shows that in 1903 the brandy sold was 2·78 degrees proof above legal limit, whisky 2·73, rum, 3·27, and gin 2·93. A comparison of these averages with those of 1893 shows, says Dr. Adams, that there has been a levelling down to the official limit on the part of former sellers of strong spirits, as well as a levelling up to the official limit by the former sellers of weak spirits, and that in the process the trader has, on the whole, taken advantage of the consumer to the extent of 3·44° of proof spirit.

COMPANY INTELLIGENCE.

Arthur H. Cox and Co., Limited.—For family reasons, consequent on the death of Mr. Cox, senior, this well-known firm of pill and tablet manufacturers, of Brighton, has been converted into a limited company. No change whatever will be made in the management, only those interested having joined the board as first directors. No shares will be offered to the public, the whole of the issued capital having been subscribed by the family.

SCHOOL AND COLLEGE NEWS.

The Manchester College of Pharmacy.—Mr. William T. Hill, of Chorley, obtained the first place in an examination in theoretical science, held at the Manchester College of Pharmacy, and Mr. Thos. Cuthbert, of Lancaster, was awarded the silver medal given by an old M.C.P. student for the best analytical work.

King's College, London.—DEPARTMENT OF GENERAL PATHOLOGY AND BACTERIOLOGY.—An evening course in Practical and Clinical Bacteriology will be held, under the direction of Professor Hewlett, every Monday evening from 6.30 to 8.30, commencing Monday, January 11, and ending Monday, March 8. The course will consist of lectures, demonstrations, and practical work: in the latter, the members of the class will make for themselves permanent preparations of the chief pathogenic micro-organisms, and will carry out the principal manipulations employed in bacteriological investigations. The fee will be £3 3s., including all materials, and the use of a microscope. Names must be sent in as soon as possible to the Secretary or to Professor Hewlett, as the class will not be held if less than six students join.

SYLLABUS.

	PRACTICAL WORK.
Jan. 11.—Morphology and Biology of the Bacteria.	Types of Organisms. Preparation of Cover-glass Specimens.
Jan. 18.—The Cultivation and Isolation of Organisms. Culture Media.	Cultures and Plate cultivations. Gram's method.
Jan. 25.—Anthrax.	Anthrax.
Feb. 1.—Tubercle, Leprosy, and Glanders.	Tubercule.
Feb. 8.—Diphtheria and Actinomycosis.	Diphtheria and Actinomycosis.
Feb. 15.—Suppuration and Septic Diseases.	Pyogenic Cocci.
Feb. 22.—Typhoid Fever.	Typhoid Bacillus. Diagnosis.
March 1.—Tetanus and Malignant Œdema.	Tetanus.
March 8.—Fermentation.	Yeasts.

PERSONALITIES, BUSINESS CHANGES, ETC.

Mr. Higgie, lately with Mr. J. A. Russell, New City Road, Glasgow, has acquired the business of Mr. G. Taylor, Muirkirk.

Mr. Edwin Thorp, pharmaceutical chemist, Divisional Secretary for Kettering, will shortly be leaving the town, and will reside at Worthing.

Mr. W. W. Hunter, at present manager of the business of the late Mr. R. Burnett, pharmaceutical chemist, Fraserburgh, is opening a new pharmacy in that town.

Mr. Surgeonor, late of Messrs. Cockburn, Limited, has been appointed to the representative staff of Messrs. H. R. Smith and Co., Edinburgh, Glasgow, and London.

Mr. H. C. Lee, pharmaceutical chemist, has purchased the business of Messrs. Spouncer and Sons, which was established in 1822, at 16, Silver Street, Gainsborough.

Messrs. Berdoe and Co., chemists' valuers and transfer agents, of 35, Jewry Street, Fenchurch Street, E.C., intimate that their firm will in future be known as Messrs. Berdoe and Fish. The business will be carried on as before under the personal direction of Mr. W. S. Fish.

Messrs. Field, Breeze, and Co., Limited, 88, Oxton Road, Birkenhead, have disposed of their business to their managing director, Mr. A. E. Breeze, M.P.S., who will henceforth conduct it at this address on his own account. All moneys owing to, and all debts owing from, the company will be received and paid by Mr. Breeze, to whom all claims against the company should be forwarded.

TRADE NOTES.

Points About the Medicine Stamp Acts.—Messrs. Potter and Clarke, 60, Artillery Lane, London, E., have issued a useful card, intended to show what preparations are liable to stamp duty, and what are not. The firm will be pleased to supply a copy of this card to any chemist who sends a postcard requesting one.

B.P. Galenicals.—A sample of B.P. tincture of orange (season, 1903-4) has been submitted to us by Messrs. Lorimer and Co., manufacturing chemists, Britannia Row, Islington, London, N. This is of full aroma, bright appearance, and fine flavour, and undoubtedly a very high-class product. Readers would do well to obtain particulars as to terms for this and other preparations of the firm.

Cough Lozenges and Stamp Duty.—Messrs. Joseph Terry and Sons, Clementhorpe, York, have been in communication with the Inland Revenue Authorities concerning the liability to stamp duty of "Cough Drops" and "Cough Lozenges," and, in consequence of the reply from Somerset House, the firm is circularising its customers to the effect that the retailer can only supply such goods in a non-dutiable packet—that is, the cough lozenges and cough drops must be sold in paper, and the packet must not be fastened by string, gum, wax, or anything else.

Sixty Years Ago.

From the PHARMACEUTICAL JOURNAL, Jan. 1, 1844.

ABSTRACTED FROM AN ARTICLE.

ON THE USE AND ABUSE OF CERTIFICATES OF MERIT.

"The propriety of granting certificates or diplomas to persons possessing a certain amount of qualification in any particular profession or pursuit has been so generally acknowledged that it is seldom, if ever, called in question. This kind of distinction operates on those who are rising to eminence as an incentive to exertion, and constitutes one of the rewards enjoyed by the industrious. . . .

"The necessity of a society arose from the fact that the chemists were not united, organised, and sufficiently educated. It was necessary that this Society should consist of chemists and druggists. . . . We contend that, in the absence of an Act of Parliament, no means could have been devised of attaining the desired object but the voluntary union of the existing race of chemists in the manner in which it has been effected; and that this union could not have taken place if the original members had been stigmatised by exclusion from the rank to which they feel that they are entitled, and from the honour of a certificate, which, after all, merely denotes their adhesion to a recognised and scientific body. Those who are at all acquainted with human nature must have observed how difficult it is to obtain general support, advice, and assistance in an arduous and responsible undertaking; and how frequently it happens that, when a considerable advance has been made, those who, in the first instance, refused to co-operate, very kindly condescend to point out how much better it might have been done."

The past history of the chemists and druggists of this country affords abundant evidence of the extreme difficulty of effecting a salutary and permanent union among them; the progress of the Pharmaceutical Society up to the present time demonstrates the fact that the plan at present in operation is the most successful which has been attempted.

MARKET REPORT.

The quotations given below are the lowest prompt cash prices for bulk quantities, to which other charges have to be added. It is important that this should be borne in mind in making any comparison between the prices quoted and those of the wholesale drug trade.

General Markets.

London, Thursday, December 31, 1903.

The last week of the year has been one of the dullest on the Drug and Chemical markets, but to-day closes with fairly steady prices all round, although in most cases quotations are only nominal. It is anticipated that things will brighten up after the stocktaking. The usual Spice sales were not held yesterday, but some private business has been done in cloves during the week. English refiners raised the price of Camphor 2d. per lb. on Christmas Eve. This was by no means unexpected, and the particulars concerning the state of the crude Camphor market recorded in recent issues of the Journal clearly indicated that an advance in the refined was almost certain to ensue. Interested persons are watching very closely reports from the Far East. In the event of a war it is impossible to say how much Camphor will be worth. Menthol is firm, but little business is passing in this article, whose value would also be considerably enhanced if an amicable settlement between Russia and Japan were not arrived at. Quinine, like other things, is very quiet, although some sales have been made. It is reported that the American Peppermint crop was overestimated, and in consequence the oil is very firm, if not dearer. With regard to Saffron, it is said that the stocks now held by French dealers are almost exhausted, and it is expected that, in consequence, they will be forced to buy after the turn of the year. Should this prove to be correct, it is not improbable that prices will advance, especially in view of the report from Spain that only small stocks are available. Cloves have advanced in price, and a fair quantity of Zanzibars have changed hands. Shellac is fairly steady, but quotations are only nominal; the Calcutta cable to-day comes unchanged. The Opium market has been extremely quiet. Persian, however, has been the subject of some transactions at very firm prices; in fact, rates are, if anything, rather higher. The alkaloids of this drug are unchanged.

ALUM.—Lump, £5 12s. 6d.; powder, £6 2s. 6d.

BISMUTH.—Carbonate, 8s. 1d.; Subnitrate, 7s. 4d.

BLEACHING POWDER.—English, £5 5s.

BORAX.—Crystals, 13s. 6d.; powder, 14s. 6d.

BORACIC ACID.—Powder, 24s. 6d.

BROMIDES—Are unaltered.

CAMPHOR.—The crude is still practically unobtainable, and, as anticipated in recent numbers of the Journal, English refiners have advanced the price of refined Camphor 2d. per lb. The prices for large wholesale quantities are now as follow: Bells, 2s. 5d.; Blocks from 2s. 5d. to 2s. 7d. per lb.; Flowers, 2s. 4d. and 2s. 5d.

CARBOLIC ACID—Crystals, 39° to 40°, 5d.; crude, 60°, 1s. 6½d.

CHLORATE OF POTASH.—Powder, 2¾d.

CITRIC ACID.—1s. to 1s. 0½d.

CLOVES.—The price has advanced. A considerable quantity of Zanzibar has changed hands; the price for early shipment is 7½d.

COCAINE—Unchanged at 11s. 9d. for very large wholesale quantities.

COCOANUT OIL.—Ceylon, spot, £26; Cochin, spot, £30.

CODEINE—Unchanged at 8s. 11d. per oz. for the pure alkaloid, 7s. 11d. for the Muriate and Sulphate, and 7s. 1d. for the Phosphate.

CREAM OF TARTAR.—98 per cent., Foreign powder, 87s.

GLYCERIN—Is unchanged at £68 per ton.

HYPOPHOSPHITES.—No change is reported.

IODIDE OF POTASSIUM.—8s. 9d. per lb.

IODINE.—9s. 9d. to 10s. per lb. for the resublimed, according to quantity.

IODOFORM.—For the pure crystals or powder 11s. 8d. per lb. is the price.

LINSEED OIL.—London, spot, barrels, £17 15s. to £17 17s. 6d.

LITHIA SALTS.—There is no alteration to record.

MENTHOL—Is firm; quotations, however, are only nominal at 19s. 6d. to 20s. 6d. for wholesale quantities.

MORPHINE—Very dull. 4s. 6d. per oz. is the price for the hydrochloride in large wholesale quantities.

MERCURIALS.—There is no alteration to record. Calomel, 2s. 8d.; Corrosive Sublimate, 2s. 4d.; Red Precipitate, 2s. 11d.; White Precipitate, 2s. 11½d.; Mercuric Sulphate, 2s. 4d. per lb. These are, of course, for wholesale lots.

OLIVE OIL.—Mogador, £32.

OPIUM—Is exceedingly quiet, Persian being the only variety in which business has been done, prices being slightly higher.

OXALIC ACID—2⅝d.

PEPPER.—Fair Singapore is quoted about 6½d.; spot and white, 9¾d.

PEPPERMINT OIL.—American oil in tins is firmer, owing to reports that the crop has been over-estimated. Quotations, however, are only nominal. There are sellers of H. G. H. at 14s. 6d., and buyers at 14s. 3d. For forward shipment 14s. 6d. has been paid.

PIMENTO—Is unchanged and quiet at 4d. to 4½d.

QUICKSILVER.—£8 5s.

QUININE.—Some small sales have been made at 1s. 0½d.; quotations come a fraction higher.

SHELLAC.—Only a small quantity has changed hands; the January price is 220s. for TN.

SODIUM BICARBONATE.—£7 5s., landed.

SULPHATE OF AMMONIA—Is dearer at £12 12s. 6d. to £12 17s. 6d.

TARTARIC ACID.—For English, on the spot, 1s. 1½d. is quoted.

TURPENTINE.—American, spot, £2 4s.

GEDDES' WEATHER FORECAST AND CALENDAR FOR 1904.—According to this little publication, the weather after January 2 will be much milder; on the 4th there will be "a little actual sunshine." This condition of things, however, will not last beyond the 7th, when cold, wet, snow, fogs, east winds will all come back together. The Gyptican Oil Co., Limited, Farringdon Avenue, London, E.C., has issued a mammoth edition of the calendar from which the above prophecy is abstracted; the feature of the booklet is that it contains weather predictions based on observations for nearly every day in the year. Whether all these prophecies will come true or not it is impossible to say until this time next year, but it will be very interesting to check the book each day, and, doubtless, many people will be glad to have a copy by them. Chemists desiring to distribute these booklets to customers should apply for a supply, which the firm will be pleased to forward.

PATENTS AND TRADE MARKS.*

New Patent Applications.

PLASTER BANDAGES (No. 1,229 of 1903).—C. Fuhrhaus, 7, Jägerstrasse, Munich, Germany. The object of this invention is to facilitate the unwinding of plaster bandages from the parts treated, when the bandages have become hard through use and age. The bandage is formed in the usual manner of a thin layer of plaster between two muslin bands, and, in addition, a flexible insertion capable of withstanding tensional strain, formed, for instance, of wire, wire nets, cords, cord network, or the like, imbedded in the plaster. The insertion projects somewhat beyond the ends of the plaster bandage, and prevents same from tearing and breaking asunder.

HAIR-PRODUCING COMPOUNDS (No. 22,058 of 1903).—U. Ascoli, 7, Petersplatz, Vienna, Austria. The above compound is manufactured by first adding a quantity of boracic acid to the desired quantity of fat, or vaseline, in the manner usual in the manufacture of boracic vaseline, for example, whereupon there are added to the mass 1-6 per 1,000 parts by weight of hydrochlorate of cocaine, and from 10-15 per 1,000 parts by weight of menthol. The preparation is used in the same manner as an ordinary pomade. The invention is based upon the fact that cocaine preparations, more especially hydrochlorate of cocaine, facilitates the secretion of liquid in the cells of the hair—that is to say, tends to produce and promote the growth of the hair.

NOTE.—Opposition to the grant of above-mentioned patents must be filed at the Patent Office on or before January 25, 1904.

PROCESS FOR THE MANUFACTURE OF DIMETHYL AND DIETHYL AMIDO ANTIPYRINE (No. 26,353 of 1902).—W. Majert, 45, Friedrichstrasse, Berlin. Relates to the manufacture of dimethyl and diethyl-1-phenyl-2-3-dimethyl-4-amido-5-pyrazolone by treating 1-phenyl-2-3-dimethyl-4-amido-5-pyrazolone with halogen acetic or halogen-propionic acid, and by eliminating carbonic acid from the di-carboxylic acid thus formed. Example:—One molecule 1-phenyl-2-3-dimethyl-4-amido-5-pyrazolone, two and a-half molecules chlor- or brom-acetic or propionic acid, two and a-half molecules crystallised acetate of sodium are heated first for two hours on the water-bath, and then for another hour on an oil-bath of 120-130° C. Then the mixture is diluted with two or three volumes of water, and, after addition of two and a-half molecules of sulphuric acid, precipitated by common salt. Diacetic acid or dipropionic acid-1-phenyl-2-3-dimethyl-4-amido-5-pyrazolone is obtained in the form of thick, tough syrup. This is heated with one molecule of sulphuric acid and six volumes of water, until evolution of carbon dioxide takes place, and then saturated with concentrated solution of caustic soda, in which dimethyl- or diethyl-1-phenyl-2-3-dimethyl-4-amido-5-pyrazolone is insoluble. The product which separates is purified.

MANUFACTURE OR SEPARATION OF TITANIUM COMPOUNDS (No. 1,835 of 1903).—C. Duher, 32, Zahringerstrasse, Freiburg, Baden. Consists in electrolysing in the cathode compartment of an electrolyser a solution of said titanium and accompanying metals in an acid, so as to produce hydrogen in the same, and then treating the solution in an acid with nascent hydrogen, either in the cold or with the aid of heat, and then nearly neutralising with alkali or earthy alkalies, or with a carbonate of the same, or by other suitable methods, or mixing it with substances, such as salts of sulphurous, acetic, or formic acid, which are capable of combining with the acid employed, but not capable of dissolving the titanic oxide, thereby separating out the whole of the titanic acid in the shape of a lower oxide.

NOTE.—Opposition to the grant of any of the above patents must be filed at the Patent Office, on or before February 2, 1904.

HEALING PROCESS FOR INTRODUCING ACTIVE OXYGEN INTO ANIMAL ORGANISMS (No. 972, of 1903).—J. Thenen, 1, Ferstelgasse, Vienna. Consists essentially in bringing the body or part of the body to be treated into a liquid bath, containing a certain percentage of peroxide of hydrogen, and in bringing into the bath an inorganic or organic catalytically acting body, such as spongy platinum, or yeast, blood, fibrin, or the like. This catalytically acting body induces a rapid decomposition of the hydrogen peroxide, so that active oxygen is evolved, which rises in the bath in the form of a great number of bubbles, and is absorbed in the tissues and blood because of its slight pressure. The process may also be carried out by producing the active oxygen outside the bath and introducing it into it; or in local treatment by the application of compresses containing solutions of H_2O_2 mixed with the catalyser.

MANUFACTURE OF POTASSIUM BICHROMATE (No. 2,211, of 1903).—P. Spence and Sons, Limited, H. Spence, and T. J. I. Craig, all of Manchester Alum Works, Holland Street, Manchester. Consists in treating a solution containing ammonium monochromate with lime or hydrate of lime, separating the precipitated calcium monochromate thereby produced, acting upon the calcium monochromate with potassium carbonate, ammonia, and carbonic acid gas, or with potassium carbonate and ammonium carbonate, separating the precipitated calcium carbonate from the equimolecular solution of potassium monochromate and ammonium monochromate thereby produced, and boiling said solution to expel the ammonia, thereby forming potassium bichromate.

APPARATUS FOR ADMINISTERING ANAESTHETICS (No. 22,773, of 1903).—F. M. Richardson, of Corner of State and Randolph Streets; and J. F. Field, of 645, South Albany Avenue, both in Chicago, U.S.A. Consists of a hood covering, comprising a mouth and nose part separably joined together, whereby an anæsthetic may be administered through either the mouth or nose, and an admixture of atmospheric air administered at the same time, and means for providing a communicating passage between the two parts when joined together, and forming an independent air inlet for each part when being used separately, together with means for regulating the flow through said passage, the inhaling and exhaling passage in both mouth and nose part, and means for opening and closing the latter passage at the proper time.

NASAL INHALER (No. 23,726, of 1903).—C. K. Teter, Upper Sandusky, Wyandot, Ohio, U.S.A. Consists in the combination of a flexible cup having its edges rounded off on a curve to adapt it to fit over the nose of the patient and rest on his upper lip and the bridge of his nose, a nipple connected to one side of said cup to provide an attachment for a gas-tube, a thimble connected to the top of said cup, a valve mounted over the open end of said thimble, a perforated cap fitted over said thimble, a disk mounted within said cap and located to cover said thimble, a plunger adjustably mounted within said cap in position to limit the movement of said disk, which serves as a valve to permit exhalation.

NOTE.—Opposition to the grant of any of the above-mentioned Patents must be filed at the Patent Office on or before February 9, 1904.

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* These abridgments of new patent applications and particulars of new applications for trade marks have been specially compiled from official sources, for the *Pharmaceutical Journal*, by Mr. Reginald W. Barker, agent for procuring patents and registering trade marks and designs, 56, Ludgate Hill, London, E.C., from whom any information on the subjects may be obtained. Mr. Barker will also send copies of his 'Trade Mark Notes' and 'Patent Notes for Inventors' free on application.

New Trade Mark Applications.

"**VERMOVINCO**" ("Verm" disclaimed), for a medicine for puppies and kittens, by C. A. Brown, 59, Palace Road, Streatham Hill, S.W. 257,501.

"**VALLS ANTCUTE,**" for an exterminator of ants, beetles, etc., by H. Vallance, 2, Lyncroft House, Lyncroft Gardens, West Hampstead, N.W. 257,847.

SHELL device, for mustard used for veterinary purposes, mustard oil used for veterinary purposes, and mustard refuse compressed for use as manure; also for mustard and preparations of mustard for use in medicine and pharmacy and mustard oil, being a preparation for human use for outward application, by Keen, Robinson and Co., Limited, 6, Garlick Hill, London, E.C. 258,379-80.

"**TONOSS,**" for veterinary preparations, by F. Hewthorn and Co., Limited, 70, Finsbury Pavement, E.C. 258,949.

"**AOL,**" for chemical substances prepared for use in medicine and pharmacy, by Burroughs Wellcome and Co., Snow Hill Buildings, E.C. 258,242.

"**KI-SALUVAH**" (Grapes) label, for a medicine for human use, by C. B. Todd, trading as Bates and Co., 1, Regent Square, W.C. 256,917.

"**VINODE**" ("Vino" disclaimed), for medicated wool or cloth (for human use), by V. F. Wood, 4, Albion Place, Blackfriars Bridge, S.E. 257,494.

"**KIHOGA,**" for chemical substances prepared for use in medicine and pharmacy, by D. Owen, 41, Exchange Chambers, Bixteth Street, Liverpool. 258,517.

"**BUDNIP**" and device of rosebud, etc. (word disclaimed), for chemical substances prepared for use in medicine and pharmacy for the treatment of influenza, by J. A. Buckley, 88, High Street, Lees, near Oldham. 258,646.

"**KURALOIDS**" ("Cura" disclaimed), for pills, medicinal tablets, and medicines contained in capsules (for man), by A. Fryer, 40, Banstead Grove, Leeds. 258,691.

"**LECI-MALTICO,**" for a food specially for infants and invalids, by The Maltico Food Co., 2, London Road, Kingston Cross, Portsmouth. 257,437.

"**HARLENE,**" for perfumery, etc., by R. G. Edwards, trading as Edwards' Harlene Co., 95-96, High Holborn, W.C. 245,425.

"**CLUBINA**" ("Club" disclaimed), for perfumery, etc., by The Erasmic Co., Limited, Bank Quay, Warrington. 257,677.

"**HERBALDINE**" ("Herbal" disclaimed), for a specially prepared oil, being a hair restorer, by M. Wood, 16, Greave Fold, Romily, Cheshire. 258,473.

"**CARNETA,**" for perfumes, etc., by W. F. Charles, Baxter Gate, Loughborough. 258,605.

Note.—Opposition to the registration of any of the above-mentioned trade marks must be filed at the Patent Office on or before January 23, 1904.

"**BORAMA**" label, for a new medicated surgical dressing for human use, by A. Tertis, 144, Amhurst Road, Hackney, N.E. 254,275.

"**SCRUK**" label, for a powder for biliousness for human use, by A. E. Laing, 5, Beechwood Road, Headingley, Leeds. 258,471.

"**RETEP,**" for chemical substances prepared for use in medicine and pharmacy, by P. Tensfeldt, 7, Maurice Place, Edinburgh. 258,766.

"**IVRADONT,**" for tooth powders, dentifrices, and tooth soaps (being preparations for the teeth), by A. Tulloch and Co., Willpha, Longlands Park Road, Sidcup. 258,737.

"**FROTTOLINE,**" for a chemical compound to prevent the steaming of windows and all kinds of glass, by H. E. Kennard, 56, Ludgate Hill, E.C. 258,524.

Note.—Opposition to the registration of the above-mentioned Trade Marks must be filed at the Patent Office on or before January 30, 1904.

LETTERS TO THE EDITOR.

All Communications for the *Pharmaceutical Journal* must be addressed to the Editor, 17, Bloomsbury Square, London, W.C., and, if intended for publication in the current week's issue, should reach the Office not later than Wednesday, unless specially arranged for in advance. The matter should be written clearly and concisely on one side of the paper only and must be authenticated by the names and addresses of the writers, as no notice can be taken of anonymous letters. Articles submitted for the Editor's approval should be accompanied by stamped addressed envelopes, otherwise no guarantee can be given that they will be returned if not found suitable. Reprints of articles cannot be supplied unless the authors communicate with the Editor before publication. The right to reproduce all original matter and illustrations published in the Journal is strictly reserved.

Chemists and the "Medical Times."

The *Medical Times and Hospital Gazette* authorities have been suddenly prompted by an impulse of generosity in posting gratis their wonderful journal to the chemists of this country. I, amongst the rest, was a recipient of this inestimable gift. The recent tabloid case has inspired them with much wisdom, and they are kind enough to cast this wisdom far and wide for nothing. Indeed, it is rare that chemists have the advantage of receiving advice and guidance from such great authorities at so little cost. I see (mentally) the Pharmaceutical Council bowing to them with the greatest reverence conceivable. Then, again, there is sufficient paper in this gazette to light half-a-dozen fires of the furnace type. And, now that we have received so much for so little, let us turn to their leading article and see in what their greatness consists. In the third paragraph, page 808, this article says:—"As every medical practitioner is aware, many of Burroughs Wellcome and Co.'s tabloids are ordered because, although each may contain perhaps from one-hundredth to one six-hundredth part of a grain of some most powerful poison, such special machinery and such closely safe-guarded processes are employed that even the most microscopic dose is measured and dispensed without mistake or variation; but, if for such an absolutely reliable tabloid the preparation of some unknown firm is substituted, the practitioner has no guarantee that the dosage will be equally accurate; and the consequence to the patient if the dosage is inaccurate might easily be fatal. . . ."

Did it ever occur to the *Medical Times* leader-writer that there were other people in the world who could measure the most microscopic dose of any medicine in the British Pharmacopœia or any other pharmacopœia? I should best answer this question myself by suggesting that the writer of this leader present himself at Bloomsbury Square for the Minor Examination in dispensing. He would then discover (for the first time in his life) that chemists who have passed that examination can easily measure out microscopic doses of any drug quite as accurately as Messrs. Mumbo Jumbo's machinery. To this leader-writer the microscopic division of drugs came as a revelation, and, for my own part, I am not surprised that it did. The van of pharmaceutical research and knowledge always has in its wake a number of irreconcilables, whose ignorance we find leaps up in places where we least expect it, and whose advice is not worth the paper on which it is written. The whole of the above hyperbolical excerpt is the product of insufficiency of pharmaceutical knowledge. Lower down, in the fourth paragraph, we get the following :—"It, therefore, is incumbent upon the Pharmaceutical Society to take all possible steps—and as speedily as may be—to condemn such practices, and we consider that they would be wise to take concerted action in the matter and publicly announce that any chemist who hereafter practises such substitution will be prosecuted, as a means of protecting the reputation of other members of the trade. . . ." Here this leader-writer comes out of his shell with the assurance of a sage, proclaiming his advice from the housetops; and, to strengthen his opinion, he throws in the substance of a resolution passed at a New York College of Pharmacy, and then, suddenly finding that his advice has assumed the tone of an impertinent diatribe, he just as suddenly regains consciousness, divests himself of his gauntlet, and, in the last paragraph, page 809, he shakes hands with the pharmaceutical traders, as he calls us, pats us on the back, and whitewashes us till there is not a semblance of a spot upon us; and so we are once more honourable and happy, and without a fault. This arises from the writer being in a fog. Oddly enough, the first four paragraphs in this article are used up in implying the moral debasement of chemists, and, when we come to the fifth paragraph, we find the chemists of this country honourable and skilful men. It would be interesting to know to what country the chemists of the first four paragraphs belong. I take it that he refers to us, and, in that case, how can a body of men be at once dishonourable and honourable?

Well, sir, this great paper is sent out to the ignorant chemists of the country to teach them their business, to enlighten them on the ethics of pharmacy, and to touch their moral sensibilities. With reference to the tabloid case and its *dénouement*, I have nothing to say, except that it is as it should be; but malignant slander and sordid presumption in an obscure medical journal must be arrested in embryo, and the wings of these pompous and imaginary luminaries must be singed in the making. I would suggest that the leader-writer of the *Medical Times* learn very much of pharmaceutical matters before he ventures to reorganise an honourable society and its members. I would also suggest that he prevail upon medical men (if his influence carry any weight at all) to confine themselves to prescribe the preparations in the British Pharmacopœia. Having done this, he will have accomplished something worthy of recognition by both the medical and pharmaceutical bodies.

Sheffield, December 29, 1903. Bernard Ellis.

Modern Pharmacy.

Most of us know that the dispensing dreams of prequalification are rarely fulfilled—that 90 per cent. of those capable and anxious to do such work have either to retaliate by prescribing or occupy an equally wrong position, breaking and retailing in smallest quantities any and every form of loudly trumpeted villainous quackery prepared for a gullible public. Little is gained by grumbling, nothing at all by abusing each other, or the Society, yet when we cast our eyes along the pharmaceutical shelf of our little libraries and in pensive moments reflect and retrace our course through Cæsar, Bentley, and Attfield, surely the majority of those in business for themselves will admit that their position is neither satisfactory nor what was originally intended. The stability of the P.A.T.A., the cohesion and success of buying associations, and the keen interest displayed in recent Inland Revenue interpretations, all go to prove that chemists' clay is very similar to other clays when properly handled, and impresses one with the conviction that an effort to secure dispensing would be well supported if well led, and, failing this, I have only to add that we should be fitted to prescribe legally and render first-aid in our own shops.

Hull, December 28, 1903. Edwin Fowler.

The Advancement of Pharmacy.

As Mr. John Ingham has honoured me by directing the attention of your readers to the substance of a letter contained in your issue for September 5, 1903, I venture to propose a simple method of carrying out the suggestions therein briefly put forward. In the first place, could not such "an association for the advancement of pharmacy" really emanate within the Pharmaceutical Society itself by the creation of a fellowship? This, I imagine, would involve no legislative measures beyond bye-laws to be passed by the Council itself, no extra subscription, and entail little or no more clerical work. My method for effecting this proposition would be :—(1) Create the present members of the Council Fellows of the Society, extending to them power to select the first fifty Fellows from among existing members, after which, perhaps, election might perhaps be best secured by nomination and ballot; (2) all persons seeking election as Fellows to have been members for a period of three years, and be actually engaged in pharmaceutical work; (3) that no person be eligible who is in the employ of an unqualified company; (4) that no Fellow be permitted to adopt a sideline of a pure commercial character (the selling of wines, spirits, tobacco, etc., is by no means complimentary to pharmacy, although the adoption of scientific work—*e.g.*, analytical chemistry or bacteriology, is decidedly so, and should be fostered); (5) clearly defined rules relating to advertising; (6) no Fellow be permitted to take active part in extending the sale of advertised nostrums, nor to encourage the sale of any proprietary article not the production of a Fellow or member of the Society; (7) to agree to discontinue the practice of counter-prescribing, but this should not prohibit the rendering of first-aid in cases of accident, or sudden illness, or works of charity. Upon this last point we shall have to come to a very definite understanding with the medical practitioners of this country if we are to substantially improve our lot. Do not omit to bring this declaration before—and keep it constantly before—the General Medical Council, the medical press, and individual members of the profession. The amount of good fellowship that might result no one can estimate.

Torquay, December 28, 1903. Ernest Quant.

Territorial Representation.

To prevent a false impression being formed among those interested as to my remarks at the meeting of the Glasgow and West of Scotland Pharmaceutical Association, I wish to disclaim having made certain statements which appear in the report of my speech in last week's issue of the *Pharmaceutical Journal*. I am reported to have said, with reference to the present members of Council, that "He (Mr. Tocher) did not know, personally, one of the men, and some of them he did not know even by reputation." I made no such statement. I know many members of Council personally. I spoke not of myself, but of many provincial pharmacists. Again, I am reported to have said that "After the new year they would be able to get better at their members of Council." To me this is a meaningless, if not absolutely silly, statement; and, as a matter of fact, I never made it. What I said was that, "Under the new order of things, they would be able to get at their members of Council," the new order obviously meaning representation by constituencies or territorial districts, which I was claiming at the time to be advantageous to provincial pharmacists. Again, I am reported to have said, with reference to Mr. Waddington's idea of one metropolitan constituency, that it was a "seven one-barrelled one," instead of "one seven-barrelled constituency," which expresses, rather rudely on my part, the plan of returning seven members for one district. The report contains several inaccuracies—whether reporter's or printer's, I do not know; but I know that you, Mr. Editor, have no desire to have them—*e.g.*, I never said "Mr. Bremridge issued 7,500 papers altogether," etc., etc. I appreciate your fairness and neutrality, and feel sure that, in bare justice to myself, and to those pharmacists thinking like myself on this question, you will give publicity to this letter.

Peterhead, Dec. 29, 1903. J. F. Tocher.

⁂ The portions of the report to which exception is taken were printed as received. We regret that our desire to give as full and fair a report as possible should have given Mr. Tocher any cause for complaint.—[Ed. *P.J.*]

Meat Extract Adulterated with Yeast.

You were good enough to publish, on October 10 and November 14, letters from our chemist upon the above subject. These letters and your editorial comments have done much good in saving innocent shopkeepers from the risk they were running of legal prosecution and loss of licence through selling this rubbish as "Pure Meat Extract." We have already offered, and we offer still, to examine, free of cost, any doubtful samples our customers may send us. The trade is recommended to run no risks, but to sell "Bovril," which is absolutely pure, and which contains the nourishment that is lacking in even the best meat extracts. Every package of "Bovril" can be analysed free of charge by the British Analytical Control, 32, Shaftesbury Avenue, W.

Douglas Walker, Managing Director,
London, December 29, 1903. "Bovril, Limited."

The Ash of Elaterium.

With reference to the paper on "The Ash of Certain Drugs," by Mr. J. C. Umney, recently read at an evening meeting of the Pharmaceutical Society, and published in your Journal, the following statistics relative to samples of elaterium prepared by our firm may be of some interest. In every case we can guarantee that the elaterium was carefully prepared from plants of our own growth:—

Year 1898	6·3 per cent. ash
Year 1899	5·36 per cent. ash
Year 1900	4·71 per cent. ash
Year 1901	5·01 per cent. ash
Year 1902	6 per cent. ash
Year 1903	5·1 per cent. ash

Hitchin, December 28, 1903. W. Ransom and Son.

Payment of Income Tax.

In view of the fact that many thousands pay tax for which they are not liable, we would remind your readers that where the whole of the income for the year has already been received, claims for repayment of tax overcharged can in many cases now be made for four years, and the sums repayable may exceed £87, even in the case of incomes of £500 per annum. We shall be pleased to advise your readers whether a claim for repayment can be made in respect of income from rents, dividends, interests, annuities, etc., on their sending us full particulars of their incomes, and a stamp for reply.

The Income Tax Adjustment Agency, Limited.
Poultry, London, E.C. W. J. Andrews,
December 19, 1903. *Secretary.*

The Latin Grammar of Pharmacy

This week I have received a circular from the secretary of the local association of which I am a member, telling me that a demonstration of "photographic apparati" is to be given at a forthcoming meeting. Horace of old sang, "*Persicos odi, puer, apparatus.*" I wonder whether his hate would have extended to English *apparati*.

London, Dec. 30, 1903. "Fourth Declension" (266/49).

The Pharmaceutical Journal Formulary.

I enclose P.O. 5s. 6d., for copy of the 'P.J. Form.' I am glad to see that the Society is at last beginning to recognise and help the vast number of chemists who are not favoured with a good dispensing practice and yet try to keep their business above the level of mere shopkeepers, although many make so poor an income. The inclusion of veterinary formulæ is a good idea, and I hope this section will be fairly complete, as a modern collection seems to be needed.

December 22, 1903. "W. H. C." (265/40).

In enclosing P.O. for copy of 'Pharmaceutical Journal Formulary,' I can but express my sense of the obligation which all the chemists and druggists of the country are under for the serious and vast amount of trouble and expense you have incurred on their behalf in connection with their rights and privileges at this juncture.

Accrington, December 24, 1903. T. Stanley.

Enclosed please find P.O. value 5s. 6d. for book of formulæ. I have this day sent my £1 1s. to become a member of the Pharmaceutical Society, so that I may be entitled to the book at 5s. 6d.

December 29, 1903. "H. P. W." (267/3).

REPLIES TO CORRESPONDENTS.

Information required by readers will be published in this column as early as possible, but the Editor cannot undertake to reply by post, even though stamped addressed envelopes accompany the queries. Replies will, in all cases, be referred to the sender's initials, and the registered number added in each instance should be quoted in any subsequent communication on the same subject. When formulæ are given without definite weights and measures, it should be understood that the solids are to be weighed and liquids measured. Plants for recognition should be addressed to the "Curator, 17, Bloomsbury Square, London, W.C.," accompanied by a stamped, directed envelope for reply. No notice can be taken of anonymous communications.

Formulary (G. N. W.—267/2).—Practically all formulæ received on or before November 30 last, will be included.

Plant Fumigator (J. A.—104/11).—Dissolve camphor, 2, in methylated spirit, 3; then add nicotine, 4, mixed with water, 1.

Dentistry (H. B. T.—104/13).—A skilful practitioner can make a good income, and we should not say the profession is overcrowded.

Name over Shop (A. J. F.—104/10).—We think you will find that it is the name of a limited company which appears over the shop and on labels.

Houbigant's Perfumes (J. R. R.—104/4).—The agent for England is Mr. G. G. Hertz, 84, Charing Cross Road, London, or they may be obtained from Messrs. R. Hovenden and Sons, Limited, Berners Street, London, W.

Drouet Institute (W. F. H.—266/30).—Thanks for the particulars you send. The affair has been exposed repeatedly in the pages of *Truth*. We are returning the papers. The advertisement you send has been mentioned in our columns.

Cod-liver Oil (J. E. R.—104/9).—It is doubtful whether they would be fresh enough, but you might try the experiment.

You will find the methods of extraction described in Möller's 'Cod-liver Oil and Chemistry,' which you can borrow from the Pharmaceutical Society's Library.

Formalin (J. A. R. B.—104/14).—We should not advise you to use formalin as a preservative in such cases; it has not been proved to be harmless, and its use would probably get you into trouble under the Sale of Food and Drugs Acts. You will find much information on the subject in recent volumes of the *P.J.*

Labels (C. J. R. P.—104/15).—The label for mouth-wash may be held to incur liability, because of the use of the words "when the teeth are decayed." The other label might be considered "liable" because of the references to disease of the hair and headache. Otherwise, as toilet preparations, the articles are exempt. Your formulæ will appear in the book.

Chamomile Tea (C. M. S.—265/24).—Put about thirty flowers in a jug, with or without a little grated ginger, add a pint of boiling water, and allow to stand covered for ten minutes; then decant into another jug and sweeten with sugar or honey. As much as a teacupful may be given as a dose for adults. Thanks for your suggestions, but it is now too late to make further additions.

Names Wanted.—Order forms have been received from Arbroath and Huddersfield for copies of the 'Pharmaceutical Journal Formulary,' but the senders omitted to fill in their names and addresses. Will the senders kindly communicate with the Manager of the *Pharmaceutical Journal*, 17, Bloomsbury Square, London, W.C., giving, if possible, the numbers of the postal orders enclosed.

Recipes (C. D.—104/35).—We cannot undertake to include in the 'Pharmaceutical Journal Formulary' any recipes received since November 30. It is more than three months since we first offered to register and print chemists' private recipes, and the offer was repeated in our columns every week until such time as it appeared necessary to withdraw it, in order not to delay publication. Chemists and druggists who have not sent their recipes in time must now wait until the book is published, and they will then probably find printed recipes so closely approximating to their own as to render it unnecessary to register the latter specially.

MARRIAGES.

Bristow—Hearne.—On December 26, 1903, Ralph Pratt Bristow, M.P.S., to Lizzie, daughter of W. Hearne, both of High Wycombe.

Finnemore—Blundell.—On December 30, 1903, at St. Peter's Church, St. Albans, by the Rev. F. A. Bright, M.A., Rural Dean and Rector of Caterham, assisted by the Rev. R. A. Squires, M.A., vicar of St. Peter's, Horace Finnemore, A.I.C., pharmaceutical chemist, Guy's Hospital, to Nellie Muriel Kate, eldest daughter of Joseph Hight Blundell, the White House, St. Albans.

DEATHS.

Barritt.—On December 12, George Barritt, Chemist and Druggist, Croydon. Aged 82. Mr. Barritt was one of the oldest residents in Croydon. He was apprenticed for seven years to the late Mr. Henry Dymond, chemist, who lived at what is now 81, High Street, and after his apprenticeship he spent five years between Bristol and London, and then returned to Croydon, where he successfully conducted a chemist's business in the High Street for nearly forty years, during the latter part of the time in conjunction with Mr. Dix. He did not take a prominent part in public affairs, but was for a long time connected with the Literary and Scientfic Institution, and was still a director at the time of his death.

Butcher.—On December 22, William Butcher, Chemist and Druggist, of Blackheath. Aged 63.

Gardner.—On December 24, at 65, Bousfield Road, New Cross, S.E., Harold Radcliffe, the infant son of Hermann and Mollie Gardner.

Haworth.—On December 23, Hezekiah Haworth, Chemist and Druggist, Blackburn. Aged 50. Mr. Haworth, who was managing partner of the business carried on under the name of Mr. Christopher Parkinson, chemist and druggist, of Astley Gate, was examining an empty petroleum cask, in the roadway outside the shop, when the inflammable vapour ignited, apparently owing to the incautious use of a lighted match, causing a violent explosion. Mr. Haworth received serious injuries, from the effects of which he died.

Pape.—On December 23, Tom Pape, Chemist and Druggist, Helmsley. Aged 60.

Powell.—On December 25, Edward Foley Powell, Chemist and Druggist, London, W. Aged 60.

Probyn.—On December 25, at 55, Grosvenor Street, W., of double pneumonia, Percy Clifford Probyn, M.A., B.C.L.Oxon., barrister-at-law, of 5, Paper Buildings, Temple, aged 34, son of Lieut.-Colonel Clifford Probyn.

Thickitt.—On December 18, Robert Thickitt, Chemist and Druggist, Sheffield. Aged 70.

Calendar for the Week (January 3-9, 1904).

Days of		Events of the Week.	Sun	
M	W		Rises	Sets.
3	S	**Second Sunday after Christmas.**	8.8	4.1
4		○ Full Moon, 5.47 a.m.	8.8	4.2
		Society of Chemical Industry, Burlington House, at 8 p.m.—Various Papers.		
5	Tu		8.7	4.3
6	W	Pharm. Soc. G.B., 17, Bloomsbury Square, London, at 11 a.m.—Meeting of Council.	8.6	4.4
		Stockport Chemists' Association, at 9 p.m.—Annual Meeting.		
		Wolverhampton and District Chemists' Association, at 8.30 p.m.		
7	Th	Chemists' Assistants' Association (of London), at 8.30 p.m.—Social Evening.	8.6	4.5
		Great Yarmouth Pharmaceutical Association, at 8 p.m.		
8	F		8.6	4.6
9	S	☾ Last Quarter, 9.10 p.m.	8.6	4.8

LETTERS, NEWSPAPERS, QUERIES, and other COMMUNICATIONS have been received from Messrs. Ackeroyd, Adams, Alexander, Allen, Allenby, Angel, Archer, Ashford, Atkinson, Attenborough, Attenburrow, Averill, Ayre, Bailes, Baiton, Baker, Baldock, Ball, Barclay, Barford, Barritt, Bateman, Baxter, Beeby, Bennett, Betts, Billington, Bills, Binks, Bird, Birkbeck, Bishop, Blades, Blenkiron, Bonnar, Bonner, Boon, Boorne, Booth, Bottomley, Bowden, Branford, Brearley, Breeze, Brenner, Bristow, Brodribb, Brook, Brown, Brownen, Brumwell, Buchanan, Buckpitt, Bullock, Burbank, Burleigh, Butchers, Bygott, Campsall, Carpenter, Carr, Chappell, Clark, Clayton, Cleave, Coates, Cocker, Colchester, Cole, Coleman, Collitt, Cooper, Corfe, Cowgill, Cranshaw, Crawshaw, Cross, Cruse, Currie, Dale, Dalton, Dalziel, Darling, David, Davies, Davis, Deed, Dewar, Diggle, Dixon, Dodd, Donaldson, Douthwaite, Downie, Dring, Dugan, Duncan, Dunlop, Edwards, Ellis, Esam, Evans, Farr, Fereday, Ferrier, Field, Fielden, Fillingham, Fisher, Fleet, Flood, Ford, Forret, Foss, Fox, Fowler, Franklin, Fryer, Gall, Gardner, Garry, Garsed, Gatehouse, Gaze, George, Gibbons, Gibson, Gill, Glaholm, Godsland, Goff, Gostling, Grace, Graham, Gray, Greatex, Green, Greenish, Greig, Grindell, Haines, Hall, Hanbury, Hardcastle, Hare, Hartley, Hartness, Haslop, Hendry, Herbert, Herd, Herman, Hester, Hey, Hider, Hill, Hocken, Hodgson, Holmes, Holroyd, Hooper, Hope, Hopkins, Hornam, Howell, Hoy, Huck, Hudson, Huggins, Hughes, Huntrods, Hussey, Jackson, James, Jarrett, Johnstone, Jones, Karmer, Keene, Keith, Kemp, Kennedy, Kent, Kenworthy, Kerr, Kimbell, King, Kirkby, Knowles, Laing, Lambert, Latham, Lawrence, Lawson, Lawton, Lee, Lescher, Letherland, Letten, Lins, Linstead, Livesey, Lloyd, Long, Longley, Longstaff, Lycett, Lyon, Macdougall, MacEwan, McFadzean, Macintyre, Mackinlay, Macnaught, Maddison, Mair, Malins, Mandelson, Marfitt, Marples, Marsden, Marsh, Mason, Massingham, Maxwell, Merrick, Merry, Metcalfe, Millhouse, Mitchell, Moate, Moorhouse, Morgan, Morris, Moss, Mowat, Munday, Murray, Muston, Nash, Needham, Newton, Nicholson, Nixon, Norman, Norweb, Orchard, Owen Oxley, Page, Paine, Palmer, Parker, Pars, Pasco, Patterson, Peake, Perodean, Pickering, Plumtree, Pond, Porteous, Potter, Pretty, Probyn, Punch, Purvis, Quant, Raine, Ralph, Ransom, Rednall, Rees, Reid, Rendle, Reynolds, Rhodes, Richards, Richardson, Roberts, Robertson, Robinson, Robson, Rogers, Rollason, Rose, Rowe, Salter, Sayers, Sellors, Shepherd, Sidebottom, Sime, Sinclair, Smith, Sowage, Spencer, Squire, Stables, Stanley, Stockman, Stooke, Strawson, Strickland, Strong, Sturdy, Sutton, Swaffin, Swift, Sykes, Tabor, Taylor, Thornber, Tillott, Tocher, Toon, Torr, Tough, Tranmer, Trayner, Tree, Turnbull, Turner, Unsworth, Uttley, Waddell, Wain, Wallace, Wallbridge, Walters, Wardale, Wardle, Ware, Warner, Warrick, Watson, Watts, Weld, Wells, White, Wilkie, Williams, Wills, Wilmshurst, Wilson, Withers, Wood, Woodliffe, Woodruff, Wootton, Wright, Young.

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CHANGES OF ADDRESS.

Instructions from Members of the Pharmaceutical Society, with reference to the transmission of the Journal, should be sent to the SECRETARY, 17, Bloomsbury Square, London, W.C.

The Pharmaceutical Journal Office.

Thursday, January 7, 1904.

The Questions set at the Major Examination recently held in London are published this week.

The Result of the Students' Competition will be announced in the Journal next week. In this issue appears a lucid dissertation on Pharmaceutical Latin.

Local Associations have for the most part commenced the New Year by taking a holiday. The result is that there are few transactions to record this week.

By a Generous and Timely Subscription of a hundred guineas to the Benevolent Fund, Mr. Michael Carteighe has helped the Committee over a difficulty with regard to casual grants from this Fund.

The Number of Subscribers to the 'Pharmaceutical Journal Formulary' reaches nearly 4,000. It is expected that when the book is published it will have a large sale at a guinea and soon go out of print.

Lard Adulterated with Cotton Seed Oil has been the subject of a prosecution under the Sale of Food and Drugs Acts at Penzance. The defendant, a grocer, was ordered to pay costs amounting to £1 7s. 6d.

A Practical Paper, dealing with a rapid method of estimating mercury by means of hypophosphorous acid, was read before the London Section of the Society of Chemical Industry by Mr. Bernard F. Howard on Monday last.

The Number of New Members of the Pharmaceutical Society elected at Wednesday's Council meeting totalled 140, and the new student-associates numbered 54. There was also a longer list than usual of old friends come back once more.

The Deputation appointed by the Council to interview the Board of Inland Revenue has reported that the Conference was a satisfactory one, assisting, as it did, to establish useful relations between the Board and the Council of the Pharmaceutical Society.

The Stipendiary at Brierley Hill has imposed fines amounting to £5 10s. on a firm of wholesale druggists, for selling camphorated oil deficient in camphor. In one case the sample taken was 14 per cent. deficient, and in another case the oil supplied was still weaker.

For Selling Sweet Nitre which was absolutely devoid of ethyl nitrite, a grocer, of Farsley, has been fined 20s., with costs. The solicitor for the defence said he believed that fully 75 per cent. of the retail dealers were ignorant of the fact that sweet nitre lost strength by evaporation!

The Adulteration of Meat Extract with yeast extract has been detected by means of Searl's test, recently published in the *Pharmaceutical Journal.* At Liverpool, yesterday, judgment was obtained against the managing director of a company on account of the sale of a sample of "beef extract" which contained 40 per cent. of yeast extract.

The Divisional Secretary for North Lambeth has written to thank the Editor of the *Pharmaceutical Journal* for the reference in last week's Journal to his canvass on behalf of the Benevolent Fund, and would like his brother Secretaries, who are hesitating about making a collection, to know that of the seventeen non-subscribers he called upon not one refused a subscription, while each expressed his kindly appreciation of the work of the Society in this direction.

At To-Day's Drug Auctions the offerings comprised fifteen catalogues, some of which were fairly heavy. Menthol sold at lower rates, but otherwise the sales were without any marked feature. In the general markets things continue, on the whole, very dull. Considerable business has been done in Persian Opium at advancing prices. Quinine is quiet. Camphor has not again advanced. Fair business continues to be done in Cloves at dearer rates.

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THE BENEVOLENT FUND—AN APPEAL.

Members of the Pharmaceutical Society will learn with the greatest regret that the Society's Benevolent Fund is in an extremely precarious condition at the present time, the Benevolent Fund Committee having been faced this week with the fact that there was a deficiency of more than two hundred and fifty pounds on the current account. As a result, it had virtually been decided that it would be impossible to grant any assistance in thirteen cases of extreme need which had presented themselves for consideration. Fortunately, however, the facts came to the knowledge of Mr. Michael Carteighe, who promptly sought the Chairman of the Committee, and told him that on no account must the required assistance be withheld, and that, if there were no available funds in hand, he would be pleased to increase his subscription to the Benevolent Fund by the sum of one hundred guineas. That additional subscription has already been paid, the thirteen persons in distress have been duly assisted, and Mr. Carteighe's generous action—to which reference was made by the Vice-President at the meeting of the Council on Wednesday—has had the effect of relieving the immediate pressure. But further additions to the Benevolent Fund are urgently needed—in the form of subscriptions rather than donations—and members of the Society are invited, therefore, to increase their subscriptions to the Fund, if only temporarily. Members who do not subscribe are also appealed to in this matter, and it is hoped that all readers of the Journal will do their

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utmost to secure fresh subscriptions, and do all in their power to enable the Fund to meet its immediate and future liabilities without the necessity of borrowing or leaving cases unrelieved. Incidentally, stewards of the Chemists' Ball, which is to be held at the Whitehall Rooms on January 20, may be reminded that upon their efforts depends the amount of money which may be given to the Benevolent Fund as a result of that function. It is especially desirable that the balance from the Ball this year may be as large as it has been in past years. Tickets may be obtained from any of the stewards, or from the Honorary Secretary, R. A. ROBINSON, Jun., 17, Bloomsbury Square, London.

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THE 'PHARMACEUTICAL JOURNAL FORMULARY.'

THE subscription list for the 'Pharmaceutical Journal Formulary' is now closed, and it is satisfactory to be able to announce that nearly four thousand members and student-associates of the Pharmaceutical Society have taken advantage of the special offer. That is to say, considerably more than half the number of those who were eligible to obtain a copy of the book at the special subscription price have taken advantage of the opportunity. It is noteworthy that the *Pharmaceutical Journal* is the only newspaper in which the book has been advertised, and that nearly four thousand persons, for the most part engaged in business as chemists and druggists, have—as a result of reading the *Pharmaceutical Journal*—paid in advance for copies of a book which no one has yet seen. This proves two things—one the confidence which readers have in the official organ of the Society of which they are members, while the other fact, which is proved without a shadow of doubt, is that what appears in the *Pharmaceutical Journal* is not merely glanced at, not hurriedly scanned and put on one side, but carefully read and inwardly digested. These two points should be as clear as daylight to everyone, and it is with a deep feeling of satisfaction, and a certain amount of pardonable pride, that they are here recorded.

Since a few hours after the announcement of the special subscription terms appeared for the first time, orders have continued to come in by every post. The highest number received by one post has been two hundred and fifty-three, which was at the commencement of the last week of the old year. Thirty-four telegrams requesting us to reserve copies reached the Journal office at the last moment, telephone messages came at frequent intervals during the last few days, and quite a number of subscribers brought their orders personally. On the eve of the withdrawal of the special offer, a special reminder was sent by post to more than three thousand members who had not yet subscribed, with the result that over six hundred of those members sent in orders before the subscription list was closed. In addition, a goodly number of chemists and druggists, hitherto non-members of the Pharmaceutical Society, have forwarded guineas to the Registrar, together with their subscriptions for the 'P. J. Formulary,' and that fact undoubtedly accounts, in some measure, for the lists of members elected and restored at the Council meeting on Wednesday being much longer than usual.

In reviewing the foregoing statements, it must be borne in mind that in no single instance has a copy of the volume been booked at the special price to anyone but a member or student-associate of the Society, nor has more than a single copy been placed to one name, though several applications have been received from individuals who are anxious to procure extra copies. Such applications could not, of course, be entertained, but a scheme is under consideration whereby any member of the Society will be entitled to purchase a single copy of the book, after publication, at less than the published price, though not at so low a price as that at which the work has been offered until this week.

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FOOD AND DRUGS.

AT a meeting of the Sanitary Inspectors' Association, held on Saturday, January 2, Mr. H. J. WARWICK, of West Ham, read a paper on his experiences in the administration of the Sale of Food and Drugs Acts. He described the difficulties which inspectors under the Acts often have to encounter in carrying out the provisions of the Acts, owing to the recognition of the inspectors by dishonest traders, principally milkmen, who sell inferior articles to the general public. Mr. WARWICK urged the desirability of having the Acts administered by a central body, and of having inspectors who should go from time to time to different places. Under the present system, overlapping is said to be of frequent occurrence, and some traders do not receive a visit from an inspector at all.

Attention may once again be called to the large number of prosecutions of unqualified traders, recently reported in the *Pharmaceutical Journal*, for selling drugs not of the nature and quality demanded. Since December 12, 1903, fifteen cases have been reported in which it has been proved that unqualified traders have supplied inferior drugs. Of these, five were in respect of sweet spirit of nitre, three of olive oil, two of camphorated oil, one each of quinine wine, magnesia, Seidlitz powders and other articles. During the same period no successful prosecutions have been reported against qualified chemists and druggists under the Food and Drugs Acts. The comparison may be more striking than could be drawn from every period of five weeks throughout the year. Chemists, as well as "general dealers" are, on rare occasions, found in the possession of sweet spirit of nitre from which some of the ethyl nitrite has evaporated. But the serious danger to public health caused by the sale of a "drug" absolutely devoid of active ingredient (see page 40) by absolutely ignorant persons, is sufficient justification for insisting on the undoubted fact that the drugs sold by unqualified vendors are vastly inferior to those sold by the trained chemist and druggist. The Sanitary Inspectors' Association might profitably devote consideration to this subject, as well to the question of watered milk, which now monopolises so much of the Association's attention.

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THE PHARMACEUTICAL SOCIETY'S MUSEUM.

THE Pharmaceutical Society of Great Britain is able to congratulate itself on the possession of a museum of drugs and medicinal plants which has few, if any, equals the world over. There has just been issued a 'Museum Report,' compiled by Mr. E. M. HOLMES, F.L.S., Curator of the Museum, which is a descriptive and annotated list of the donations to the Museum and Herbarium for the years 1895 to 1902.

The first section of the book—thirty-five pages—is a catalogue of the additions to the Herbarium, with short notes as to the method of collection or medicinal use, and references to the literature of the subject. In the second portion, descriptive notes are given of donations to the Museum in the case of drugs which have actually found their way on to the markets. The section does not represent by any means all the donations to the Museum, several of the drugs presented not having been of direct commercial interest. One is struck, in reading Mr. Holmes's notes, by the fact that much of the histological work has been done abroad. Considerable space is devoted to descriptions of various cassia barks and cinnamon barks, many of which were examined and reported on by Professor Hartwich, of Zurich. Any member of the Society, or other interested person, can procure a copy of the book by applying to the Curator.

THE SALE OF KNOWN, ADMITTED, AND APPROVED REMEDIES.

The following concise statement of the legal position in regard to the sale of compounded medicines has been prepared by a leading authority on the subject, for insertion in the 'Pharmaceutical Journal Formulary':—

"The Medicine Stamp Acts require that all compounded medicines shall be liable to Stamp Duty, provided that any of the following five conditions apply to them:

(1) If they are secret remedies.
(2) If an exclusive right is claimed to make them.
(3) If at any time they have been the subject of Letters Patent.
(4) If at any time they have been, or are, held out to the public by the makers, vendors, or the proprietors as nostrums or proprietary medicines.
(5) If at any time they have been, or are, held out by the makers, vendors, or proprietors, as beneficial for the prevention, cure, or relief of ailments affecting the human body.

"There is, however, a special legal exemption (52 Geo. III., c. 150), which deals with compounded medicines that would be liable to duty by reason only of their coming within condition No. 5. If any of the first four conditions apply to the article it cannot come within this exemption. Chemists and druggists who have served a regular apprenticeship may sell, with a recommendation for the prevention, cure, or relief of ailments, compounded medicines, provided that, in the words of the Act—

(1) The different denominations, properties, qualities, virtues, and efficacies of which mixtures, compositions, and preparations as aforesaid are known, admitted, and approved of in the prevention, cure, or relief of any disorder, malady, ailment, or complaint incident to or in anywise affecting the human body.
(2) They are not within any of the first four of the foregoing conditions, and
(3) That the original or first vendor did not hold them out as beneficial for the prevention, cure, or relief of ailments.

"The onus is upon the chemist in case of a prosecution to prove that his article satisfies the terms of the exemption; but the Board of Inland Revenue, acting upon the High Court judgment in the case of Farmer *v.* Glyn-Jones, has decided to regard as coming within the exemption compounded medicines which do not offend against conditions 1, 2, 3, 4, provided the composition of the medicines is disclosed by the seller, either by stating on the labels the names of all the active medicinal ingredients, or by indicating thereon that the formulæ in accordance with which the medicines are prepared appear in the 'Pharmaceutical Journal Formulary,' or the British Pharmacopœia, or some other recognised book of reference. Absolute identification of the formulæ is at present (January, 1904) insisted upon by the Board, and chemists and druggists who are not prepared to contest the validity of that regulation should be careful to state upon labels the registered numbers of recipes which appear in the 'Pharmaceutical Journal Formulary,' when two or more recipes appear under the same name. Thus, 'Blood Purifier—"Pharmaceutical Journal Formulary," 2308,' or 'Influenza Mixture—"P.J. Form.," 2220,' will be regarded by the Board of Inland Revenue as a sufficient disclosure of the composition of the particular mixture.

"The inclusion in the names of compounded medicines of personal names, whether in the possessive case or not—*e.g.*, 'Hamilton's Pills' or 'Liver Pills (Hamilton)'—is considered by the Board to incur liability unless the formulæ for the medicines are stated upon the labels, or published in the British Pharmacopœia, and that fact duly indicated. It is, however, doubtful if this contention would be upheld in the courts, unless it could be proved that the medicines had at one time been of a secret or proprietary character, as in the case of 'Godfrey's Cordial' and 'Dalby's Carminative,' which are permanently liable to stamp duty. At the same time, it should be noted that the onus of proving that a proprietary interest has never been created in a given medicinal preparation will fall upon any individual who chooses to contest the point. For further particulars regarding the incidence of Medicine Stamp Duty, the section of this book ('P.J.F.') containing legal information should be consulted."

THE NEGLECTED STUDY OF THERAPEUTICS.

In a paper read before the recently founded Therapeutical Society, and printed in the *Medical Press and Circular*, Mr. D. Vinrace, M.R.C.S., L.S.A., urged the necessity for the more thorough training of medical students in pharmacy and therapeutics. He complained of the growing tendency on the part of medical men to neglect the treatment of minor ailments and to rely on the wholesale druggist for ready-made prescriptions, with the result that the public either consults a chemist or resorts to the practice of self-doctoring. Mr. Vinrace is "convinced that it is very unfortunate that the custom of medical men acting as their own dispensers is going rapidly out of fashion." He urges that every medical student should dispense at the hospital for an hour a day for at least three months, and that the use of stock mixtures and printed formulæ at hospitals should be reduced to a minimum. There should also, he suggests, be professors of both practical pharmacy and therapeutics at the medical schools, the former to concern himself with the art of compounding drugs in the most efficient, agreeable, and convenient manner, while the latter would instruct as to the action of medicine in health and disease, explain the manner in which one drug may aid another, and describe the action of drugs both physiologically and therapeutically.

ABSTRACTS—SCIENTIFIC AND TECHNICAL

A REVIEW OF CURRENT WORK IN PHARMACOPEDICS AND ALLIED SCIENCES

Determination of the Adulterant in Citronella Oil.

M. K. Bamber describes a process for determining the adulterant in citronella oil. A mixture of 2 C.c. of pure coco-nut oil free from acid and 2 C.c. of the citronella oil under examination is shaken for one minute with 20 C.c. of 83 per cent. alcohol in a graduated tube, this vessel being then rotated in a centrifugal machine for 0·5 to 1·0 minute. The volume of coco-nut oil, which now contains the impurity originally present in the citronella oil, is ascertained, and this reading minus 2 C.c. represents the adulterant. For example, 2·45 C.c. of residual oil represent 0·45 C.c. of impurity in the 2 C.c. of citronella oil, or an adulteration of 22·5 per cent. A standard oil should be tested occasionally against the unknown samples in order to eliminate errors arising from the use of alcohol of different strengths. In this way, the adulterant is separated and estimated in 3 or 4 minutes, the test being conducted at 29—30°. —*Proc. Chem. Soc.*, **19**, 292.

Aqueous Solutions of Ammonia.

C. Frenzel has endeavoured to solve the question whether in aqueous solution the ammonia is combined with the water in an almost complete manner, forming a very feeble base, or whether the major portion exists simply in solution, a small fraction only being in combination forming a powerful base. The author has already shown (*Zeit. Electrochem.*, vi., 477) that the conductivity of liquid NH_3 is considerably diminished by the addition of traces of water, while a subsequent addition exercises only a very feeble influence on the conductivity. The very slight tendency of trivalent nitrogen to change into pentavalent nitrogen, the thermochemical data relating to the history of ammonia, and the hydrolysis of the ammoniacal salts, are all facts in favour of the hypothesis of a feeble base. Ammonia possesses a double function—a very slightly acid one with trivalent nitrogen, and a very strongly basic function with pentavalent nitrogen ($NH_4 \cdot HO$, for example); between these two functions a well-defined equilibrium should be established in each case. For the same solution the product of the acid function and of the basic function of the ammonia remains constant, and is independent of the nature of the acid added. The formation of nitrogen in the electrolysis of solutions of ammonia is the result of a secondary action of the anodic oxygen on the solution, $4NH_3+3O_2=2N_2+6H_2O$. Even concentrated solutions only give small quantities of oxygen.—*Zeit. Anorg. Ch.*, **32**, 319, through *Chem. News.*

Determination of Methyl Alcohol in Presence of Ethyl Alcohol.

T. E. Thorpe and J. Holmes have described a method of estimating the amount of methyl alcohol in mixtures of methyl and ethyl alcohols based on the different modes of action of a mixture of potassium dichromate and sulphuric acid on the two alcohols. The method differs from that already described by Dupré, in 1876, in which the amount of acetic acid formed is taken as a measure of the amount of ethyl alcohol present, in that the amount of carbon dioxide evolved is weighed. The method is applicable to the case of the methylated spirit of commerce, and to the detection and determination of methylated spirit in tinctures and medicinal preparations suspected to contain it.—*Proc. Chem. Soc.*, **19**, 285.

Separation and Determination of Silver Cyanide and Silver Chloride.

Freshly precipitated silver cyanide, although insoluble in cold dilute nitric acid, readily dissolves in the boiling acid, evolving the theoretical quantity of hydrogen cyanide, so that the gas, when passed into silver nitrate solution, produces an amount of silver cyanide equal in weight to the sample originally employed. R. H. A. Plimmer suggests that in this way silver cyanide may be quantitatively separated from silver chloride. When the cyanide has been dried at 100°, the hard lumps produced offer a greater resistance to the solvent, and if the boiling is prolonged the acid, on becoming more concentrated, oxidises a small proportion of the hydrogen cyanide.—*Proc. Chem. Soc.*, **19**, 285.

Digitalis Leaves.

Digitalis occupies an important position in medicine, and much uncertainty exists as to the identity of its active principle or principles. The separation and examination of the various active substances in the leaves is rendered extremely difficult, for the reason that these are of a neutral or glucosidal nature, and hence not separable with the facility which characterises the alkaloids. It seems to be generally conceded that crystalline digitoxin and Kiliani's digitalin are of most importance, while the value to be ascribed to digitonin, digitin, and digitalein remains undecided. The standardisation of the drugs by analytical methods is, however, impossible, not only on account of the uncertainty with regard to the source of its activity, but also because no good and reliable method of assay is available; hence digitalis is still used in the form of infusion or tincture, or as powdered leaf. Standardisation by physiological methods is advocated by some authorities, the value of the leaf, in the form of infusion given by subcutaneous injection, being determined by finding the weight necessary to stop the heart of a frog of a given weight. Several suggestions have been made for improving the quality of digitalis leaves. Thus the leaves should be collected on a dry day, and dried *in vacuo* as quickly as possible, and at a low temperature. This reduces to a minimum the action of those enzymes—particularly the oxydases—which have been shown by recent investigations to be so widely distributed in the vegetable kingdom. After keeping for one year it has been found that leaves dried as described above show a marked diminution in their activity, although no change could be detected in their colour and appearance, even by microscopical examination. A further suggestion has been made to compress the dried and powdered leaves into tablets, which may be coated or preserved in closed tubes in order to exclude atmospheric influence to which their depreciation in medicinal value may be due. [No one appears yet to have investigated the effect of sterilising the leaves by exposing them to steam heat, to destroy the enzymes, before drying. —ED. *P.J.*]—*Therapie der Gegenwart*, 1902, No. 3; *Pharm. Centralh.*, 1902, 585.

Sensitised Films from Nitro-cellulose.

Nitro-cellulose has in recent times been used for producing photograph films. Pure nitro-cellulose gives, however, a brittle film, so that it is necessary to add resin, oil, camphor and other substances, in order to make it flexible enough for photographic purposes. These additions, however, have a drawback, that the resin and oils have a deleterious effect upon the films. It has been found that the addition of from 5 to 20 per cent. of nitro-glycerin to the films fulfils all the requirements, and gives a very satisfactory result.—*Chem. Zeit.*, 1903, 1,041.

Essential Oil of Geum Urbanum.

E. Bourquelot and H. Herissey finds that *Geum urbanum* develops an essential oil which contains eugenol, although that oil does not exist, as such, in the plant, but is formed by the action of a ferment. The fresh plant, when bruised and macerated with water for twelve hours, yields a small quantity of essential oil containing eugenol. The alcoholic extract obtained by boiling the root with alcohol 95 per cent. is odourless, and gives solution free from odour with water, but this solution, fermented with yeast, gives distinct indications of the presence of eugenol derived from the splitting-up of a glucoside.—*Journ. Pharm. Chim.* [6], **18**, 369.

Determination of Pyridine in Aqueous Solutions.

M. François finds that pyridine may be determined by precipitating it as the double gold chloride, $C_6H_5N \cdot HCl . AuCl_3$, which salt is invariably formed in the presence of excess of hydrochloric acid and of gold chloride. As this pyridine aurochloride is insoluble in ether, excess of gold chloride is easily removed by the use of that solvent. A known quantity of the solution (which should not contain more than 0·1 Gm. of pyridine) is treated, in a beaker, with 20 to 30 drops of hydrochloric acid, followed by excess of pure auric chloride solution, so that, after the precipitate has formed, the supernatant liquid is distinctly yellow. The beaker is then suspended in the boiling water of the water-bath, and its contents evaporated to dryness, until no more fumes of hydrochloric acid can be perceived by their odour. The residue is cooled in a desiccator, quickly washed with pure ether free from aldehyde, the washings being passed through plain filter, to which the precipitate is finally transferred by a jet of ether. The beaker is rinsed out with a few drops of water, which are then transferred to a small Saxe capsule and evaporated to dryness. The precipitate is then incinerated in the same capsule, with the usual precautions. From the above formula of the pyridine-gold salt it will be seen that 196·6 Au = 79 of pyridine.—*Journ. Pharm. Chim.* [6], **18**, 337.

Detection of Carbon Disulphide.

Ten C.c. of the liquid to be tested is placed in a test tube, and the mouth of the tube is covered with a piece of paper moistened with alcoholic solution of caustic potash. The liquid is heated to boiling; the test-paper is removed and moistened with a few drops of 5 per cent. solution of cupric sulphate. In the presence of 1 : 2,000 of carbon disulphide the paper will, according to P. Bompard, assume an intense yellow colour, due to the formation of copper xanthogenate.—*Industra Chim.*, through *Répertoire*, **14**, 476.

Test for Other Cinchona Alkaloids in Quinine Sulphate.

The following test for the presence of allied alkaloids in quinine sulphate is official in the Appendix to the Dutch Pharmacopœia. Seventy-five centigrammes of the thoroughly dry salt is dissolved in 40 C.c. of hot water, with the addition of a trace of sulphuric acid, so that red litmus paper gives a bare indication of blue reaction. After the addition of 10 C.c. of a 10 per cent. solution of neutral potassium chromate and thorough cooling, the crystalline precipitate is filtered out through glass wool, and the filtrate treated with 10 drops of solution of caustic soda. After standing for twenty-four hours the liquid should remain perfectly clear, and show no signs of a flocculent precipitate.—*Pharm. Post*, **36**, 583.

A TEST FOR TURMERIC.

BY J. E. SAUL, F.I.C.

In turning over the pages of the new Year-Book,* my eye lighted on the heading "Diphenylamine as a Reagent for Turmeric." On reading through the paper, which had been abstracted from the pages of this journal,† the colour-reaction described by the writer struck me as requiring some examination. The reagent used was to be prepared by dissolving 1 Gm. of diphenylamine in 20 C.c. of 90 per cent. alcohol and adding 25 C.c. of pure sulphuric acid. A powder containing turmeric if treated with this solution was stated to develop a fine purple coloration.

On submitting the matter to a practical trial, it was found that a brilliant crimson-violet colour was produced. A mixture of alcohol and sulphuric acid was then prepared in the above proportion, but without the addition of the diphenylamine, and cooled. This reagent on trial with turmeric produced a colour indistinguishable from that developed by the solution containing diphenylamine. The reaction is therefore not due in any degree to the diphenylamine, but is the result of the action of the strong sulphuric acid on the turmeric in the presence of alcohol. The colour is destroyed on dilution with water or alcohol.

PATENT MEDICINES A CENTURY AGO.

BY JOHN R. JOHNSON, PH.C.

The lecture delivered by Dr. Robert Hutchison at the London Hospital Medical College (*P.J.* [4], **17**, 842), on the subject of patent medicines and their approximate composition, is an instance of the truth of the trite maxim that "history repeats itself." It is interesting to find that as far back as 1808 this subject was treated upon by a publication called the *Medical Observer*, which was primarily established for the exposure and suppression of quackery in every shape. The true statement by Dr. Hutchison that "quackery is not confined to any particular section of the community, being as rife in Belgravia as in Bethnal Green," has its exact parallel in the assertion made nearly 100 years ago by the above-named publication, that—

> It is not among the common people, the ignorant and the poor, that quackery finds the greatest encouragement. Among the certificates and vouchers in testimony of the miraculous efficacy of the various patent nostrums, we see inserted a number of great names—*Reverend*, *Right Reverend*, *Honourable*, and *Right Honourable*, etc., etc. What are we to infer from this? Can we suppose those persons of high character and situation confederate with empirics, or that they are so deficient in judgment as to allow themselves to be dupes to charlatan puffs?

In the opinion of the *Medical Observer*, the true explanation seemed to be that—

> By vouching the efficacy of a quack medicine, they have the gratification to see their names in every newspaper, and not only this, but posted up in every warehouse, on every post and pillar, etc., with their names emblazoned in full.

At the commencement of last century a nostrum was much advertised as a specific for yellow fever, for which disease it was recommended by an "eminent doctor," who, according to the journal quoted, "though perhaps a man of some merit as a literary writer and translator, was not a regularly bred physician, was entirely ignorant of chemistry, and had never seen a case of yellow fever in his life."

This preparation consisted of two parts—(1) a liquid "preventive," and (2) a powder, the "specific." The preventive was nothing but a watery solution of musk with a slight addition of ammonia. The specific was composed of chalk with so small a proportion of antimony as hardly to admit of detection; so that it was a totally inert remedy; and "to recommend it as a certain cure in the fatal disease, yellow fever, is a criminal and nefarious deception."

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* 'Year-Book of Pharmacy' (1903), p. 167.

† *Pharm. Journal* [4], **15**, p. 551.

To another "fever cure" with antimony as the active ingredient, the *Medical Observer* assigned the responsibility for the destruction of many lives. This article was first sold for a shilling and three pence, and afterwards the price was increased to half-a-crown, at which increase the writer waxed indignant, since "from its composition it cannot cost the proprietor more than two pence."

The ingredients in yet another "fever cure" were stated to be "the antimonial wine of the dispensary with a proportion of laudanum."

Contradictions of the correctness of Dr. Hutchison's account concerning the composition of the quack medicines he named are, of course, only to be expected; in fact, one has appeared already. Here again we find a parallel, for the maker of the last-named "fever cure," nearly 100 years ago had "the hardihood or ignorance to say that his preparation defied analysation. We would answer by saying they must be poor chemists indeed who could not detect antimony by the usual tests, and who could not even smell laudanum in almost any composition."

A pill consisting of aloes and myrrh pill, guaiacum resin, and antimonial powder, was advertised under a fancy name, which, as "John Bull did not understand, he would naturally suppose contained something highly valuable in its composition." How well this remark applies to-day, with reference to many of the quack remedies having high-sounding and mysterious titles!

Another pill, patented by a clergyman, was composed of simple colocynth pill, resin of jalap, soap of almonds, guaiacum resin, tartar emetic, oils of juniper, caraway and rosemary, made into a mass with syrup of buckthorn. The remark of Dr. Hutchison that a "patent medicine" legally should be a genuine, original invention, but that most of the so-called patents do not fulfil this condition, has its equivalent in the *Medical Observer's* statement that "the pills of the Rev.——— exhibit nothing new, nothing like an original invention! This combination . . . is so common a domestic recipe that a copy of it may be found in almost every druggist's shop in the kingdom." Nevertheless, the specification was lodged at the Patent Office, and a patent obtained. As a specimen of the reverend quack's medical knowledge the same writer quoted from his advertisement as follows:—

> "The bile is the fruitful parent of the complicated bodily miseries to which human nature is heir, such as gout, rheumatism, nervous affections, etc., etc.; that we bring it into the world with us; that the *first pang* the infant suffers proceeds from it, and that it haunts us more or less during our continuance in it!!!"

A remedy for worms was stated to consist of a mercury compound, jalap, gamboge, and other drastic purgatives, "which very few medical practitioners would venture to give to delicate children or infants. To say the best of them, they are *kill* or *cure* medicines." Particulars of a case are given where this medicine caused the agonising death of a child three years old, the verdict of a coroner's jury being that he was poisoned by the worm remedy, although administered according to the directions given.

Certain pills, claimed to have been the production of the physician to Charles II., apparently consisted chiefly of aloes. As to any originality in this "patent" the *Medical Observer* remarked, "it surely required no great extent of either medical, pharmaceutical, or chemical knowledge to find out that aloes will purge, and that any essential oil will somewhat lessen its irritation."

Owing to the habitual use of these pills, a relative of the writer suffered from "scirrhus, and afterwards ulceration of the rectum, and he died with a strong and vigorous constitution, a victim to the malpractice of the empiric and an unfortunate confidence in the nostrum."

Every preparation bearing the appellation "balsam of honey," at that time, was declared to be nothing but tincture of tolu, or tincture of benzoin, "which in their virtues are diametrically opposite to honey."

The composition of a (still well-known) preparation for the ailments of children, "such as pains in the bowels, gripes, etc.," was given as "an infusion of opium in a weak proof spirit, chiefly flavoured with the essential oil of sassafras, and sweetened with treacle." This preparation and others of like nature were condemned by the *Medical Observer* as the cause of death of many infants, and doubtless the condemnation was justified, for even to-day reports of the infant mortality, brought about by these "soothing medicines," are common enough. Most of the "patent medicines" which have been above mentioned are still on sale to-day.

On the authority of the same journal, there were, in 1808, about 500 scheduled patent medicines. Out of that number upwards of 400 bore fictitious names; that is, were named after drugs which they did not contain.

With reference to the testimonials published as to the virtue of these preparations, an investigation was made, and it was found that many were altogether fictitious, others were obtained by the "influence of gold," while in several cases, names of persons who had no knowledge of the proprietary which was stated to have cured them of some complaint, were used. How many testimonials issued by the "patent" medicine makers of to-day are genuine?

Even in those days it was found necessary to advertise to ensure success, one nostrum being mentioned as having fallen into disuse through the proprietor not being able to advertise it properly, a convincing proof of its extreme value, and of the realities of its cures." A successful quack is stated to have spent at that time £7,000 in one year in advertising.

To drive home the lesson as to the medical and scientific knowledge and training of the "inventors" of patent medicines at the beginning of last century, the *Medical Observer* stated that one famous quack doctor was a footman, two were porters, another a mountebank; others were respectively a rough-rider in a riding school, a ship broker, a carver and a gilder, a Jew pedlar, and the reverend above mentioned, "a clergyman turned empiric for want of a living."

Si populus vult decipi, decipiatur is but a sorry sentiment; but who is to undeceive and educate them? Dr. Hutchison is of opinion that the medical profession should seize every opportunity of enlightening the people, and of fighting the prevailing craze for self-medication with the hundreds of quack nostrums now so much advertised. Pharmacists and chemists and druggists have great opportunities for assisting in this useful work, and without doubt a very great number do what they can to decry and stifle the sale of these Government-stamped productions of untrained and unqualified individuals, while others of our craft—well, it is but a sorry spectacle to see a pharmacy window displaying these quack remedies—a practice certainly not conducive to the dignity of our calling.

THE STUDENTS' COLUMNS.

THE LATIN OF PHARMACY.

In a previous article (*P.J.* [4] **17**, 433) the construction of a typical prescription was described, and directions were given to assist the student to understand the main principles on which Latin prescriptions are written. But in this subject, a knowledge of the elementary principles of construction, although of great importance, is not the only thing necessary to enable one to obtain a grip of the Latin grammar of pharmacy. Much of that which is termed pharmaceutical or medical Latin has to be learnt by rote. But even that undoubted fact is of a more limited application than is sometimes imagined, for the Latin vocabulary of the pharmacist is to a great extent compiled according to rule. And when it is noticed that the English names of many of the substances of the Pharmacopœia are also constructed according to similar rules, the importance of the rules is manifest. For instance, many students are always in doubt with regard to the Latin and English terminations of the names of alkaloids, glucosides, some resins, and other classes of medicinal substances.

Chemical Nomenclature.

All alkaloids have the Latin termination *ina* (feminine, first declension) and the English termination "ine." If, in seeking for examples, the student confine his attention to words in the Pharmacopœia beginning with the letter a, he will find examples in *aconitina* (aconitine), and *atropina* (atropine). No other substances have this termination. Glucosides, resins, and a number of other substances end in *inum* (neuter, second declension) and "in" in Latin and English respectively. Examples of this are seen in *aloinum* (aloin), *benzoinum* (benzoin), *glycerinum* (glycerin, *not* glycerine), *pepsinum* (pepsin), *phenacetinum* (phenacetin), *pyroxylinum* (pyroxylin), *santoninum* (santonin), and numerous other substances. It will be evident that the English terminations "in" and "ine" furnish a clue to the nature of the substances. Many metals and other chemical elements have the Latin termination *ium* (neuter, second declension). Among such may be quoted *sodium* (not *soda*), *aluminium* and *antimonium*, with the addition of the hypothetical base *ammonium*. Exceptions are *hydrargyrum*, *ferrum*, *zincum*, and others, but the termination *um* is most common in the case of chemical elements. Another matter which is a frequent cause of mistakes is the gender of the Latin words for acetate, benzoate, sulphate, and the like. All these are nouns of the third declension, with genitive ending in *atis*, and are masculine. Acid potassium tartrate must, therefore, be translated Potassii Tartras Acidus. This leads to the enunciation of a very elementary rule of Latin grammar, that an adjective must agree with its noun in number, gender, and case. It ought not to be possible for anyone who has passed an examination entitling him to registration as an "apprentice or student" to make any mistake with regard to the agreement of nouns and adjectives. But, according to a writer who speaks from recent experience, *acidum dilutus* and *aquæ destillatam* are quite common mistakes at the Minor Examination (*P.J.* [4], **15**, 70).

Botanical Nomenclature.

One possible reason for mistakes of this kind is the fact that many botanical names with which the student of materia medica is confronted appear at first sight to violate the ordinary rules of agreement. The student who meets with *Croton Eluteria*, *Croton niveus*, and *Croton Tiglium*, may well be forgiven if he comes to the conclusion that the rules of Latin grammar may be set at naught in botanical or pharmaceutical Latin. But his conclusion will be wrong. As a rule a plant is called by two names; the first a "generic" name and the second a "specific" name. The generic name should be a substantive and must be subject to the laws of the Latin or Greek languages. The specific name should be adjectival, agreeing in gender, number and case with the generic name, and also should be derived from Greek or Latin. Hybrid words, formed from both Greek and Latin, are unfortunately used, but not to a very great extent. Many specific names are descriptive, or express some characteristic of the plant, *e.g.*, *Colchicum autumnale*, *Conium maculatum*, and *Arnica montana*. Specific names, when purely adjectival, follow the rules of agreement. It is when the specific names are formed from old generic names (cp. *Delphinium Staphisagria*), from nouns (cp. *Pterocarpus Marsupium*), or from vernacular names (cp. *Strophanthus Kombe*), the rules of agreement are not followed. *Pinus maritima* and *Quercus infectoria* are names which have often puzzled students. But there is nothing wrong with such combinations, for Latin names of trees ending in *us* are feminine. Herbs and shrubs ending in *us*, however, are masculine, *e.g.*, *Hyoscyamus niger*, not *nigra*. It will thus be seen, that if the student has a good knowledge of Latin, the botanical name of a plant will frequently teach him something of its nature. The names of most natural orders end in *aceæ*. A few exceptions will occur to the mind, viz., Compositæ, Cruciferæ, Labiatæ, Umbelliferæ, etc. Mr. E. M. Holmes has suggested (*P.J.* [4], **8**, 565), and again in the 'Museum Report' just issued, that Lindley's proposal for securing uniformity should be adopted. That suggestion was to use the words Asteraceæ for Compositæ, Brassicaceæ for Cruciferæ, Lamiaceæ for Labiatæ, Apiaceæ for Umbelliferæ, etc.

Some Common Difficulties.

A difficulty which is encountered by advanced as well as by elementary students lies in the words ending in "ol." According to Mr. Ince, the genitive of the words has the termination *olis*. Examples of this are to be found in *phenol*, *thymol*, *menthol* and the like (genitive *phenolis*, *thymolis*, *mentholis*). Similarly the genitives of *chloral* and *sulphonal* are *chloralis* and *sulphonalis* respectively, all these nouns being neuter and of the third declension. With regard to the translation of a great many pharmaceutical words, no sort of a general rule can be given. The student must learn by rote that the Latin for acid is *acidum*; for gentian, *gentiana*; for orange, *aurantium*; for grain, minim, and scruple, *granum*, *minimum*, and *scrupulus* respectively. These things it is necessary to know, but there is no method of reasoning possible. The only thing for the student to do is to make sure that he does not forget the rules of grammar which he learnt at school, and to familiarise himself thoroughly with the pharmacopœial names of drugs.

Reference may be made to Ince's 'Latin Grammar of Pharmacy' (Baillière, 5s. 6d. net), "Botanical Nomenclature," by E. M. Holmes (*P.J.* [4], **8**, 556, and **9**, 7), "The Study of Latin for the Minor" (*P.J.* [4], **15**, 70).

Brilliant Deep Black Leather Varnish.

Ground Manila copal, 30; ground sandarach, 19; Venice turpentine, 5; castor oil, 5; alcohol-soluble nigrosin, 6; methylated spirit, 95 per cent., 150. Dissolve the resins in 125 parts of the spirit. Heat the Venice turpentine with the castor oil, and stir until a homogeneous mixture results, then add it to the alcoholic solution of the resins. Warm the rest of the alcohol in the water-bath, and dissolve the nigrosin in it. Strain the varnish through linen, add the alcoholic solution of nigrosin to the strained liquor, and stir well. Set aside for two weeks, then decant into bottles.—*Ausburg. Seif. Zeit.*, through *Nat. Drugg.*, **33**, 102.

REVIEWS AND NOTICES OF BOOKS.

'A POCKET BOOK OF CLINICAL METHODS.' By CHAS. H. MELLAND, M.D.(Lond.). Pp. 88. Bristol: John Wright and Co. 1903.

In the author's desire for brevity he has condensed the subject-matter of this work on clinical methods to such an extent that few students using it will be independent of much oral instruction or of the larger manuals. A smaller fount of type might have enabled the author to give fuller information without overstepping the limits of a pocket book. The book is, at any rate, fairly free from faults of commission, though some of the processes described differ from those in common use at the metropolitan medical schools, and it undoubtedly contains much accurate information in a handy form for the pocket.

'THE STERILISATION OF URETHRAL INSTRUMENTS AND THEIR USE IN SOME URINARY COMPLAINTS.' By HERBERT T. HERRING, M.B., B.S.(Durh.), M.R.C.S. Pp. xvi. + 176. Price 5s. London: H. K. Lewis, 136, Gower Street, W.C. 1903.

This book contains a detailed exposition of the principles of antiseptic surgery as applied to urethral instrumentation. It is intended mainly for the guidance of members of the educated public who are compelled to undertake such operations upon themselves; and there is little doubt that an intelligent man, who is sufficiently impressed with the gravity of septic infection of the urinary tract faithfully and unremittingly to carry out Mr. Herring's instructions, can thereby save himself from great suffering and many doctor's bills. Hardly less valuable is the volume to general practitioners, few of whom have nothing to learn from a perusal of it; and although to some Mr. Herring's dread of the micro-organisms in tap-water and in air may seem exaggerated, it is at any rate an error on the right side in a work meant principally for the public. For the same reason, we refrain from condemning the excessive use of italics, which, from a literary standpoint, disfigures his pages. Among much that is excellent, the first chapter is especially to be commended; in the fifth, however, a lack of lucidity is noticeable in the descriptions of certain urethral manipulations; and it is difficult to take the author seriously in the ninth, where he thrice repeats a proposal to give patients tea at a temperature of 130° (Fahr.)! A particular merit is the skill with which no more use is made of technical terms than suffices for strict accuracy, while the clear illustrations also enhance the value of a book which may confidently be recommended as an important contribution to the literature of a no less important subject.

'SCHULE DER PHARMAZIE.' Edited by Dr. J. HOLFERT, Prof. H. THOMS, Dr. E. MYLIUS, and Dr. K. F. JORDAN. Vol. I., Praktischer Teil. Pp. 260. Price 4 marks. Vol. IV., Botanischer Teil. Pp. 468. Price 5 marks. Berlin: Verlag von Julius Springer. 1903.

For the volume which deals with practical pharmacy Dr. E. Mylius is responsible. In it pharmaceutical processes are described, with numerous illustrations of the apparatus used at the dipensing counter. An unusual characteristic of a book of this nature is the section on the commercial conduct of a pharmacy, in the course of which a system of book-keeping is expounded. Descriptions of manufacturing processes might have been given at somewhat greater length. The illustrations throughout are excellent.

The botanical volume has been written by Dr. Ernst Gilg, and contains no fewer than 556 illustrations. A short chapter is devoted to instruction in manipulative methods of dissection and the use of the microscope. The author follows the method of arrangement usual in botanical text-books—morphology, anatomy, and systematic classification being dealt with successively. Much use is made, in the classificatory section of the work, of the so-called "floral diagrams" and floral formulæ. As far as possible, the illustrations for the different natural orders are of medicinal plants, a very commendable feature, especially as the author has nowhere hesitated to depart from the rule where an illustration of a plant not used in medicine conveys his lesson more clearly. The publication of the remaining volumes of the series will be awaited with interest.

PHOTOGRAPHIC NOTES.

Sensitising Carbon Tissue.

At a recent meeting of the Royal Photographic Society Mr. H. W. Bennett introduced a new and valuable method of sensitising carbon tissue. The worker in a comparatively small way, said the lecturer, was met by serious difficulties when he wished to keep a small stock of sensitised tissue. The obvious remedy was to sensitise the tissue oneself as it might be required, but, unless the drying arrangements were perfect, the sensitising in the ordinary way proved far from satisfactory. By the new method even the smallest quantities of tissue could be sensitised and dried in any ordinary room; the products of gas combustion would not affect it, and beautifully fine gradations might be obtained in the prints. The sensitising solution was as follows:—

Potassium bichromate	1 oz.
Citric acid	¼ oz.
Ammonia, about	¾ oz.
Water	50 oz.

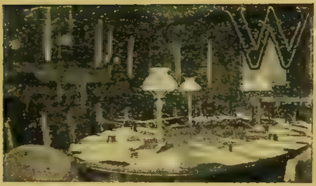
The proportion of ammonia required might vary slightly, but sufficient should be used to change the colour of the solution to a distinct lemon yellow. This solution is suitable for all makes of tissue, except that in the case of Wellington and Ward's tissue only about one-third of the proportion of ammonia was required. The drying might be carried out without any special precautions beyond the darkening of the room; and would take from four to about seven hours. Tissue sensitised according to this method showed no tendency to break, and would allow the backing paper to be stripped off quite easily. The citric acid had considerable effect in regard to the gradations of the print, and the proportion could be increased or decreased, as found desirable. The printing took about 50 per cent. longer than usual, but that was a very small disadvantage in face of the fine gradations obtainable. All makes of tissue appeared to be equally sensitive when treated in this bath. Some very fine prints, made with tissue sensitised by this new method, were shown. In reply to some inquiries, the lecturer said that the keeping qualities of the solution appeared to be very good, provided it was carefully made up, and distilled water used. Some of the prints shown were made with solution which had been mixed up several weeks. He usually sensitised the day before printing, and found no special precautions in regard to storage necessary, beyond keeping the tissue under pressure and protected from the light and air.

Combined Developing and Fixing.

At the same meeting, Mr. T. Thorne Baker, F.C.S., read a paper on "Combined Development and Fixing." Edinol and hydroquinone, as the reducing agents, appeared to give more promising results than other developers, and from 3 to 25 per cent. of hpo. was used in the combined solutions. Of course, the hypo. favoured fog; and the lecturer, in his modesty, spoke of almost all his experiments proving failures; but some lantern slides which were shown, made from negatives developed and fixed simultaneously, were certainly all but perfect. The subject was admittedly a complicated and difficult one, especially as it was necessary to adjust the rate of development to the rate of fixing.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN.

MEETING OF THE COUNCIL.



WEDNESDAY, January 6, 1904, the PRESIDENT, Mr. S. R. Atkins, in the chair. Other members present were Mr. C. B. Allen (Vice-President), Mr. Walter Hills (Treasurer), and Messrs. Carteighe, Corder, Cross, Currie, Gifford, Glyn-Jones, Harrington, Harrison, Newsholme, Robinson, Southall, Symes, Wootton, Young.

Absentee Members.

The PRESIDENT said, before the business of the Council commenced he wished to mention that their colleague, Mr. Taylor, was absent through serious illness; Mr. Storrar was unable to be present on account of indisposition, and their colleague, Mr. Cooper, was absent through a very auspicious event which would occur in his family during the day.

The minutes of the December meeting were confirmed.

Election of Members.

The following persons, having tendered their subscriptions for the current year, were elected members of the Society:—

Allen, John Rex; West Bromwich
Anderson, William P.; Liverpool
Atkin, John A.; West Hampstead
Baker, Edmund H. S.; Newcastle-o-T
Banner, John F. H.; Wallsend
Barker, Sidney F.; Cambridge
Barr, John; Greenock
Barry, Frederick; Bristol
Bartle, William T.; Mirfield
Bevan, George A.; Fremantle
Biggam, John W.; Glasgow
Borrowman, Agnes T.; Runcorn
Boss, Frederick J.; Victoria Park
Bound, William S.; Paris
Boyle, Thomas; Boscombe
Brett, Frederic J.; Leicester
Burton, Harry; Birmingham
Buse, John; Risca
Butchers, W. H.; Sutton-on-Trent
Butler, Edwin; Brompton
Bygott, Henry W.; Fulham
Carpenter, Albert H.; S. Wimbledon
Chaplin, James W.; Brighton
Chatburn, Edwin J.; Paris
Cheers, Robert S.; Clapham
Chesterfield, T. M.; New Brompton
Cleaver, Samuel E.; Leicester
Clouting, John M.; Cambridge
Coghlan, Frederick D.; New Barnet
Collins, Alfred: Durban
Collis, Arthur F.; Bath
Course, Arthur H.; Liverpool
Cox, Henry S.; Kettering
Cranshaw, Walter W.; Bingley
Crawford, George; Horley
Crofts, Albert W.; Hinckley
Davis, Fredk. T. S.; South Lambeth
Dewhurst, George Edward; York
Duncan, Alexander; Sydenham
Dunn, John; Aberdeen
Evans, Octavius W.: Birmingham
Exell, Arthur; Leeds
Fenn, George; Scarboro'
Field, William; Wolverton
Fish, William Sadler; Doncaster
Forrester, Thomas H.; Cupar
Fouracre, Robert; London
Fox, Clara Minnie; London
Francis, Henry St. D.; Bromley
Garrow, Robert Whitelaw; Keith
Gee, James E.; Stockport
Gibson, George W.; Liverpool
Gordon, Richard M.; Boscombe
Hague, John; Lincoln
Harris, J. G.; Streatham Common
Hartley, Allen; Outwood
Harvey, John K.; Mitcham
Hawley, Thomas H.; Cheltenham
Hockin, Arthur W.; Stockwell
Holding, Walter E.; Bow
Hoyle, Ernest; Manchester
Huck, John R.; Kentish Town
Hughes, John H.; Wolverhampton
Jackson, Jabez W.; St. Helens
Jackson, W. J. T.: Preston
James William D.; Leeds
Jarvie, George; Kirkintilloch
Jones, Ivor J.; Penrhyndeudraeth
Jones, John R.; Aberdovey
Kirk, John J.; St. Andrews
Lawrence, Luther J.; Nottingham
Lee, William; Nottingham
Letherland, Herbert G.; Nottingham
Lewis, Walter J.; Horsham
Little, William P.; Horley
Livesey, William F.; Preston
Mackenzie, Robert Y.; Cobridge
MacKinnell, D. F.; Northampton
McGuffie, David; Stevenston
Middleton, Harold P.; Knightsbridge
Middleton, Herbert George; Kilburn
Mitchell, William G.; Aberdeen
Morris, David; Paris
Moses, Walter Williams; Edgbaston
Nicholson, James; Exmouth
Northey, William George; Alford
O'Callaghan, C. W.; Nottingham
Ogilvie, William; Edinburgh
Opie, Arthur Thomas; Bridgwater
Paine, Charles Bowman; Newport
Paterson, William D.; Partick West
Pearson, John Wade; Littleborough
Peck, A. N.; Newmarket, Cambs.
Perrett, Frank; Paris
Philp, George; Dunfermline
Piddock, John Hurley; Roundhay
Pilcher, Daniel G.; Port Alfred
Rawlins, Thomas; Paris
Ray, Charles; Croydon
Reekie, Balfour; Hamilton
Rees, Thomas; Skewen
Reeson, Walter M.; Bordighera
Roberts, John Morris; Swansea
Rodhouse, Lewis; Leicester
Rogers, Benjamin G.; Weymouth
Rowe, Francis Kitch; London
Rutherford, R. J.; Newcastle-on-T.
Saint, Thomas; Stone
Sanders, W. L.; Lowestoft
Sawyer, Henry; Carlisle
Scott, Alexander; Callander
Shepherd, F. W.; West Bridgford
Simco, Frederic; Wellingborough
Slatter, Wilfrid T.; Cheltenham
Smale, Frederick T.; Darjeeling
Smart, Frederick; Steyning
Smith, Frank; Norwich
Smith, Herbert James; Crouch Hill
Smith, William; South Gosforth
Sprott, Charles Edward; Chelsea
Stevenson, Robert; Prestwick
Stewart, Alexander McI.: Singapore
Taylor, Frederick; Ramsbottom
Taylor, George; Glasgow
Thompson, Edwin; Liverpool
Thompson, Etheldreda; S'thampton
Thomson, Graham D.; N. Berwick
Thomson, William; Slamannan
Verrall, Ada; Edinburgh
Walker, Charles; Harrogate
Watson, John; Manchester
Watt, George G.; Attleboro
Whitehouse, Sydney P.; Workington
Whitley, William O.; Trowbridge
Wilson, Stewart; Glasgow
Withers, Herbert P.; Blackpool
Wood, Godfrey C.; Pontypool
Wood, William F.; Nottingham
Wylde, Samuel R.; Macclesfield

Election of Student-Associates.

The following persons, having tendered their subscriptions for the current year, were elected student-associates of the Society:—

Aldridge, Frank Stanley; Ipswich
Aspinall, Isaac; Ashton-in-Makerfld.
Badgett, Thomas J.; London
Ball, Thomas E.; Blackpool
Baxter, Percy C.; Thornton Heath
Brocklesby, Horace M.; Harlesden
Cluett, Charles P.; Chester
Cowhy, Catherine M.; Buttevant
Crookall, Lawrence; Blackpool
Cross, Robert A.; Bradford
Dewhurst, Joseph; Preston
Douthwaite, Ebbie G.; Sheffield
Dow, Robert; Perth
Etherington, Leonard; Croydon
Goodwin, Henry; Birmingham
Gower, John; Burry Port
Gregg, William H.; Barnoldswick
Harris, Frederick E.; Cambridge
Hind, John A. A.; Kibworth
Holmes, Ernest George; Clay Cross
Hosking, Frederic; Falmouth
Huggins, Albert F.; Pontnewynydd
Lane, William J.; Burton-on-Trent
Lee, Cecil Smith Bovelle; Strichen
Levi, Caleb; Manchester
Liddell, John; Falkirk
Maish, Walter Machado; Bristol
Manuell, William C.; Okehampton
Marris, Stanley; Gt. Grimsby
Milne, George Murdoch; Turriff
Minnitt, Eleanor Clara; London
Morris, Frank William; Luton
Morson, Leslie Jules; London
Nichols, Reginald A.; Walthamstow
Parry, John; Ystrad Meurig
Parry, Robert E.; Newport, Mon.
Phillips, Evan Albert I.; New Quay
Plowright, Edith M.; King's Lynn
Richard, Richard Walton; London
Rickard, James William; Filey
Rickeard, Reginald; Heaton
Robinson, William G.; Grimsby
Rollason, Albert; Dudley
Smith, Ernest William; New Cross
Storm, Herbert Ridley; Exeter
Stroud, Vivian Barham; Dagenham
Thompson, Ernest H.; Birmingham
Thomsett, Sidney S.; Matlock Bath
Turner, Anthonia N.; Wotton-u-Edge
Waslin, William Cressy; Hull
Waterworth, Harold P.; Bradford
Whitehead, Seth; Burnley
Williams, John Pryce; Manchester
Wilson, Edwin O.; Bridlington Quay

The PRESIDENT said it afforded him very great pleasure to direct attention to the exceptionally large list of elections—140 members and 54 student-associates. That was an exceptional record, and it gave him great satisfaction to notice it, because he believed it represented an increased confidence in the action of the Council, associated as that action was with a variety of detailed executive work.

Restorations to the Society.

A large number of persons were restored to the Society upon payment of the current year's subscription.

Restorations to Register.

The following persons having made the required declarations, and paid the restoration fee of one guinea, were restored to the Register of Chemists and Druggists:—

Eddy, John Miller, 8, High Street, March
Jones, Alfred Benjamin George Ernest, Pembroke House, Great Norwood Street, Cheltenham
Rees, John Melbourne, 21, Cliff Town Road, Southend-on-Sea
Riding, Joseph John, 188, Beverley Road, Hull
Stewart, Alexander McIntosh, Tighdeargh, Ballintuim, Blairgowrie
Thomson, Thomas, 12, Seedley View Road, Pendleton
Yuill, Stephen, 2, Herriet Street, Pollokshields, Glasgow

Finance Committee.

The report of this Committee was as follows:—

December 30, 1903.

Mr. ROBINSON in the chair.

Present—Messrs. Carteighe, Harrington, and Hills.

(1) The SECRETARY submitted the following statement of the accounts:—

General Fund:—	£	s.	d.	£	s.	d.
Balance from last account				570	18	7
Receipts:—						
Penalties and costs ...	108	0	6			
Rents and bank interest	20	13	1			
Subscriptions	3	3	0			
Restoration fees ...	2	2	0			
Examination fees ...	2,329	10	0			
Cash sales	29	5	1			
'Pharmaceutical Journal Formulary' Subscriptions	500	0	0			
				2,992	13	8
				3,563	12	3
Payments authorised by the Council ...				2,085	17	6
Balance				£1,477	14	9
Amounts Recommended for payment:—						
On behalf of the Journal...				802	2	10
School				67	14	8
House				341	6	2
Law charges				368	5	7
Stationery, etc.				18	2	11
Salaries				166	5	0
Current expenses				900	0	0
Museum and Library				26	15	7
				£2,690	12	9
Benevolent Fund (Current Account):—						
Balance from last account				£299	2	9
Receipts—Subscriptions and ground rents				264	15	5
				563	18	2
Payments—Grants, etc.				819	7	7
Balance on the current account (deficiency)				£255	9	5
Donation Account:						
Balance from last account				£119	13	6
Donation				100	0	0
Balance				£219	13	6
Orphan Fund Account:						
Balance at the last meeting				£47	11	7
Dividends				39	1	10
Balance				£86	13	5

(2) The Committee examined the accounts and found them to be correct, and in accordance with the foregoing statement.

Recommended:—That the Treasurer be requested to pay the amounts indicated.

R. A. ROBINSON, Chairman.

On the motion of Mr. ROBINSON, as Chairman of the Committee, seconded by Mr. CORDER, the report and recommendations of the Finance Committee was received and adopted.

Benevolent Fund Committee.

The report of this Committee included the recommendation of grants to the amount of £96 in the following cases:—

Registered chemist and druggist. 68. Ramsgate. Had previous grant.

Former member and subscriber. 68. Stockwell. Had previous grant.

Widow of registered chemist and druggist. 70. Shepherd's Bush. Had previous grants.

Widow of member and subscriber. 82. Worthing. Had previous grants.

Registered chemist and druggist. 80. Guilford Street, W.C. Had previous grants.

Former member and subscriber. 76. Bath.

Widow of registered chemist and druggist. 78. Darlaston. Had previous grants, and was an unsuccessful candidate at the recent election of annuitants.

Two cases were deferred for further consideration, and four were not entertained.

The VICE-PRESIDENT, in moving that the report and recommendations of the Committee be received and adopted, said the proceedings at the meeting of the Committee the previous day were of an exceptional order, in that the Committee was, at the beginning of the meeting, face to face with an adverse balance of £255 9s. 5d., and the knowledge that £500 would have to be paid in March. Of course, the Committee expected there would be a good influx of subscriptions during the next few months, but that influx was one that could not be estimated, or even relied upon; therefore, he, as Chairman of the Committee, consulted the President prior to the meeting, and they came to the conclusion that it was almost necessary to put off giving any grants this month, because there was no money to deal with. This was getting to be an old story, as it had often been his unfortunate duty to state that the Benevolent Fund was not supported as it ought to be, and on the present occasion, when he met the Committee, he found there was a distinct tendency to act as the President and he had thought would be proper in the circumstances. But, this state of things came to the knowledge of a member of Council, who had always advocated the granting of money to the utmost capacity of the Fund, and had said that if at any time the Committee was in a difficulty he would do his best to get them out of it. Well, when this member of Council heard of the difficulty the Committee was in the previous day, he immediately said: "If what you say is correct, I will give you a subscription of one hundred guineas, so that you may go on with the work of the Fund." That was a noble act on his part, and it enabled the Committee to go on with the list of applications for help. They did so, and spent all the money. But that did not do away with the necessities of the Fund at the present time. He believed there was last year a larger number of subscriptions to the Fund than the year before, but the total amount of the subscriptions was a little less. It was undoubtedly a fact that the country was now going through a period of depression, but the Committee hoped that the whole of the chemists of Great Britain—not only the members of the Pharmaceutical Society—would be aroused to do something towards increasing the annual subscriptions to the Fund. What was urgently required was that each individual chemist should contribute a small subscription—if that were done the Fund would be immensely benefited. He believed he could talk all the morning regarding the work of the Benevolent Fund. Chemists generally had no idea of the immense amount of good which the administrators of the Fund were able to do in all sorts of cases. The Society had been like a father to the fatherless and a husband to the widow in very many cases, while in others, by granting, say, £5 to some chemist who was able to work, but, through adverse circumstances was in want of a respectable suit of clothes, was unable to obtain employment, the Committee was often able to set that man on his feet. There were other cases where, say, £13 granted to a young widow left with a child, or children, materially helped that widow to bring up her children. Then there were cases where officials from the Society went and superintended the putting of a child into a suitable trade, where it would be able to help the mother. Cases had often occurred in which the son of a chemist had been taken from some such employment as that of a light porter, and put into some much better position, where his chance of helping his mother, and of improving his own position, was much greater. These were only a few examples of the cases which, from time to time, were dealt with by the Benevolent Fund Committee, and the question of support for the Fund was one for chemists generally, because every chemist was eligible for its benefits. There was, of course, the Orphan Fund, which was restricted to the children of members of the Society who had also been subscribers to the Benevolent Fund, but that was incidental, and was only another reason why every member of the Society should subscribe to the Fund. There was one other point to which he wished attention directed, and that was the fact that the Benevolent Fund was more in need of subscriptions than donations—donations to the Fund had to be invested, and produced only a small percentage, while subscriptions could be employed to meet current necessities, and now was the time when subscriptions were greatly needed. He hoped that the Divisional Secretaries would make a "whip round" for the Fund; he thought this was an object to which every apprentice could give at least 2s. 6d., while many chemists could give a good deal more.

Mr. Cross seconded the motion for the adoption of the report.

Mr. Southall said he had been on the Benevolent Fund Committee for many years, and he was quite sure the Fund was well administered, though there were many cases where the Committee might very well grant more relief if the money was available. Those who had personally to convey the money to the persons to whom it was granted found it very hard, occasionally, not to do more than the funds permitted, out of their own pockets. The Committee only asked for small subscriptions, but they thought every chemist ought to do something.

Mr. Young: You mean that we shall be content with small subscriptions, but we would rather have large ones—we would rather have a sovereign than half-a-sovereign.

The President supported the earnest appeal made by the Chairman of the Benevolent Fund Committee, and pointed out that two-thirds of the registered chemists of Great Britain do not contribute to the Fund. The Vice-President was quite correct in what he said as to the conference with himself regarding the serious position of the Fund, and he entirely agreed that it might be an object-lesson to the Council, and to chemists generally throughout the kingdom, if they had, as was sometimes said, "shut down certain wards in our infirmary for lack of funds." But through the generous action of a member of the Council, the Committee had been able to tide over the difficulty of the previous day—and to that gentleman, who was present, the Council tendered its most sincere thanks. He did hope Divisional Secretaries would take this matter to heart very seriously, and would take advantage of their opportunities and responsibilities, in pressing the needs of the Fund, because the Committee would shortly be in a similar position again, unless something was done soon. He had been impressed, during a long connection with the Committee, with the importance of the casual grants, which had recently been made on a more liberal scale than formerly.

Mr. Cross said when he seconded the motion he purposely avoided saying anything because he thought the remarks of the Vice-President were sufficient to indicate the urgent necessity for further subscriptions. He would, however, like to say a word to his fellow chemists, who were deeply interested in the prosperity of the Fund. He would suggest that local pharmaceutical associations should take up the matter for consideration during the present session. They, as a Council, were pleased to read in the *Pharmaceutical Journal* reports of the important discussions which took place at meetings of local associations, and he thought if the necessities of the Benevolent Fund were discussed as part of the programme at those meetings—say as to how best to help the Fund—the associations would be undertaking a task which would be congenial to them, and helpful to the entire body of chemists.

Mr. Hills said he hoped that the appeal which had been made would meet with a suitable response, and that those representing the Press would do what they could to help.

Mr. Corder pointed out that of the disbursements made from the Fund, at least two-thirds of those who received grants had never contributed anything to the Fund.

Mr. Carteighe said he should not have added anything to the remarks of other speakers, but for the words of his friend Mr. Corder, who had the good fortune not to be on the Council when he (Mr. Carteighe) was President. Had Mr. Corder been a member of Council then, he would have known that he had no sympathy with those who advocated that the Benevolent Fund should be restricted to subscribers, and attempted to make the Fund a provident fund. If they went back to the original object of the Fund they would find that it was "to provide a fund for the relief of the distressed members and associates of the Society, and of their widows and orphans." The Society was then a voluntary body, but when the Pharmacy Act, 1868, was passed, affecting all the chemists and druggists in Great Britain, the Society very generously—and, he thought, rightly—extended the benefits of the Benevolent Fund to all registered chemists, the terms of the Act reading as follow:—

> And whereas, for extending the benefits which have resulted from the said Provision in the said Charter of Incorporation, it is desirable that additional Power should be granted to the said Council; Be it enacted, That from and after the passing of this Act the said Council may make Provision out of the Real and Personal Property aforesaid, and out of any special Fund known as the Benevolent Fund, not only for the Relief of the distressed Members or Associates of the said Society and their Widows and Orphans, subject to the said Regulations and Bye-laws, but also for all Persons who may have been and have ceased to be Members or Associates of the said Society, or who may be or have been duly registered as "Pharmaceutical Chemists" or "Chemists and Druggists," and the Widows and Orphans of such Persons, subject to the Regulations and Bye-laws of the said Society.

If it was right at that time to extend the Benevolent Fund to others than members of the Society, it was immeasurably right now, therefore he would say: Don't make class distinctions, but get money.

The motion to receive and adopt the report and recommendations of the Committee was then carried unanimously.

Subscriptions to the Benevolent Fund.

The President announced that the following contributions had been received on behalf of the Benevolent Fund:—

	£	s.	d.
Messrs. Elliman	100	0	0
Pharmaceutical Football and Athletic Club	3	3	0
Chemists' Assistants' Association ...		10	7

He was sure he had the hearty assent of the Council to thank those gentlemen who had contributed the amounts mentioned.

Mr. CARTEIGHE pointed out that what was needed most urgently for the Benevolent Fund was not donations, which would have to be invested for posterity, but subscriptions, which could be utilised at once. He suggested that as a temporary way out of the difficulty each subscriber of 2s. 6d. to the Fund should, wherever possible, increase his subscription to 5s.

Payment of Annuitants.

The TREASURER was authorised to pay the annuitants on the respective quarter-days during the year.

Library, Museum, School and House Committee Report.

The report of this Committee was as follows:—

December 9, 1903.

Mr. ATKINS, President, in the chair.

Present—Messrs. Allen, Carteighe, and Hills.

> 1. The Committee received the usual monthly statements respecting the Society's Libraries and Museums in London, and particulars of these are published in the *Pharmaceutical Journal* for December 12, 1903.
>
> 2. Messrs. Parkinson and Son's account for £51 3s. 11d., for work done during the month, was submitted, approved, and referred to the Finance Committee.
>
> 3. SCHOOL.—The Staff reported on the various classes, and the SECRETARY reported that the special exercise books compiled for the use of the students had been registered at Stationers' Hall.
>
> The Committee had under its consideration a letter from the London University on the subject of the proposed Board of Studies in Pharmacy, and it was agreed to refer the communication to the School Staff for consideration and report.
>
> The question of the further improvement in the teaching of practical pharmaceutics was mentioned, and referred to the Vice-President and the School Visitor for consideration.
>
> 4. VACATION.—The Committee ordered the following arrangements for the Christmas vacation:—
>
> The School to be closed from Tuesday, December 22, at 5 p.m., till Thursday, January 7, at 9 a.m.
>
> The Library and Museum to be closed from Thursday, December 24, at 2 p.m., until Monday, December 28, at 9 a.m.
>
> The Office to be closed on Christmas Day and Bank Holiday.
>
> 5. RESEARCH.—Professor GREENISH reported that he had completed the work on chamomile flowers that had been commenced by Mr. Lenton and continued by Mr. Paterson. The results had, with the President's permission, been communicated to the Evening Meeting of the Society in December.
>
> S. R. ATKINS (President), Chairman.

On the motion of the PRESIDENT the report of this Committee was received and adopted.

The Deputation to Somerset House.

The PRESIDENT said he thought it would be convenient at this stage of the procedure to present the following report:—

> The deputation appointed at the last meeting of the Council, consisting of the President, Vice-President, and Mr. Carteighe, and accompanied by the Secretary, had an interview with the Board of Inland Revenue, which was of a private and confidential nature.
>
> Your deputation regards the interview as a satisfactory one, assisting to establish useful relations between the Board and this Council.
>
> We hope and believe that further conferences will arise between the two bodies as the outcome of the deputation's visit.

Dr. SYMES thought the report just read did not convey much information beyond stating that a conference had been held, and that there was a hope of further conferences in future. He should have thought that the work of the deputation having been completed, a report as to what had been done would have been presented.

The PRESIDENT suggested that Dr. Symes had not quite caught the terms of the last paragraph of the report. He, therefore, read it again.

Dr. SYMES: I am not out of the fog yet.

Correspondence.

The SECRETARY then submitted the following communications:—

> 1. From the Secretary of the Aberdeen Pharmaceutical Association, conveying a report of the Education Committee of the Association.
>
> 2. A letter from Mr. W. B. Cowie, of Edinburgh, respecting the acceptance of certificates in Preliminary Knowledge.
>
> 3. From the Manchester Pharmaceutical Association forwarding a resolution indicating approval of the action of the Council in approaching the Board of Inland Revenue, and urging the necessity for a further delay in the introduction of the new procedure of the Board.
>
> 4. From the Divisional Secretary for the Ripon Division of Yorks intimating that he had appointed Mr. F. W. Senior, of Ripon, to assist him in carrying out the duties of the office.
>
> 5. From the Dewsbury and District Association requesting the Council to approach the Board of Inland Revenue with a view to a more stringent enforcement of the Spirits Act.
>
> 6. From T. U. S. Joyce, submitting for acceptance a certificate granted by Queen's College, Galway.
>
> 7. From a member of the Society making a complaint against another member, who is alleged to have been guilty of conduct which is subversive of the interests of the Society.

The report from the Aberdeen Pharmaceutical Association was referred to the Library, Museum, School, and House Committee, as was also the letter from Mr. W. B. Cowie.

The communication from the Dewsbury Association was referred to the Law Committee; and the Board of Examiners was authorised to accept the certificate submitted by Mr. Joyce.

School Leaving Certificates.

Mr. CARTEIGHE reported that Mr. Saul and he had attended the conference convened by the Consultative Committee of the Board of Education to consider the question of school leaving certificates. There was no definite formula presented, and no definite report, but a draft was considered, which would eventually take the form of regulations to apply to all secondary schools. The object of the conference was to formulate a system whereby all secondary schools should be subject to inspection as to the mode of tuition, and to fix a standard of examination for leaving certificates which would qualify the holders to make a start in life in any profession they might wish to enter.

The Hanbury Memorial.

The SECRETARY reported that a letter had just been received from Sir Thomas Hanbury approving of the terms of the Sir Thomas Hanbury Donation Deed and Declaration of Trust, and it was agreed that the Society's seal be affixed to the deed.

Good Wishes from the Colonies.

The PRESIDENT said a communication had been received from the President and members of the Pharmacy Board of Queensland sending hearty congratulations and good wishes to the Council, and expressing a hope for greater pharmaceutical reciprocity between Great Britain and Greater Britain. He thought that was a very gracious act, and that it would be a good thing to send a similar message to their brethren in the Colonies.

Compendium Committee.

Mr. Carteighe referred briefly to the following item which appeared on the Council agenda, and said it scarcely needed any further remarks from him:—

> The Chairman of the Compendium Committee reports that the Committee has had under its consideration the following letter from the British Pharmaceutical Conference:—
>
> 14th November, 1903.
>
> Dear Sir,—At a meeting of the Executive Committee of the British Pharmaceutical Conference, held on Tuesday, November 10th, the question arose as to how far the proposed Compendium of Medicines would clash with the work of the British Pharmaceutical Conference Formulary Committee. The members present expressed their loyalty to the Pharmaceutical Society, and fully recognised the courteous treatment of the Conference by the Council of the Society.
>
> Eventually the following resolution was passed, and we were instructed to forward the same to you to lay before your Council:—
>
> "In view of the statement appearing in the *Pharmaceutical Journal* of November 7th, page 671, as to the publication of a Compendium of Medicines, which might to some extent clash with the work of the British Pharmaceutical Conference Formulary, the Council of the Pharmaceutical Society be asked to be so kind as to indicate to the Executive Committee of the British Pharmaceutical Conference the scope of its projected work."
>
> We remain, yours faithfully,
> (Sd.) E. Saville Peck,
> Edmund White.
>
> Richard Bremridge, Esq.
>
> The Chairman also reports that the Committee has had the advantage of an informal conference with Messrs. F. C. J. Bird, W. A. H. Naylor, J. C. Umney, and Edmund White on the subject matter of the foregoing letter, and, as the result of an interchange of views on the general scope of the 'Compendium,' proposed to reply to the Executive Committee of the Conference to the effect that it is desired to have the co-operation of the Conference in the production of the work, and that the Executive be invited to appoint a Committee to confer with the Compendium Committee as to the practicability of affording help to that body in producing the contemplated work.

Mr. Hills said he should like to say how relieved he felt on the present occasion that the proposed character of the 'Compendium' had been so much modified. He had taken some considerable interest in the matter, and he was glad to see that things were taking the direction they were assuming. He thought, however, it was a pity that a conference such as that mentioned in the report was not held at an earlier stage, because he felt that it would be very ungenerous not to recognise the work that had been done by the British Pharmaceutical Conference in producing the Conference 'Formulary.' He hoped that the conference which was to take place would arrive at some satisfactory conclusion, and that if a 'Compendium' was produced during the next year or two it would be of such a character as to be creditable to the Pharmaceutical Society.

Mr. Glyn-Jones failed to see anything in the report before the Council to warrant the view taken by Mr. Hills. He referred to the history of the proposed 'Compendium,' and pointed out that when it was originally decided at the August Council meeting to produce a 'Compendium,' the idea prevalent in the minds of members of Council was that it would help to solve the medicine stamp difficulty, and January 1, 1904, was fixed as the date of publication. Since then, however, the 'Pharmaceutical Journal Formulary' had been taken in hand, to meet that difficulty. He thought it was rather significant that, although the Council had been asked in November last by the British Pharmaceutical Conference what was the scope of the 'Compendium,' no answer had apparently been given on that point. But the Executive Committee of the Conference had recently passed a resolution (see *ante*, page 13), to the effect that, if an invitation was received from the Council for the members of the Formulary Committee to confer with them as to the necessity for and scope of the projected 'Compendium,' the matter would receive further consideration. He thought that was a very generous statement for the Conference to make, in view of the fact that the Council proposed to start a rival book. He believed that the Compendium Committee had as yet no idea what the scope of the 'Compendium' was to be. They were also face to face with the fact that the book which the Council put in hand in August last was placed in charge of a Committee. That Committee could not agree, whereupon the Chairman of the Committee got rid of the two members who objected. The Committee subsequently received a reasonable request from the British Pharmaceutical Conference as to the scope of the proposed book, and the Chairman had replied by asking the members of the Conference Formulary Committee to come and talk the matter over. The view he took was that if the Committee could come to the Council and show the scope of the work, and that it was a work which could only be prepared after a great deal of time, and brains, and money had been expended, then the Council might consider the advisability of going on with it. But as the Committee did not appear prepared to say, even now, what the scope of the work would be, he moved that the 'Compendium' be not proceeded with.

Mr. Carteighe said he did not think there would be any difficulty with the Conference. If Mr. Glyn-Jones thought he was going to draw him he was very much mistaken. Of course, it was extremely nice for an old man to be educated by a young man very much his junior, but as one got older one learned to be patient, and could afford to wait. He believed there was no difference between the Conference and the Committee. The members of the Conference Executive were loyal members of the Society, but the circumstance that their 'Formulary' was just about ready for publication made them rather anxious as to what the Council was doing. He had a perfectly clear idea what the Compendium Committee was going to do, but he should not gratify Mr. Glyn-Jones by expressing it.

Dr. Symes said he should not second Mr. Glyn-Jones's motion, though had he been at the August meeting he should have opposed the motion for the 'Compendium.' But as the matter had been discussed, and the Council had come to a decision, he was prepared to submit to the majority. The position towards the Conference was a delicate one, but he was quite sure that the Committee would recognise that position, and the result would show that there was no friction between the two bodies, and that whatever credit was due to the Formulary Committee of the Conference for the work it had done in the past would be recognised.

The President assured the Council, having been present at the meetings of the Compendium Committee and of the Conference, that there was no friction between the two bodies, and he was authorised to say that the pharmaceutical workers on the Conference Formulary were prepared and willing to give the Council their services in the preparation of the 'Compendium.' That would guarantee the value of the book, and would, he thought, meet the wishes of the Treasurer, who desired to see the work carefully carried out.

No one having seconded Mr. Glyn-Jones's motion, the matter dropped.

This terminated the public business.

Menthyl Camphorate.—E. Liotard has obtained this compound in the form of a soft white paste. It is insoluble in water, chloroform, and petroleum ether, but soluble in ether and in fixed oils. It melts at 86° C. It is decomposed by warm water liberating menthol, but is not affected in the cold. It is suggested that it might prove useful in the treatment of tuberculosis, given in the form of pills or cachets.—*Nouveaux Remèdes*, **19**, 244.

MAJOR EXAMINATION QUESTIONS.

January 1904.

BOTANY (THEORETICAL).—A.

Time allowed, Two Hours.

(Five questions only to be answered.)

1. How would you show experimentally that plants lose water by transpiration? By what means is transpiration retarded in plants inhabitating desert regions?

2. Describe and compare the gametophyte generations of *Selaginella*, *Lycopodium*, and *Pinus*.

3. What are enzymes? Explain their mode of action; indicate the situations in which they occur, and the various substances on which they operate.

4. Write a short account of the distribution of the non-nitrogenous reserve materials in the seed and in a young seedling of the castor oil plant.

5. Give an account of the structure and life-history of *Erysiphe graminis and Pythium de Baryanum*.

6. A branch of a tree is cut off. Comment on the changes which take place in the exposed xylem, and explain the process by which the wound is healed.

BOTANY (THEORETICAL).—B.

1. Give examples, from the British Flora, of flowering plants which contain little or no chlorophyll, and explain the various means by which their nutrition is effected.

2. Give a general account of the phenomena of special sensitivity in plants, and show on what the character of the response to a stimulus depends.

3. Give a brief description of either the Rosaceæ *or* Liliaceæ, indicating six representatives of the Order, selected from the British Flora.

4. Explain the metabolic processes which take place in the germination of seeds which contain starch and oil.

5. Contrast the arrangement of the vascular bundles in a Monocotyledonous and a Dicotyledonous stem. Explain how the former increases in thickness.

6. Give an account of the structure and life-history of *Cystopus candidus* and *Plasmodiophora brassicæ*.

PRACTICAL BOTANY.

Time allowed, One Hour and a Half.

1. Make one preparation to show the laticiferous vessels in A. Sketch and explain your preparation.

2. Cut a transverse section of B and mount in Iodine. Describe the action of this substance upon the section.

3. Dissect out and make diagrams to explain the botanical structures of C, D, E.

MATERIA MEDICA.—A.

Time allowed, One Hour.

(Two questions only to be answered.)

1. What do you know of the formation and constitution of resins? How are they collected and prepared for use in pharmacy? Describe minutely the process for estimating the resin in jalap, sketching any apparatus you employ.

2. Give the diagnostic features of the following barks:—Cascara Sagrada, Red Cinchona, Cinnamon, Cusparia, Oak, Quillaia. Name the active principle in each of the barks, and give a detailed account of the separation of one of these in a state of purity.

3. What are the chemical and physical characters of essential oils? How are they obtained? What constituents are present in the following oils, and how would you estimate the value of the oils:—Anise, Cinnamon, Lavender, Sandal Wood?

MATERIA MEDICA.—B.

Time allowed, One Hour.

(Two questions only to be answered.)

1. State what you know of the following drugs:—Guaiacum Resin, Asafetida, Peruvian Balsam, Catechu, Logwood, Olibanum.

How are the first four obtained, and how would you ascertain the purity of the first two?

2. Describe, and sketch the chief diagnostic features of, the following leaves:—Bearberry, Belladonna, Buchu, Coca, Henbane, Senna.

Mention any adulterants with which you may be familiar, and show how they may be detected.

Give the active principles of each of the leaves, and a detailed account of a process for the separation of the chief constituent of one of them.

3. What are the chemical and physical characters of fixed oils?

How are they prepared, and how would you estimate the purity of the following drugs:—Almond Oil, Cod-Liver Oil, Lard, Beeswax?

PRACTICAL MATERIA MEDICA.

Time allowed, One Hour and a Half.

1. Write descriptions of the drugs provided, following the style of the pharmacopœial monographs.

2. Make histological preparations to show the structure of the drug provided; note any cell contents, and make sketches of your preparation, pointing out features of diagnostic value. Leave two slides for inspection, and examine the powder of the same drug for added impurity, stating what this is.

PHYSICS.

Time allowed, Three Hours.

(Only six questions to be attempted.)

1. Given the main current at a pressure of 100 volts, describe the arrangement which you would make to charge a six-cell accumulator.

2. Describe a polariscope, and explain the principle of the use of this instrument for determining the percentage composition of a solution of cane sugar.

3. What do you understand by the "critical temperature" of a gas? Describe an experiment in illustration of your answer.

4. Two lenses of principal foci 14 inches and 9 inches are combined together with a separation of 2·84 inches between the lenses. Neglecting thickness of the lenses, what will be the equivalent focus of the combination?

5. Give a general account of the present theory of the passage of a current through an electrolyte, and describe a method of determining the conductivity of a solution such, for example, as one of copper sulphate.

6. Explain the principles involved in the production of a low temperature (*a*) by the evaporation of a volatile liquid such as ether, (*b*) by mixing together ice and salt, (*c*) by the sudden expansion of a gas under pressure.

7. Given a spectrometer and a hollow prism, describe in detail the measurements and calculations you would have to make to determine the index of refraction of a liquid for sodium light.

8. Explain how determinations of the "dew point" afford information about the pressure of water vapour in the atmosphere, and describe two ways of finding tha "dew point."

CHEMISTRY.

Time allowed, Three Hours.

(Only six questions are to be attempted, and of these at least two must be taken from Part II.)

PART I.

1. Give a detailed description of the manner in which you would prepare aqueous solutions of the following substances:—(*a*) Ferric hydroxide; (*b*) silicic acid; (*c*) arsenious sulphide.

2. Give an account of the action of chlorine on the following:—(*a*) Solution of potassium carbonate; (*b*) solution of sodium thiosulphate; (*c*) solution of ferrous sulphate; (*d*) ammonia solution. Give equations.

3. Ten grammes of a salt of density 2·5 are dissolved in 500 C.c. of water. The density of the solution is found to be 1·015; what is the volume of the solution and how does it differ from the volume of the solvent plus that of the dissolved salt?

4. Give some examples to illustrate what is meant by the action of mass in chemical changes.

5. Describe how you would test for (*a*) chlorides in presence of iodides and bromides; (*b*) iodates in presence of iodides; (*c*) sulphites in presence of sulphides; (*d*) bicarbonates in presence of carbonates. Explain the chemistry of the tests by means of equations.

PART II.

6. Give some examples of the use of the following reagents in organic chemistry:—Hydriodic acid, alcoholic potash, sodium, aluminium chloride.

7. Give examples to show how the substitution of particular elements or radicals for the hydrogen of an organic substance modifies, without entirely transforming, the chemical character of the substance. Distinguish between the electro-positive and the electro-negative influence thus exerted.

8. State the evidence which justifies the constitutional formulæ usually assigned to urea and to naphthalene.

9. Explain the meaning and origin of the following terms as used in organic chemistry:—Alkyl, quinone, metamer, carbohydrate, sulphonic acid, secondary diamine.

SOCIETY OF CHEMICAL INDUSTRY.

LONDON SECTION.

Monday, January 4, 1903, at Burlington House, Piccadilly, London, W., Mr. Walter F. Reid in the chair. Of the three papers contributed, the one of the most direct pharmaceutical interest was on

The Rapid Estimation of Mercury by Means of Hypophosphorous Acid,

by Mr. Bernard F. Howard, of the firm of Messrs. Howards and Sons, Limited, Stratford. The object of this investigation was to ascertain as far as possible to what extent the reduction of mercury by hypophosphorous acid could be relied upon as a satisfactory rapid method of analysing the common commercial mercury salts. The results were found to be fairly concordant with the following salts of mercury:—Mercurous chloride (calomel), mercuric chloride (corrosive sublimate), mercuric oxide, and ammonio mercuric chloride (hyd. ammon.). It was also found to give satisfactory results with several rough products, such as the impure nitrate of mercury, and also in solutions of corrosive sublimate and nitrate of mercury. After a large number of experiments the following method of procedure was found to give the most satisfactory results, and was accordingly adopted. Some amount, varying from about 5 to 8 Gm. (according to the probable percentage of mercury in the salt), was weighed out into a lipped glass capsule of about 100 C.c. capacity, and to it hypophosphorous acid of specific gravity 1·136 was cautiously added in the proportion of about 5 C.c. to 1 Gm. of the salt. The capsule was then placed on a water-bath, and carefully warmed, and the contents stirred; reduction at once took place, and after about fifteen minutes a globule of metallic mercury was obtained. The supernatant liquid was carefully decanted off, and the bead washed with water, alcohol, and ether, and dried by placing for a few minutes in a desiccator exhausted with a vacuum pump. The washings of the globule were allowed to settle, and if any particles of mercury were deposited, these were placed with the globule in the capsule. The complete estimations occupied on an average forty-five minutes. The results obtained were fairly concordant, but, as in all reduction methods, were somewhat below the calculated percentage of mercury in the pure salts. The chief source of error appeared to be the volatilisation of the floating particles of freshly precipitated mercury while warming on the water-bath. This was, however, greatly diminished by using comparatively large quantities of the salts, as the amount of floating particles did not appear to increase in proportion to the weight of the salt used. Various experiments were made with mercuric iodide, but no satisfactory results were obtained, owing to the great difficulty in getting rid of the iodine, and the apparently unavoidable formation of hydriodic acid, which, acting on the mercury, prevented a complete precipitation. Hypophosphorous acid was shown to be a much more satisfactory reducing agent than either stannous chloride or phosphorous acid, which have been previously strongly recommended by the authors of various papers on the subject of mercury estimations.

The above is only a brief *résumé* of a very practical and interesting communication. In the discussion which followed Mr. Thomas Tyrer and others took part.

EXETER ASSOCIATION OF CHEMISTS AND DRUGGISTS.

ORDINARY MEETING.

Tuesday, January 5, 1904, the President (Mr. F. W. Vinden) in the chair.

Various matters affecting local trade interests were discussed, and, having regard to the general feeling expressed, it was resolved to revive the annual dinner. The first Wednesday in February was provisionally selected as the date for the gathering, and a committee was appointed to make the necessary arrangements.

A communication was received from the Plymouth and District Association expressing a wish to visit Exeter for their annual summer excursion. It was decided to reply that the Exeter chemists would be very glad to have the opportunity of welcoming the Plymouth members, and to make arrangements for showing them various places and objects of interest in the city.

HULL CHEMISTS' TRADE ASSOCIATION.

ORDINARY MEETING.

Tuesday, January 5, 1903, at 54, Charles Street, Mr. Whitelam in the chair.

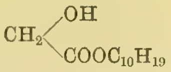
The greater part of the business of the evening referred to combined buying—contracts having been already completed for the year's supply of cotton-wool and lint, glycerin, camphor, and little liver pills. The Secretary was authorised to obtain tenders for the year for perfumes, toilet soap, and Liebig's Extract. Business was also done in other lines for immediate requirements.

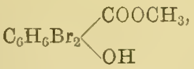
The Secretary reported that he had had occasion to write to the P.A.T.A. respecting a breach of their rules on the part of Taylor's Drug Co., which had, at one of their branches, Papier Poudré marked 4½d. and 9d. A member then reported that that evening as he came to the meeting he had seen the same thing elsewhere. The Secretary was instructed to report this to the P.A.T.A. The view was expressed that these instances could not happen simply through carelessness or ignorance.

The next meeting is expected to be an important one, and is fixed for January 19.

NEW REMEDIES.

Pilewort Ointment and Suppository.—Sir James Sawyer claims to have used pilewort ointment with much therapeutic success for hæmorrhoids which are not submitted to the usual surgical methods of cure. To prepare the ointment, he directs that the whole fresh plant be used, gathered in the spring. The plants, cut into small fragments, are kept immersed in melted hog's lard, at a temperature of about 100° F. for twenty-four hours, in the proportion of one part by weight of the plant to three parts of lard. Then the portions of infused herb in the fused lard are pressed to cause the further yielding of their juices to the fatty infusion, which infusion is afterwards strained to form, when cold, the ointment. The heat of the mixture must not be too high lest the bright green of the ointment be spoiled. To harden the ointment up to an adequate consistency for a suppository, one part by weight of spermaceti is mixed with four parts of the ointment, by fusion by heat. Of such a mixture 1½ drachm is a serviceable quantity for a rectal suppository—*B.M.J.*, 2244, 14.

Menthyl Glycolate.—This new ester,  $CH_2\Big\langle\begin{matrix}OH\\COOC_{10}H_{19}\end{matrix}$ is a tasteless non-irritant body, possessing all the therapeutic value of menthol. It has the advantage over the other menthol esters of being completely split up by the alkaline intestina secretion. It has proved eminently serviceable in the treatment of gastric disturbances, nausea, vomiting, and other digestive troubles. The preparation of the ester has been patented.—*Nouv. Remèdes*, **19**, 225.

Salibromin,  $C_6H_6Br_2\Big\langle\begin{matrix}COOCH_3,\\OH\end{matrix}$ is a white unctuous tasteless powder with a faint odour. It is insoluble in water and in acids, but dissolves in alkalies. It contains 44·5 per cent. of salicylic acid and 51·6 per cent. of combined bromine. It is given in rheumatism and fevers in doses of 30 to 75 grains in twenty-four hours.—*Bull. des Sciences Pharm.*, through *Pharm Centralh.*, **44**, 480.

LEGAL INTELLIGENCE.

Sale of Food and Drugs Acts.

Camphorated Oil.

On Thursday, December 31, 1903, at Brierley Hill, Messrs. Cox, Limited, wholesale druggists, High Street, Quarry Bank, were summoned for selling on October 13, to Elizabeth Swayne, a grocer and provision dealer, camphorated oil which was not of the quality demanded, the sample being 14 per cent. deficient in camphor; and also for selling to an inspector on November 30 camphorated oil which was 22 per cent. deficient. Mrs. Swayne purchased the oil for the purpose of trade, and it was labelled camphorated oil.

Mr. W. Waldron, who defended, said the deficiency was due to the carelessness of persons leaving the cork out of the bottle, thereby causing the camphor to deteriorate.

The Stipendiary imposed fines amounting to £5 10s.

Lard.

On Monday, December 28, 1903, at Penzance, Jane Clist, grocer, St. James' Street, Penzance, was summoned for selling adulterated lard. The sample was certified to contain 10 per cent. of cotton seed oil and a small percentage of beef stearin.

It was urged that at the time of the sale defendant did not know that the lard was not pure.

The Bench ordered defendant to pay costs amounting to £1 7s. 6d.

Sweet Spirit of Nitre.

On Thursday, December 31, 1903, at the Bradford West Riding Police Court, Joseph Lambert, grocer, of Farsley, was summoned for selling "sweet nitre" which was absolutely devoid of ethyl nitrite.

The defendant's solicitor raised the plea of lack of knowledge that sweet nitre was subject to evaporation. He said he believed that fully 75 per cent. of the retail dealers were ignorant of the fact that sweet nitre was subject to a high degree of evaporation on exposure to light or air. His client had sold sweet nitre for twenty-eight years, but had now determined to have nothing further to do with it.

A penalty of 20s. and costs was imposed.

Beef Extract.

On Wednesday, January 6, 1903, at Liverpool, before the Stipendiary, Mr. David Pearson, described as the managing director for Liebig's Beef Wine Company, was summoned for having sold a beef extract which was found to be largely adulterated with yeast extract.

An inspector bought at defendant's stores an 8 oz. jar of extract of beef, which professed to be the production of "The Anglo-American Company," and was labelled as consisting solely of the juice of the finest beef. On being submitted to the city analysts and tested by them, it was found to contain about half its weight of yeast extract, a purely vegetable substance.

Dr. Thomas, who appeared for the defendant, questioned Dr. Campbell Brown, the analyst, as to his process of testing, and the efficiency of Searl's test, recently published in the *Pharmaceutical Journal*. The test, he said, had been pronounced wholly unreliable.

Dr. Brown replied that he had used Searl's test, which clearly revealed the presence of the vegetable substance, or yeast extract; but he had also confirmed it by three other tests, all pointing to the same conclusion. The quantity of the foreign substance present was 40 per cent. Dr. Campbell Brown mentioned that he and his colleagues had tested twenty different brands of meat extracts, and had found sixteen of them absolutely pure.

Dr. Thomas suggested that as this was the first prosecution of the kind, the question should be referred to Somerset House.

He called Mr. Davies, analytical chemist, who said he was not at all satisfied with the soundness of Searl's test.

The Stipendiary said he had the positive evidence of two city analysts, backed up by four independent tests, that a foreign substance to the extent of 40 per cent. was present in this sample, and that was sufficient for him. He exonerated the defendant from any personal knowledge of the adulteration, but he had neglected to protect himself by obtaining a warranty, and had so made himself a party to the swindle which others were attempting upon the public.

A fine of £5, with ten guineas costs, was imposed.

POISONING CASES AND INQUESTS.

The deaths from poisoning reported during the seven days ended Wednesday, January 6, 1904, numbered eleven :—

Poison.	Accident.	Suicide.
Ammonia	1	—
Carbolic Acid	1	1
Chloroform	1	—
Chromic Acid	1	—
Coal Gas	1	—
Laudanum	—	2
Oxalic Acid	—	2
Ptomaine	1	—
Total	6	5

Ammonia.—A woman at St. Pancras died from drinking liquid ammonia in mistake for whisky. It appeared, in evidence, that coupons were sent round to various houses, and on these being presented at an oilman's shop, a quantity of ammonia was given away, free, as an advertisement, in a bottle without a label. The coroner, at the inquest, commented on this extraordinary proceeding, and adjourned the inquest for the attendance of the shopkeeper.

Carbolic Acid.—While serving a customer, Mr. F. Tidswell, chemist, of Marke Street, Fenton, Staffordshire, heard his three-year-old boy scream. Running to the child, he found he had drunk some carbolic acid, a bottle of which was standing on a counter in the shop. Despite prompt remedies, death was almost instantaneous. A foreigner, at Liverpool, committed suicide by taking carbolic acid.

Chloroform.—A boy at Preston died while under the influence of chloroform administered as an anæsthetic.

Chromic Acid.—A solution of chromic acid, which had been placed in a tumbler, was taken by a man at Hammersmith, who died as the result of his mistake.

Coal Gas.—A young woman near Bristol died from coal-gas poisoning. Several narrow escapes from death, owing to the same cause, are also reported.

Laudanum was used by two women, at Aston and North Kensington, for suicidal purposes.

Oxalic Acid.—A publican at Hertford, and a woman at Hammersmith, committed suicide by taking oxalic acid.

Ptomaine.—Ptomaine poisoning was the cause of the death of a painter at Forest Gate.

Attempts at Suicide.—Several attempts at suicide are reported, the poisons used being ammonia, carbolic acid, chloroform, laudanum, and salt of sorrel.

Inquests.—A bank clerk in London, who had been in the habit of taking "drugs, pills, and lozenges, to keep up his health," died in circumstances which, in the opinion of a medical man, required investigation. The inquest was therefore adjourned in order that a pathologist might make an analysis.—Dr. Wynn Westcott has had before him two cases in which children died after being given medicine by chemists. The coroner expressed himself strongly on the subject of "quack doctoring."

MISCELLANEOUS NEWS.

Divisional Secretaries and other Members of the Pharmaceutical Society are requested to assist the Editor by sending local newspapers containing items of interest to chemists and druggists.

Early Closing.—The chemists of Barnstaple announce that they will close their places of business at 2 p.m. each Wednesday.

Manchester Pharmaceutical Association.—Wednesday next, January 13, is the date fixed for a *soirée* of this Association in the Municipal Art Gallery, when there will be music, lantern views, and an exhibition of radium.

A Satisfactory Report.—Under the Sale of Food and Drugs Acts, at Brighton last half-year, samples of Friar's Balsam, beeswax, camphorated oil, camphor, iodine, and iron and quinine citrate were taken. All the drugs proved to be free from adulteration.

Pharmaceutical Society of Australasia.—The annual dinner of this Society was held on October 29, 1903. Mr. Witt, who served his apprenticeship in England, proposed the toast of the "Pharmaceutical Society of Great Britain and Kindred Societies." Mr. W. E. Short responded.

Royal Photographic Society.—At the ordinary meeting of the Royal Photographic Society of Great Britain, to be held at 66, Russell Square, on Tuesday, January 12, 1904, at 8 p.m., Mr. B. H. Bentley, M.A., F.L.S., will read a paper entitled "Photographic Studies in the Biology of Flowers."

North London Natural History Society.—Mr. J. O. Braithwaite, an old student of the School of Pharmacy, writes to call the attention of students of natural history to the North London Natural History Society. The botanical and microscopical sections of the Society do much excellent work, and a number of botanical and social excursions are already arranged for the ensuing six months. Several pharmacists and students of pharmacy are already members of this flourishing Society. Particulars may be obtained from Mr. Braithwaite, "Hilika," Warren Road, Chingford.

Charge of Conspiracy.—At Northampton, on December 31, two men were charged with conspiring to obtain money by false pretences from various persons, including Mr. Ebenezer Scott, chemist and druggist, of 31, Tavistock Street, Bedford. The accused called upon tradesmen with an advertising blotting pad, and on the representation that the pads would be supplied to hotels free of charge, £2 5s. was obtained from Mr. Scott for an advertisement. Evidence was given to show that authority had not been given for the pads to be displayed at several hotels mentioned by the prisoners, who were committed for trial, bail being refused.

Mr. Pinero and Chemists' Hours.—Mr. A. W. Pinero is not a dramatist who wastes his words. When, therefore, one of the characters in "Letty," a play now being acted with much success at the Duke of York's Theatre, London, is made to say that a certain chemist in the West-end keeps his pharmacy open for the dispensing of prescriptions as late as half-past ten in the evening, it is more than possible that the playwright means to cast a gentle reflection on the long hours of labour general in the business. As "Letty's" health seems to have been restored by the time that the last act is reached, it is not unreasonable to suppose that the medicine served its purpose.

Radium in Cornwall and Bath.—An interesting discovery has been made at a mine near St. Stephen's, Cornwall, from which large quantities of uranium have been taken. Samples of the dross, which is usually thrown away, have been submitted to M. and Mme. Curie, and Professor Ramsay, who report that the pitch-blende contains sufficient radium to make a large return on the working. A company is being promoted to take over the mine and work the deposits. The Hon. R. J. Strutt has found radium in the deposit of some of the Bath waters, but not in sufficient quantity to pay for extraction. An interesting lecture on radium was given at Birmingham on Tuesday by Sir Oliver Lodge.

Edinburgh University Chemistry Department.—Owing to the great increase during the past few years of the number of students making a special study of chemistry at Edinburgh University, it was found that the number of available working places in the chemical laboratories was not equal to meet the demand of those desiring training there. As it was expected that there would be a still further increase, it was agreed by the University authorities in the early part of last year to make an extensive addition to the present teaching accommodation, and to build a new laboratory. These improvements have now been completed, and additional accommodation for forty students working simultaneously has been provided.

Pharmacy Broken Into.—The business premises of Mr. Fred Oatley, chemist and druggist, of Market Street, Chorley, were broken into during the night of December 30 and goods to the value of 19s. 6d. stolen. During the early hours of the next morning a police-constable met a man named John Roscoe, and, noticing that his pockets were bulky, he stopped him, and upon him found the proceeds of the robbery—viz., four bottles of spirits, a chest preserver, a box of pills, two cases of jelly, a bottle of eucalyptus, four ounces of lozenges, and 1s. in coppers. On December 31 Roscoe was charged with breaking into the shop and stealing the goods in question. He pleaded guilty, and was committed for trial at the Quarter Sessions.

Ripon Guardians and the Supply of Medicines.—At the fortnightly meeting of the Guardians of the Ripon Union, held on Thursday, December 31, Mr. T. Hargrave (Vice-Chairman) presiding, a letter was read from the Local Government Board to the effect that it was most desirable that expensive medicines should be supplied to the sick poor at the cost of boards of guardians, and not at that of the medical officer, and, in view of the appointment of a medical officer, requesting consideration of the matter. The Chairman said the Ripon Union medical officers preferred to find their own medicine, and they would do that better than the Board.

They were all officers who could be trusted. The Board concurred with the Chairman's remarks.

An Exhibition of Pharmaceutical and Medical Antiquities.—Mr. Henry S. Wellcome announces that he has decided to hold in London shortly an exhibition in connection with medicine, chemistry, pharmacy, and the allied sciences. The exhibition will be strictly professional and scientific in character. An endeavour will be made to bring together a collection of historical objects illustrating the development of the art and science of healing throughout the ages. The success of this undertaking will largely depend upon the co-operation of those interested in these subjects. Great care will be taken of all objects sent on loan, and they will be insured. If desired, Mr. Wellcome will also insure specially valuable articles while in transit. Packing and carriage both ways will be paid. One section will be devoted to Curiosities of Pharmacy, to include quaint pharmaceutical recipes, scales, weights, and measures of all ages, ancient stills, mortars, and pharmaceutical implements, curious bottles, carboys, alembics, ointment jars, drug jars, ewers, mills, etc., curious laboratory apparatus, ancient prescription books and price-lists, ancient counter-bills, labels, curious advertisements, ancient pharmacy signs, early shop fittings, and appliances, early pharmaceutical specialities and specimens of obsolete and curious medical combinations, old travellers' advice-books, curious orders, etc. Books, photographs, autographs, paintings, sculptures, manuscripts, and other objects associated with the early days of pharmacy will also be shown, and Mr. Wellcome requests the assistance of all those in a position to add to the exhibition.

FRENCH NOTES.

A Chemist's Mistake.—A lady, who took a prescription to a Paris chemist, was supplied with tincture of iodine in mistake for some less potent tincture. The dispenser is said to have admitted that he had misplaced two labels. Damages are to be claimed.

Old Business Changes Hands.—Messrs. Blancard and Co., of 40, Rue Bonaparte, Paris, makers of the well-known Pilules and Sirop Blancard, announce that they have transferred their business to their nephews, Monsieur René Bertand Blancard and Monsieur André Bertand Blancard, who will henceforth trade under the title Bertand-Blancard Frères.

A Chemist's Discretion.—A Paris chemist was recently asked for vitriol by a woman. She was supplied with a bottle of liquid, which she straightway threw over a man in the street. It afterwards appeared that the chemist to whom the woman, burning with revenge, had gone to purchase the vitriol, was a good judge of human nature. Noticing her excitement, he had taken care to fill her bottle with nothing more dangerous than neatsfoot oil.

Gruesome Find in a French Quinine Factory.—A terrible discovery was made the other day at Nogent-sur-Marne. When the workmen arrived in the morning at their work in a large quinine manufactory they were horrified to find the partially-calcined body of a man in the furnace. It is alleged that the man was drinking with two others when a quarrel arose. It is supposed that the other two men then struck the victim, who lost consciousness. Believing him to be dead, and frightened at what they had done, they pushed him into the furnace to get rid of the body. The police authorities are pursuing their inquiry.

The Wrong Brains.—A Paris doctor has just been the hero of a gruesome adventure, says the *Messenger*. For some months past he had been in constant attendance upon a child of a very weak constitution and developments. The child died a few days ago, and the medical man, after making a post-mortem examination, was authorised by the parents to take the brain with a view to dissection. The doctor is an old bachelor. When he reached home he placed the brain on a table and forgot it. His housekeeper coming across it, thought it was a calf's brain for dinner, and promptly set about to cook it. It was only after dinner that the doctor, happening to make a remark about the brain, learned the truth. He was suddenly taken ill, and the occurrence made such an impression upon the housekeeper that she is now confined to her bed through shock.

PERSONALITIES, BUSINESS CHANGES, ETC.

Mr. A. Marsan, pharmacien, Condamine, Monaco, has opened a branch pharmacy in the Boulevard des Moulins, Monte Carlo, under the managership of Mr. C. Brooks, M.P.S.

Mr. Alfred J. Franklin, who has been with Messrs. Savory and Moore for upwards of twenty years, has now acquired their branch establishment at 86, King's Road, Brighton, from Mr. Billing, partner in the firm, who is retiring from business.

Mr. Robert Tocher, Ph.C., F.S.M.C., 491, Victoria Road, Glasgow, passed with distinction the recent examination of the British Optical Association, which was held in London under the new regulations and advanced syllabus, and was admitted a member of the Association. Mr. Tocher is also a member of the London Optical Society, and has just been elected President of the Glasgow Optical Society.

Mr. C. F. Henry, having relinquished the post of Hon. Secretary of the Edinburgh District Chemists' Trade Association, which he has filled in an admirable manner during the eleven years of the Association's existence, will, together with his wife, be the principal guest at a complimentary dinner to be held in the Balmoral Hotel, on Friday, January 15, 1904, at 7 p.m. The members of the Association, and prominent pharmacists throughout Scotland, to whom Mr. Henry is well known, through his connection with the North British Branch Executive, will take that opportunity of making a presentation to Mr. Henry, in recognition of his services to the Association.

Mr. Reginald R. Bennett, pharmaceutical chemist, has been appointed to succeed Mr. Harold Wilson, B.Sc., as pharmacist to University College Hospital, London, and enters on his duties at once. Mr. Bennett, who was apprenticed at Dover, was awarded the Pharmaceutical Society's silver herbarium medal in 1899. In October, 1900, he entered the School of Pharmacy, where he won three bronze medals at the end of the elementary course, and the silver medal for botany and materia medica at the end of the advanced course. Mr. Bennett passed the Major Examination in April, 1902, and the same year won the Pharmaceutical Society's bronze medal. For some eighteen months past Mr. Bennett has been demonstrator of pharmaceutics at the School of Pharmacy. His many friends at Bloomsbury Square will join in congratulating him on his appointment to a position which has been held by several distinguished pharmacists.

TRADE NOTES.

Lockyer's Photographic Preparations.—Mr. J. E. Lockyer, 244-250, Evelyn Street, Deptford, S.E., announces that on February 1 he intends to place on the market 6d. trial sizes of his various developers, toner and fixer, and other photographic preparations. He is also introducing a new line—viz., Lockyer's Acid Hypo Fixer, in 1½d., 2½d., and 3d. tubes.

Brin's Oxygen Company, Limited.—Since January 1, 1904, the exclusive address of this company in London has been Elverton Street, Westminster, S.W. Elverton Street, Westminster, is a new street connecting Horseferry Road with Vincent Square. The company's works are on the old site associated for the last seventeen years with 69, Horseferry Road, but the old entrance in Horseferry Road has been closed and new entrances opened in Elverton Street.

A Bonus Scheme.—An offer, which holds good until January 31, is made by the proprietors of "Ridge's Food." On receipt of a statement from a chemist to the effect that he has ordered a certain quantity of Ridge's Food, and on his promising to give a window display for fourteen days, Messrs. Ridge and Co., Boleyn Road, London, N., will forward one dozen 6d. tins or three dozen 2d. packets free. For fuller particulars of this offer readers should refer to the advertisement pages of this issue.

A New Departure in Price-Lists.—The January price-list of Mr. W. Martindale, wholesale and manufacturing chemist, 10, New Cavendish Street, London, W., is, we think, the first monthly price-list of chemicals and drugs having the terms both in the Imperial and metric systems. For competition with German and French rivals in the British colonies it is important that manufacturers at home should be on a level footing, and the fact of the terms being given in the two systems may be heartily commended as a step in the right direction. Dr. Martindale informs us that he trusts to be able before many years are over to delete the Imperial terms altogether. He will be pleased to supply the list to chemists who apply.

W. Martindale,
Price-List.
Wholesale Manufacturing
and Analytical Chemist.
10 New Cavendish St. London W.

BANKRUPTCY INTELLIGENCE.

J. Harrington, Druggist and Drysalter, Newcastle.

Under this failure the Official Receiver of the Newcastle Bankruptcy Court announces the payment of a second dividend of 7s. 6d. in the £, payable on January 11.

John Thomas Beynon, trading as Beynon and Co., Chemist and Druggist, 12, Church Street, Monmouth.

A meeting of the creditors of the above was held on January 1, when a statement of accounts was presented, showing liabilities amounting to £310 11s. 10d., assets £251 14s. 4d., and a deficiency of £58 17s. 6d.

The Official Receiver said he was advised that debtor had over-estimated the realisable value of his assets. He began business in March, 1900, at St. Clears, with a capital of £400. He purchased the business for £120, and carried it on for two years. He then had to give it up, as it did not pay. He paid all his liabilities, which exhausted £200 of his capital, and last May he bought the Monmouth business for £300, this including the twelve years' lease. His takings had only amounted to about £5 per week, and of this about 30s. was gross profit. Trade expenses absorbed all this, so he had no net profit.

The Official Receiver was appointed trustee to wind up the estate.

VETERINARY NOTES.

BY A VETERINARY SURGEON.

Abortion in Cattle.

From inquiries made among a number of country chemists, it would appear that few have taken sufficient interest in the important subject of epizootic abortion to inform themselves as to the recommendations of Nocard and others, which have appeared in the agricultural press. This is not as it should be. How can the pharmacist look for respect from the dairy farmer, when the latter discovers that his "guide, philosopher, and friend" in human ailments, does not know of the preparations recommended in the lay press? Infectious abortion in a herd is the most serious thing that can happen to a farmer. One after another his cows lose the fruits of conception at three or seven months of gestation (as a rule), but at other periods also. The calf is lost and the milk yield so reduced as to make dairy farming impossible. Nor is this the worst, for the unborn generations of the microbe of abortion will at another pregnancy cause abortion, or else sterility will be the consequence of an acid state of the uterine membranes.

The organism first identified by Bang of Copenhagen, and afterwards cultivated by Nocard, remains in the tissues of the maternal membranes and, as it were, latent, a second impregnation inviting invasion of the fœtal envelopes by a new generation of bacilli. The pharmacist should be prepared to recommend the carrying out of certain precautions, and be equally ready to quote prices and advise as to quantities likely to be required. He should recommend the separation of those cows which have aborted from the rest of the herd, and the burning or efficient disinfection of the fœtus and its envelopes. He should advise irrigating the uterus and vagina, as well as sponging the external genitals and root of tail, of every animal aborting with one or other of the following preparations and offer him suitable apparatus for the purpose:—

1. Hydrargyri perchloridi	1
Sodii chloridum	40
Aqua destillata	4,000
2. Hydrargyri biniodidi	1
Potassii iodidi	1
Aqua destillata	1,000

These solutions are also advised for such cows as exhibit premonitory symptoms. Beside a single irrigation with one of the above preparations for those which have aborted, or threatened to do so, the external genitals and tail roots of all cows which have been in association (in-contacts) should be sponged over three times a week with a 5 per cent. solution of ferrous sulphate. Customers should be advised to feed off for the butcher those which have slipped their calves, but this will hardly apply to some breeds, and certainly not to all individuals. In their case a persistent use of the remedies should be recommended.

Homeless Cats.

Despite the warnings, and still more dreadful threatenings, of the Royal Society for the Prevention of Cruelty to Animals, a large number of cats are left to shift for themselves every year when their owners leave town—or country, for that matter. A great deal of syspathy runs to waste over both. The town cat is a gifted creature, and among her advantages is a fine topographical memory. While abundantly, if irregularly fed during the family's residence, pussy has not been so careless of the future as some suppose. She has drawn plans, writing them indelibly upon the tablets of a never failing memory, of all the larder windows of the street; with marginal notes as to dog kennels, and lengths of chain by which their tenants are restrained; she knows the fussy people who lock doors and windows, and those who leave them undone, and when the evil day comes that she finds herself shut out from her own home, and without a latch-key, she is not the forlorn and helpless creature that Miss Mayhew and Mrs. Morgan assume, when providing, as they do, cats' homes for the lost and starving, who would much rather be left to fend for themselves. This preamble is intended to lead up to the suggestion that homeless cats, whose civilisation has so advanced as to leave them like those ants who can no longer feed themselves, should be put into the lethal chamber, or disposed of by acid hydrocyanic, Scheele, ʒi. per rectum. As everybody who wishes for professional advice without paying professional fees goes to the chemist's shop for it, the proprietor should have his mind made up on this cat subject; for he will almost assuredly have applications for advice which occupy his valuable time, and lead to no fee. The wanderer, whose life some uninformed person desires to take, should be brought in a basket to the pharmacy, or altogether declined by the knight of the pestle, and the funeral obsequies arranged for beforehand. We cannot recommend the plan of "ye idle 'prentice," who used to "lob" the cadaver into passing carts in the evening, and "let the carter do what he liked with it" when he discovered its unwelcome presence. We should be sorry to dam the stream of charity to cats or any other creatures, but would point out that these cats' homes relieve only a few animals in need of their charity, while making prisoners of many who can well take care of themselves. The root of the trouble is not even the carelessness of those who forget all about the cat when leaving home, but the unchecked fecundity of the species. If free castration and ovarectomy were offered to all, and the wanderers were invariably unsexed, cats would have a value which would lead to the recognition of their right of asylum when the home is closed. It may comfort some truly kind-hearted people to know that cats can endure very long fasting without much inconvenience; a few days' abstinence easily, and a week or two is frequently endured when the cat is on the wrong side of the door of the empty house at the time of locking it up. The writer remembers a cat being shut up in a chemist's warehouse for six weeks without food, and recovering from the privation completely, although much emaciated, and at first having fits from too good living.

Thymol in Veterinary Practice.

During his involuntary acceptance of King Theodore's hospitality in Abyssinia, Dr. Blanc had opportunities of observing the materia medica employed by the people reputed to be more subject to parasitism than any other in the world. This French gentleman, in a conversation with the Hon. Miss Dillon, respecting her worm-infested foals of the pure Arab breed (for which the lady is famous), suggested the employment of thymol, and its use gave very satisfactory results. The Hon. Miss Dillon made a communication to the *Field* on the subject, and veterinarians have put the drug to the test, but without being able to fully endorse all the good things that have been said of it. Perhaps too much was expected: a cause for so many novelties in materia medica falling into disrepute in a short time, if not elbowed out of notice by the ever-increasing number of remedies with which the practising medical man or veterinary surgeon can scarcely make acquaintance. Thymol was suggested as a destroyer of a particular parasite, the *Strongylus tetracanthus*, and in Miss Dillon's stud succeeded where the usual anthelmintics had failed. As this substance is frequently prescribed by veterinary surgeons, it is rather surprising that so few pharmacists keep it in stock, or are found ready to advise as to doses and methods of administration. As this is the experience of the writer, it may be as well to call attention to a few little matters in this connection. The drug is always prescribed in solution. It is very sparingly soluble in water (1 in 1,500), readily soluble in alcohol, in fixed oils, and in chloroform. Its solubility in chloroform is quite remarkable; the solvent seems to convert it instantly by contact into a fluid, no matter how many of the crystals are added to the original quantity. There should be no difficulty then in dispensing it, if ordered without a solvent, since a few drops of chloroform can only be regarded as equal to an excipient, where dry powders are prescribed in pill form. The dose for horses is from ten to thirty-five grains, repeated for four or five mornings, and followed by an aperient suited to the age, weight, and species of animal to which it is given. Colts at grass are the most frequent victims, and about fifteen grains has been found a fairly successful quantity, made up as a draught, by first dissolving in alcohol or chloroform, and giving bulk in the form of mucilage, milk, or glycerin, and equal parts of water. It is given to dogs in doses of from one to five grains.

Veterinary Remedies.

Many good remedies come from outside the professions, as every pharmacist is aware; the accepted official formula of the B.P. was in many instances the private one of an outsider. The most fashionable vermicide used among veterinarians was, as pointed out a few weeks back, an Abyssinian remedy since when the memory of man nor the archives of Menelik telleth not. Now an outsider has come forward to declare a remedy for the Lincoln lamb disease, which we have shown is not confined to lambs or Lincoln, but affects young cattle, causing wasting like tuberculosis, and often mistaken for it. A very minute worm, whose habitat is the fourth stomach (abomasum), is the cause of wasting diarrhœa and general atrophy. Experiments upon infested animals sent for observation to the Royal Veterinary College, London, have proved the ordinary remedies for round worms to be quite ineffectual, and now Mr. Mathews comes forward with a remedy which he thinks has cured these so-called "wasters" or "piners" in his own herd. Mr. Mathews is the editor of the English Jersey Cattle Society's hand-book, 'Jersey Cattle: Their Feeding and Management.' Having become aware of the fact that tobacco is fatal to nematode worms, he experimented in the following manner:—The doses comprised half-ounces of pure shag the first thing in the morning, the same dose the following day at the same time; the third day no dose; the seventh and eighth days, the dose again repeated, and then the cessation of the treatment. The author of this experiment goes on to say that the effects were soon apparent in the speedy regaining of flesh and condition. Most people who have had anything to do with goats have become aware of their fondness for tobacco, and have seen no bad results from eating it. Amateurs have used it for worms from time immemorial, but the veterinary profession has not endorsed its use as a vermicide—if we are to judge by textbooks.

MARKET REPORT.

The quotations given below are the lowest prompt cash prices for bulk quantities, to which other charges have to be added. It is important that this should be borne in mind in making any comparison between the prices quoted and those of the wholesale drug trade.

The Drug Sales.

London, Thursday, January 7, 1904.

After a lapse of nearly a month, the first drug auctions of 1904 were held to-day. The catalogues numbered fifteen, and the offerings were fairly large, a considerable proportion consisting of second-hand goods. Speaking generally, the sale was extremely dismal, and the bulk of the goods were bought in. A not inconsiderable number of small purchases, however, were made, but in very few cases were large lots disposed, and, in view of the unsettled state of politics and of affairs generally, it would seem as if people were merely satisfying their hand-to-mouth requirements. Perhaps the principal feature of the sale was the drop in Menthol. Nineteen cases of Kobayashi brand were disposed of at prices varying from 17s. to 17s. 6d. per ounce. In spite of this, however, prices in the private market are practically unchanged from last week. One would almost have expected, in view of the tension existing in the Far East, that the price of this product would have advanced rather than declined. With regard to the negotiations going on between the two disputants, nothing is definitely known at the time of writing, although it is persistently rumoured in the City that Russia's reply is altogether unsatisfactory to Japan. A considerable quantity of Refined Camphor was offered at the sales, but this was held at firm rates. The articles which found buyers, and are likely to interest readers, are mentioned below. Cardamoms were in smaller supply than usual, and, with the exception of decorticated, which were cheaper, sold at steady rates. Senega Root, at the beginning of the auctions, was held for 3s. 4d., a bid of 3s. being refused; later, however, five bales were disposed of, without reserve, at the latter price, being about 3d. below the value in the private market. Coca Leaves realised 1s. for brownish green Ceylon, and 1s. 2d. for good green leaf. Good West Indian Kola Nuts, fairly bold, realised 6d. Wax was in good supply, but the demand was much smaller than usual; a small quantity of Jamaica was disposed of at £7 7s. 6d. The Senna offerings were not large, and, considering the falling-off in quality, the prices were about steady. Huanoca Bark was dearer, 1s. 1d. being obtained for this. For fair flavour grey Ambergis, 76s. and 79s. were paid. Sarsaparilla was disposed of as follows:—Honduras, 1s.; Jamaica, from 9½d. to 1s.; and Guatemala, from 6d. to 7½d. Aloes sold fairly well. Some boxes of capey and livery Curaçoa were knocked down at 20s. to 21s. Fair bright Cape was slightly cheaper than at last auctions, 47s. being paid, and 44s. 6d. for poorer quality. Buchu Leaves were easier at 9d., poorer samples were disposed of at lower rates. Gum Elemi realised 42s. per cwt., being lower. A few cases of Eucalyptus Oil (68 to 70 per cent. Eucalyptol, Parry's analysis) were disposed of at 1s. 1d. per lb. Ipecacuanha was slightly lower, fair, rather grey and lean Mattogrosso realised 5s. to 5s. 1d.; for Rio a bid of 5s. 2d. was refused, this being held for 5s. 6d.; for Cartagena 4s. 8d. was paid, and fair Minas sold at 5s. to 5s. 2d. Of the large amount of Gum Benjamin offered, a little found buyers at fairly steady prices; some, however, being slightly lower. The two most interesting articles which were not disposed of were perhaps Cod-liver Oil and Cascara Sagrada. For non-freezing Newfoundland Oil a bid of 300s. was refused, this being held at 400s. Norwegian B.P. was bought in for 500s. Cascara Sagrada was held at 85s. and 90s.

General Markets.

The tone of the Drug and Chemical markets continues very dull. There are very few changes. The following are a few quotations:—

ALUM.—Lump, £5 12s. 6d.; Ground, £6 2s. 6d.

ARROWROOT.—The Spice sale price for fair manufacturing St. Vincent was 1¾d.

BICARBONATE OF SODA.—£7 5s. per ton, landed.

BISMUTH.—Carbonate, 8s. 1d.; Subnitrate, 7s. 4d.

BLEACHING POWDER.—English, £4 15s. to £4 17s. 6d.

BORAX.—In powder, 14s. 6d.; crystals, 13s. 6d.

BORACIC ACID.—Powder, £1 4s. 6d.

BROMIDES, IODIDES, and **MERCURIALS** are unchanged.

CAMPHOR.—Prices have not further advanced since last week. Bells, 2s. 5d.; blocks, 2s. 5d. to 2s. 7d.; flowers, 2s. 4d. to 2s. 5d. per lb.

CARBOLIC ACID.—Crystals, 39° to 40°, 5d.; crude 60° 1s. 6½d.

CASTOR OIL.—Belgian 1sts, £20 2s. 6d.

COCAINE.—11s. 9d. to 12s. 3d. per oz. for the hydrochhoride, according to quantity.

CODEINE.—8s. 11d. per oz. for the pure alkaloid.

CREAM OF TARTAR.—98 per cent. foreign powder, 87s.

QUICKSILVER.—£8 5s.

CLOVES.—Zanzibars were firmly held at the Spice sales, fair at 8½d. and dark at 8¼d.

GINGER.—A small quantity of Cochin was disposed of at about steady rates at the Spice sales.

GLYCERIN.—£68 per ton.

NUTMEGS AND PIMENTO—Were quiet at the Spice sales.

MORPHINE—Is unchanged at 4s. 6d. per oz. for the hydrochloride.

OPIUM.—There is no change in Turkey varieties, but a large business has been done in Persian at advancing prices, buyers commencing at 10s. 6d., but now there are no sellers at 11s., the prices asked being 11s. 3d. to 11s. 6d.

OXALIC ACID.—2⅝d., delivered free London.

PEPPER—Did not find buyers at Wednesday's sales.

PEPPERMINT OIL.—Quotations come dearer form New York; for H.G.H. 14s. 6d. has been paid here.

QUININE—Is steady, but quiet; 1s. 0⅛d. to 1s. 0¼d. are quoted for the Sulphate in the second-hand market.

SHELLAC.—The demand on the spot is quiet. Fair TN orange is quoted at 224s.

STAR ANISEED OIL—Is very firm, and 4s. 9d. is quoted.

SULPHATE OF AMMONIA—Is firm at £12 17s. 6d.

TARTARIC ACID.—English, 1s. 1½d.

The Vinolia Company, Limited, announces a net profit of £18,802 for the past year, and the dividend on the ordinary shares is brought up to 8 per cent. £2,000 is placed to reserve, and £520 carried forward.

PATENTS AND TRADE MARKS.*

New Patent Applications.

MEDICAL SYRINGES (No. 28,899, of 1902).—E. Hriss, 6, Gutleut Strasse, Frankfort-on-Main, Germany.—The present invention enables a syringe to be filled or charged from a vessel, for example, a bottle or phial, into which the nozzle cannot be entered far enough to enable the syringe to be filled or charged in the usual manner; and it consists, broadly, in providing the cylinder of the syringe with a funnel through which the liquid may be poured into said cylinder when the plunger has been raised sufficiently. Said funnel may be formed integrally with the cylinder, or it may be made separately, and attached to the cylinder in any suitable manner. An orifice or vent-hole is provided in the cylinder, opposite the orifice through which the liquid enters same, to enable the air to escape while the cylinder is being filled.

MANUFACTURE AND PRODUCTION OF DERIVATIVES OF PYRIMIDINE (No. 21,833, of 1903).—H. E. Newton, 6, Breams Buildings, London, W.C. (communicated by the Farbenfabriken v. F. Bayer and Company, of Elberfeld, Germany). The inventors have found that on condensing dialkylated cyano acetic esters with guanidine by means of alcoholates of alkalies, such as sodium or potassium ethylate, the hitherto unknown dialkylated dimino oxypyrimidines are produced. By splitting off from the 2·4-dimino-5-dialkyl-6-oxypyrimidines thus obtained, the imino groups in 2·4 position by treating same with acid; —for instance, a 50 per cent. sulphuric acid—diethyl barbituric acid is obtained in a pure state. The process proceeds in an analogous manner on using other acids as saponifying agents.

MANUFACTURE AND PRODUCTION OF PYRIMIDINE DERIVATIVES (No. 22,967, of 1903).—H. E. Newton, 6, Breams Buildings, London, W.C. (communicated by the Farbenfabriken v. F. Bayer and Co., of Elberfeld, Germany). On condensing dialkylated cyano acetic esters with thio-urea by means of alcoholates of alkalies, such as sodium or potassium ethylate, the hitherto unknown 5-dialkylated-2-thio-4-imino-6-oxypyrimidines are produced. By treatment with acids, these bodies split off the imino group into the 4-position, and are thus transformed into the 5-dialkylated-2-thio-4-6-dioxypyrimidines, from which bodies the sulphur can be split off and replaced by oxygen on treating the said bodies with oxydising agents, such as nitric acid, nitrous acid, or the like, the known dialkyl barbituric acids being thus produced.

Note.—Opposition to the grant of any of the above-mentioned Patents must be filed at the Patent Office on or before February 16, 1904.

New Trade Mark Applications.

"**GLIMALAC**," for chemical substances used in manufactures, photography, or philosophical research, and anti-corrosives, by Pinchin, Johnson, and Co., Limited, 23, Billiter Street, E.C. 258,455.

"**VIDILE**," and monogram, etc., for films and three-colour films, by Leipziger Buchbinderei Aktien Gesellschaft vormals Gustav Fritzche, Crusiusstrasse, 4-6, Leipzig, R. Germany. 258,428.

CATFISH ORNAMENT, IVORY TUSKS, etc., for chemical substances used in manufactures, photography, or philosophical research, and anti-corrosives, by J. Holt and Co. (Liverpool), Limited, 81, Dale Street, Liverpool. 258,820.

"**PINETOL**" ("Pine" disclaimed), for a chemical substance for agricultural, horticultural, and veterinary purposes, by the Chemical Union, Limited, Halifax Works, Wherstead Road, Ipswich. 258,726.

"**ANKYLOCIDE**," for disinfectants, by Wallach Brothers, 57, Gracechurch Street, E.C. 258,815.

"**SALODYNE**," for a medicine for sheep, by Day, Son, and Hewitt, 22, Dorset Street, Baker Street, W. 258,989.

"**TRITUROID**" ("Trituro" disclaimed), for chemical substances prepared for use in medicine and pharmacy, by C. J. Reid, 276, Old Christchurch Road, Bournemouth. 257,166.

"**GILBERT'S YELLOW SALVE**," for an ointment for human use, by W. Gilbert, 9, Speedwell Street, Leeds. 258,839.

"**SALIT**," for chemical substances prepared for use in medicine and pharmacy, by Chemische Fabrik von Heyden Aktien Gesellschaft, 57, Leipzigerstrasse, Radebeul, near Dresden. 258,851.

"**ASTHMACON**" ("Asthma" disclaimed), for chemical substances prepared for use in medicine and pharmacy, by Fassett and Johnson, 32, Snow Hill, E.C. 259,016.

"**QUETA**," for philosophical and scientific instruments, etc., by H. Dawson, 34, Norfolk Street, Strand, W.C. 259,246.

"**THE SOLARIUM**" and device of kneeling man, supporting sun, for radiant heat baths, being electrical apparatus for medical purposes, by H. J. Dowsing, 24, Budge Row, E.C. 256,483.

"**AYRESTO**," for a hair restorer, by W. Geserich, 3, Devereux Court, Temple, E.C. 254,344.

"**CREMISSA**" ("Cream" disclaimed), for perfumery, etc., by C. R. Toyne, 84, Clarendon Road, Putney, S.W. 258,973.

"**AMANDA**," for perfumery, etc., by E. A. Robinson, 50, Queen's Wood Road, Forest Hill, S.E. 259,196.

Note.—Opposition to the registration of any of the above-mentioned trade marks must be filed at the Patent Office on or before February 6, 1904.

PRACTICAL NOTES AND FORMULÆ.

Harness Preparations.

Oil.—Turpentine oil, 8 oz.; beeswax, 4 oz.; Prussian blue ½ oz.; lamp-black, ¼ oz.; neat's-foot oil, *q.s.* Melt the wax, add the turpentine, incorporate the Prussian blue and the lamp-black, both in the finest powder, then add enough neat's-foot oil to bring to the desired consistence. *Polish.*—Mutton suet, 2; beeswax, 6; sugar, 6; soft soap, 2; lamp-black, 1; oil of turpentine, 4; water, 4. Melt the suet, beeswax, and soap together, add the turpentine, stir in the lamp-black, dissolve the sugar in the water with heat, and pour the syrup into the hot mixture of other ingredients; stir until cold. *Blacking.*—Soft soap, 3 oz.; isinglass, ¾ oz.; Prussian blue, ¼ oz.; transparent glue, 2 oz.; logwood, 2 oz.; vinegar, 24 oz.; lamp-black, *q.s.* Simmer all the ingredients together over a slow fire and strain.—*Bullet. of Pharm.*, **16**, 481.

Window Frosting.

Magnesium sulphate, 3; zinc sulphate, 3; dextrin, 2; water, 20. Apply with a brush.—*Rev. Méd. Pharm.*, **10**, 758.

Cleansing Liquids.

G. Hoffmann recommends the following as substitutes for benzene for removing grease and dirt spots from clothes:—(1) Chloroform, 3; ether (methylated), 3; alcohol (methylated), 24; decoction of quillaia bark, 900. (2) Acetic ether, 1; amyl-acetate, 1; solution of ammonia, 1; dilute alcohol (methylated, 68 per cent.), 7. (3) Acetone, 1; solution of ammonia, 1;

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* These abridgments of new patent applications and particulars of new applications for trade marks have been specially compiled from official sources, for the *Pharmaceutical Journal*, by Mr. Reginald W. Barker, agent for procuring patents and registering trade marks and designs, 56, Ludgate Hill, London, E.C., from whom any information on the subjects may be obtained. Mr. Barker will also send copies of his 'Trade Mark Notes' and Patent Notes for Inventors' free on application.

dilute alcohol (methylated, 68 per cent.), 1. Carbon tetrachloride is also of great utility for this purpose.—*Pharm. Zeit.*, through *Nat. Drugg.*, **33**, 253.

Anthrasol.

Anthrasol is a mixture of equal parts of purified coal tar and juniper wood tar. It occurs as a bright yellow, oily liquid, soluble in alcohol to the extent of 1 : 20 or 1 : 10; readily dissolved by acetone, oils, and vasogen. It is used as a substitute for tar in various skin affections. It may be prescribed in the following manner :—*Anthrasol Spirit.*—Anthrasol, 2 to 10; absolute alcohol to make 30. *Anthrasol Ointment.*—Anthrasol, 2 to 10; vaseline and lanoline, of each, 30. *Anthrasol Paste.*—Anthrasol, vaseline, of each, 5; zinc oxide, 10; wheat starch, 10. *Anthrasol Glycerin Paste.*—Anthrasol 2 to 5; zinc oxide, 20; white gelatin, 20; glycerin, 25; water, 30. *Wilkinson's Ointment with Anthrasol.*—Anthrasol, 5 to 10; precipitated sulphur, 10; soft soap, 2 to 10; vaseline or zinc paste to make 40; prepared chalk, 10.—*Münch. Med. Woch.*, **50**, 18.

LETTERS TO THE EDITOR.

All Communications for the *Pharmaceutical Journal* must be addressed to the Editor, 17, Bloomsbury Square, London, W.C., and, if intended for publication in the current week's issue, should reach the Office not later than Wednesday, unless specially arranged for in advance. The matter should be written clearly and concisely on one side of the paper only and must be authenticated by the names and addresses of the writers, as no notice can be taken of anonymous letters. Articles submitted for the Editor's approval should be accompanied by stamped addressed envelopes, otherwise no guarantee can be given that they will be returned if not found suitable. Reprints of articles cannot be supplied unless the authors communicate with the Editor before publication. The right to reproduce all original matter and illustrations published in the Journal is strictly reserved.

Pharmacopœia Revision.

In Mr. Dott's "Notes Suggested by Mr. Chattaway's 'Report on the Revision of the Pharmacopœia,'" some points are raised in connection with the writer's paper on "Opium and Tincture of Opium," with regard to the titration of the morphine without drying. As the paper and alkaloid are washed with morphinated water until free from chlorides, and then once with distilled water, and exposed to the air for half an hour, I think there is little risk of traces of ammonia being left behind. In any case, by using this method I have been able to obtain more satisfactory results than by drying. One great point is to have a very sensitive methyl orange; some examples are absolutely useless for fine work. The correction of 1·6 C.c. is, as Mr. Dott suggests, too high. I intend making a number of experiments to determine the correct average figure. In determining the correction for tincture of opium, I estimated the amount of lime dissolved along with the extract, but I found that it made very little difference, as it only occupied a small volume, and was partially balanced by the decrease in volume of the undissolved lime. Taking this fact into consideration, the final volume would only be increased by about 0·1 C.c. above the figure I gave.

Liverpool, January 6, 1904. E. Dowzard.

The Pharmacy Bill.

As we are given to understand that the Pharmacy Bill is to be re-introduced in the coming Session of Parliament, it would be interesting to know why the promoters have decided to ignore the numerous expressions of opinion from members of Parliament who have definitely stated that they will oppose the measure if Clause 7 is retained therein. Why should we recognise limited companies in any way in our Bill, or worry ourselves about the qualifications of directors? Surely our object would be fully served if the clause stated simply that it shall be illegal for the title chemist and druggist, or any similar title, to be used except by individuals duly qualified under the Pharmacy Acts. I find that members of Parliament fully appreciate the hardship of compelling individuals to pass examinations before they can assume and use a title which any company of unqualified persons can usurp at will, but it is not so easy to convince them that all the directors of, say, the Army and Navy Stores, should perforce be persons qualified under the Pharmacy Acts.

London, January 4, 1904. J. Wilson.

BIRTHS.

Blaker.—On December 10, 1903, at Cradock, C.C., the wife (late Nurse Watt, Fraserboro', Aberdeen) of Ernest J. Blaker, M.P.S., late of Midhurst, Sussex, England, of a daughter.

Jeffery.—On January 3, at Tring, Herts, the wife of George G. Jeffery, M.P.S., of a daughter.

MARRIAGE.

Bliss—Cooper.—On January 6, at St. Peter's, Ealing, by the Rev. W. Petty, Vicar of the Parish, the Rev. Bliss, and the Rev. W. Lane, T. Cushway Bliss, eldest son of Thomas Bliss, of Coningsburgh, Ealing, to Maud, only daughter of Mr. Albert Cooper, of Grimston Lawn, Ealing, and Gloucester Road, South Kensington.

DEATHS.

Baldock.—On January 4, Edward Charles Baldock, Chemist and Druggist, Victoria Park Road, N.E. Aged 75. Mr. Baldock had been a member of the Pharmaceutical Society since 1892.

Billamy.—On January 3, Laurance Marshall Billamy, Chemist and Druggist, Hull. Aged 66.

Cheverton.—On January 2, George Cheverton, Chemist and Druggist, formerly of Tunbridge Wells. Mr. Cheverton, who died at his residence, 23, Hillyfields Crescent, Brockley, S.E., was a Justice of the Peace, and at one time took a prominent part in the public life of Tunbridge Wells.

Evans.—On December 29, John Watkin Morgan Evans, Chemist and Druggist, Swansea. Mr. Evans, who had been dispenser at the Swansea Hospital for fifteen years, was a member of the Pharmaceutical Society. Death occurred suddenly from syncope, caused by a fatty heart.

Eyre.—On January 2, Henry Reynolds Eyre, Chemist and Druggist, Ipswich. Aged 58. Mr. Eyre was a well-known personality in Ipswich, having carried on business as a chemist in the town for many years. About seventeen years ago Mr. Eyre gave up pharmacy and took over the management of the old theatre in Tacket, in conjunction with Mr. A. H. Gower. He was a great student of past history in its practical relation to events of the present day, and took an active part in local politics.

Haward.—On December 27, George Robert Haward, Chemist and Druggist, Norwood, formerly of Harrogate. Aged 40.

Morgan.—On December 30, Richard Edge Morgan, Chemist and Druggist, Newton-in-Makerfield, formerly of Manchester. Aged 60.

Pearce.—On January 3, Thomas Pearce, Chemist and Druggist, Penryn. Aged 79.

Calendar for the Week (January 10-16, 1904).

Days of M	Days of W	Events of the Week.	Sun Rises	Sun Sets.
10	S	**First Sunday after Epiphany.**	8.5	4.9
11	M	Hilary Law Sittings begin. Dewsbury and District Chemists' Association, at 8.30 p.m.	8.5	4.11
12	Tu	Bradford and District Chemists' Association, at 8 p.m.—Annual Conversazione. Huddersfield and District Chemists' Association, at 8.45 p.m. Wakefield and District Chemists' Association, at 8.15 p.m.—Annual Meeting.	8.4	4.12
13	W	Manchester Pharmaceutical Association, Municipal Art Gallery, at 7 p.m.—Soirée. Newcastle-on-Tyne and District Chemists' Association, at 8.30 p.m. Edinburgh Chemists', Assistants', and Apprentices' Association, at 9.15 p.m.	8.4	4.13
14	Th	Brighton Association of Pharmacy, at 9 p.m. Chemists' Assistants' Association (of London), at 8.30 p.m. Hartlepools and District Chemists' Association. London Chemists' Association (North London Branch), at 3.30 p.m. West Ham and District Chemists' Association, at 7 p.m.—Smoking Concert.	8.4	4.14
15	F	Edinburgh District Chemists' Trade Association, at 7 p.m.—Complimentary Dinner to Mr. and Mrs. C. F. Henry.	8.3	4.16
16	S	Football.—Metros *v.* West End R.	8.2	4.18

REPLIES TO CORRESPONDENTS.

Information required by readers will be published in this column as early as possible, but the Editor cannot undertake to reply by post, even though stamped addressed envelopes accompany the queries. Replies will, in all cases, be referred to the sender's initials, and the registered number added in each instance should be quoted in any subsequent communication on the same subject. When formulæ are given without definite weights and measures, it should be understood that the solids are to be weighed and liquids measured. Plants for recognition should be addressed to the "Curator, 17, Bloomsbury Square, London, W.C.," accompanied by a stamped, directed envelope for reply. No notice can be taken of anonymous communications.

Mixture (A. F.—104/19).—We cannot undertake the analysis of the mixture you send. You should submit it to an analyst.

Chemical Chimney Cleaners (H. B. M.—104/8).—We regret we have no information regarding the composition of these articles.

Eucalyptus Oil (F. J. J.—104/16).—We do not know the address of the "Parrott" brand eucalyptus oil. Perhaps some reader can oblige.

Recipes (T. B., and others).—We have repeatedly stated that all recipes received prior to the end of November will appear in the 'Pharmaceutical Journal Formulary,' with a very few exceptions, which are not of a kind which it is considered desirable to include. See reply to "C. B.," below.

Formulary (H. K.—104/37).—No one person will be allowed to have two copies of the book at the special subscription price, and we cannot book any more orders at that price. As a member of the Society, you may be able, later, to procure an extra copy at considerably less than the published price.

Recipes (C. B.—104/36).—We have now found it possible to include in the 'P.J. Formulary' practically all recipes received up to December 31, 1903, so yours will appear in the book. You shall have the numbers as early as practicable, but it is quite impossible to intimate what everybody's numbers are at present.

P. J. Formulary (M. T.—104/35).—It is extremely doubtful whether there will be a second edition. The work is being produced specially in the interests of the members of the Pharmaceutical Society, and sufficient copies of the 'Formulary' are being printed to enable each member to purchase one. As the number is strictly limited, we may not be able to execute all the orders received after publication of the book.

Elixir Heroin et Terpin Hydrat (J. S. B.—104/18).—The following will give you a similar preparation, containing 1/48 grain of heroin in each fluid drachm:—

Heroin	1/6 grain
Terpin hydrate	8 grains
Aromatic syrup, B.P.	1 fl. ounce

You will find a suggested formula for glyco-heroin in the *P.J.* for December 26 last, page 960. Part of the glycerin might be replaced by aromatic syrup.

PUBLICATION RECEIVED.

A Pocket-Book of Clinical Methods. By Chas. H. Melland, M.D., (Lond.). Page 88. Price, 1s. 6d. net. Bristol: John Wright and Co. 1903. From the Publishers.

LETTERS, NEWSPAPERS, QUERIES, and other COMMUNICATIONS have been received from Messrs. Adam, Adams, Addis, Akam, Akehurst, Alcock, Alexander, Allan, Allen, Allkins, Allman, Anderson, Anthony, Archer, Armitage, Arthur, Ashwin, Aston, Averill, Badgett, Bailey, Baker, Ball, Banks, Banner, Bargin, Barker, Barlow, Barltrop, Barnett, Barr, Barrett, Bartle, Bass, Bateson, Bayley, Baylis, Baynes, Beale, Beatton, Bedell, Beedle, Beilby, Bell, Bellamy, Bennett, Bennison, Bentley, Berry, Beverley, Bickford, Biggs, Binks, Birt, Bishop, Blackburn, Blackwell, Blakeley, Blamey, Bland, Blayney, Blomfield, Bloomfield, Blower, Blyton, Bolus, Booth, Bostock, Bott, Bowdler, Bowe, Bowling, Boxall, Boyle, Brack, Breadner, Brewis, Brighton, Brindle, Brook, Broom, Brown, Buckingham, Bunn, Burden, Burnell, Burnett, Burton, Buse, Butcher, Butlin, Butterworth, Buxton, Cadman, Cairns, Callandar, Carter, Caunt, Chadwick, Chaplin, Charlesworth, Cheers, Church, Clapham, Clark, Clarkson, Coatsworth, Cobb, Cockrill, Cocks, Coldwell, Cole, Coleman, Coley, Collett, Collin, Collins, Connan, Constance, Cook, Cooke, Cooper, Corney, Cornwell, Cottle, Cotton, Coulter, Coulthurst, Course, Cowles, Crawford, Crecraft, Critten, Cromack, Crombie, Crook, Cross, Crossley, Cruickshank, Crozier, Currie, Cutcliffe, Dainty, Darling, Davies, Dawson, Deakin, Dean, Dennis, Dent, Dickens, Dickinson, Dix, Dixon, Dobson, Douthwaite, Dowzard, Drabble, Draper, Dryden, Duberley, Duckworth, Duncan, Dunmore, Durrant, Dyet, Ecroyd, Edgar, Edwards, Egginton, Elder, Elliott, Elmitt, Emery, Enison, Ensor, Errington, Evans, Farmer, Farnsworth, Farrants, Feaver, Ferguson, Field, Finlay, Fisher, Fitzjohn, Fleeming, Fletcher, Foot, Forbes, Forgie, Forrester, Fourance, Fowler, Fox, Franklin, Fraser, Furber, Furniss, Gardner, Gaul, Gedge, George, Gibbins, Gifford, Gilderdale, Giles, Gill, Gilling, Gilmour, Girdler, Gittoes, Gooch, Good, Goodfellow, Goodman, Gooseman, Gower, Goy, Green, Greenwood, Griffiths, Groves, Haddock, Haddon, Hague, Hambrook, Hamer, Hanbury, Harden, Harples, Harries, Harrison, Hawley, Hayes, Haywood, Hearle, Heathcote, Heaton, Heily, Henderson, Hewitt, Hickman, Higgins, Higgs, Highfield, Hindle, Hinksman, Holden, Holding, Holmes, Holt, Hooper, Horniblow, Hornsby, Horsley, Houghton, Howard, Howe, Howorth, Hughes, Iliffe, Isaac, Jack, Jackes, James, Jamieson, Jarvis, Jelley, Jelly, Jenkin, Jennings, Johns, Johnson, Jones, Josling, Judge, Keall, Kelly, Kempston, Kenderdine, Kenny, King, Kirk, Kirkby, Kirkland, Kitchin, Knowles, Laird, Lamshead, Lane, Lawton, Leadbitter, Le Dain, Lee, Lenis, Leslie, Lewis, Llewellyn, Lloyd, Long, Loveluck, Lowe, Lumley, Lunn, Lynn, Maben, McGibbon, McGregor, McInnes, McIntosh, Mackay, McKenzie, McMurtrie, McNab, McNeil, Magin, Maish, Maitland, Mallinson, Manning, March, Marchant, Marshall, Martin, Mason, Mathewson, Mays, Mellor, Milbank, Mills, Missen, Moak, Moran, Morgan, Morley, Monkhouse, Moore, Morris, Morrison, Morrow, Muir, Mundale, Mutch, Nairn, Nesbit, Newcombe, Newell, Newey, Newton, Nicholls, Ninnis, Norman, Noyes, Nunn, Ockwell, Ogden, Ogilvie, Oldham, Olds, Oliver, Olliver, Openshaw, Orme, Orton, Osborne, Owen, Pae, Padwick, Parish, Parriott, Parry, Pask, Patridge, Patterson, Pattinson, Payne, Peacock, Peck, Pennie, Peverell, Perry, Phillips, Pickard, Picnot, Pidduck, Pierce, Plenderleith, Pollitt, Portway, Postlethwaite, Powell, Poxon, Prebble, Priestley, Purse, Quarry, Raine, Raines, Ralph, Ransford, Rayner, Reckless, Rees, Reid, Retallack, Richards, Richardson, Ridge, Ridgley, Riding, Ridley, Rigby, Ripley, Roach, Roberts, Robertson, Robinson, Robson, Rodwell, Roebuck, Rolfe, Roper, Rothwell, Round, Rowe, Royle, Rundle, Russell, Ryall, Sangster, Sanguinetti, Sankey, Sargeant, Sarson, Saul, Saunders, Savill, Scott, Seath, Senior, Seward, Shacklock, Sharman, Sharp, Shaw, Sholl, Simpson, Sims, Slator, Smale, Smallwood, Smedley, Smith, Snail, Sneath, Snow, Spence, Stanley, Staples, Starkie, Steele, Stephens, Stewart, Still, Sturdy, Sturton, Sudlow, Sutcliffe, Sutherland, Suttie, Swan, Swinburn, Swinnerton, Swither, Talbot. Taylor. Tebbutt, Thacker, Thatcher, Thomas, Thompson, Thomson, Thorpe, Twidale, Tickle, Tily, Todd, Tomlinson, Tompsett. Trebilco, Trew, Trick, Trounson, Trunchion, Turner, Turney, Vallet, Van, Veitch, Verrall, Vincent, Vindler, Wain, Wakefield, Walburn, Walker, Wall, Wallace, Wallwork, Walton, Wand, Ward, Warren, Watkins, Watson, Waymouth, Webb, Webster, West. Westlake, Weston, Wherly, White, Whittle, Whyte, Wigg, Wiggins, Wigginton, Wilde, Wilkinson, Williams, Willis, Wilson, Wilton, Wigg, Withers, Wood, Woodruff, Woods, Woodward, Woolcock, Woollings, Worthington, Wray, Wrenn, Wright, Wrigley, Wylie, Wynne, Yates, Yeates, Young.

Telegrams "PHARMACEUTICAL JOURNAL LONDON"
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The Journal circulates widely in the United Kingdom, France, Germany, Austria, Italy, Russia, Switzerland, Canada, the United States, South America, India, Australasia, South Africa, etc. It is supplied regularly to the majority of the Chemists and Druggists in business in England, Scotland, and Wales, and to the whole of the members of the Pharmaceutical Society of Great Britain. Orders for Advertisements or for Copies of the Journal should be addressed to the Publishers, 8, Serle Street, London, W.C.

Annual Subscription, 20s. Post Free; Single Copies, 4d. each, by Post, 4½d.

CHANGES OF ADDRESS.

Instructions from Members of the Pharmaceutical Society, with reference to the transmission of the Journal, should be sent to the SECRETARY, 17, Bloomsbury Square, London, W.C.

The Pharmaceutical Journal Office.

Thursday, January 14, 1904.

The 'Pharmaceutical Journal Formulary' will, it is hoped, be ready to send out to subscribers at the end of January.

The C.O.D. System, Co-operative Buying, and the Benevolent Fund are among the subjects which have been discussed at meetings of local associations this week.

As an Outcome of a fatality caused by mistaking "camphor-ammonia" for gin, a coroner's jury has recommended that all bottles containing dangerous chemicals should bear labels.

An Arsenic Test, by means of which 1,000th part of a grain of arsenic in a gallon of beer can be detected, was described at a recent meeting of the Manchester Section of the Society of Chemical Industry.

Under Section XV. of the Pharmacy Act, 1868, the unqualified assistant to a Bradford chemist has been fined two penalties of £5 each. Laudanum was the poison supplied by the unqualified vendor.

A Coloured Man, carrying on a medical practice at Fulham, has been fined £20, with 10 guineas costs, or two months' imprisonment with hard labour for unlawfully using the description of "doctor," etc.

A Sum of £750 is required by the Benevolent Fund within the next few weeks. The Fund, it should be remembered, exists for the exclusive benefit of chemists and druggists and their families, and to those an earnest appeal is made.

The Imports of Chemicals, Drugs, etc., for the year 1903 show a decrease on 1902, but the value of the exports of these articles during last year exceeded the value of exports for 1902. The imports of quinine and its salts showed a decrease of a half a million ounces on the previous year.

For Selling Lime Water which contained 171 per cent. excess of lime, a Forest Hill chemist has been fined £3 and costs by the magistrate sitting at the Greenwich Police Court. At the same Court another defendant was fined 40s. and costs for selling lime water 34 per cent. deficient in strength.

Mr. Justice Bruce, sitting in the Commercial Court, commenced the hearing of the action of Bostock and Sons, Limited, brewers, *v.* John Nicholson and Sons, manufacturing chemists, of Leeds. The plaintiffs claim damages against the defendants for supplying sulphuric acid which they allege was contaminated with arsenic.

The Camphor Market is exceedingly firm. The German makers have withdrawn from the market, and English refiners are not eager to sell at the prices last quoted. An early rise seems not at all improbable; in fact, sales are reported at 4d. per lb. premium on quoted prices. Particulars of other items will be found in the market article.

A Prosecution under the Merchandise Marks Act was heard at the Mansion House Police Court on Friday of last week. It was alleged that the defendant in the action had supplied "soda crystals" containing only 9 to 10 per cent. of sodium carbonate, the adulterant being Glauber's salt. Defendant, who pleaded ignorance, was fined £30.

At the Recent Examinations of the Pharmaceutical Society, held in London, 293 candidates presented themselves for the Minor, and 116 passed, the percentage being larger than usual; of 20 Major candidates 8 were successful. In Edinburgh 38 Minor candidates were successful out of 123, who entered for the examination; for the Major 1 entered and 1 failed.

A Rochdale Tradesman has been fined 5s. and costs for selling camphorated oil deficient in camphor; the bottle handed to the purchaser was labelled, "Not 'B.P.'" A charge against the same defendant of selling sweet spirit of nitre deficient in strength was dismissed on the grounds that the analyst had not stated on his certificate that sweet nitre was liable to deteriorate.

In Delivering a Considered Judgment in the case of John Panhaus, of Gower Street, the defendant in a prosecution under the Dentists Act, Mr. Fenwick, the magistrate, said the words "Dental Institute" on the door-plate and in the advertisement clearly implied that the persons using them were specially qualified to practise dentistry. The defendant, who is not registered as a dentist, was mulcted in penalties amounting, with costs, to £14 1s.

TRADE IN 1903.

However uneasy one may feel about the future of British Trade, there seems, at any rate, little cause for immediate anxiety. Although during the year just ended individual complaints have constantly been heard on every hand concerning the state of trade, Great Britain has never had such a prosperous year, that is to say if prosperity can be gauged by the volume of business transacted. The year 1903 has been an exceptionally satisfactory one, whether regarded from the point of view of increase in volume of trade, increase in value of imports, or increase in value of exports. The returns issued by the Board of Trade show that our trade in 1903 beat all previous records; the total of our sea-borne trade during that period amounting to no less than 903 millions. This gigantic sum was made up as follows:—

Exports	£290,890,000
Imports	£543,000,000
Re-exports	£70,000,000
	£903,890,000

As regards imports this was an increase of over 14½ millions on 1902, and of nearly 30 millions on 1901, while the increase of exports in 1903, as compared with the previous

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year, was little short of 11¼ millions, divided as follows:—Exports, £7,466,315; re-exports, £3,742,222. It will be seen from these figures that the increase in total exports does not fall, comparatively speaking, so very far below the increase in imports. The figures for the past ten years are as follow:—

	Imports. Million £.	Exports (Minus Ships), Million £.
1894	408	216
1895	417	226
1896	442	240
1897	451	234
1898	471	233
1899	485	255
1900	523	283
1901	522	271
1902	528	277
1903	543	287

Of course the relative value of the year's statistics cannot be judged until the figures of other nations' trade are published; but it seems highly probable that Great Britain will not suffer by comparison.

As regards the returns for articles with which the chemist and druggist is directly concerned, it is interesting to note that the value of the imports of chemicals, drugs, dyes, and colours shows a decrease both on 1902 and 1901, while the value of the exports of these articles shows a substantial increase:—

Chemicals, Drugs, Dyes, and Colours.

	1901.	1902.	1903.
Imports.	£9,060,580	£9,026,584	£8,846,688
Exports.	£10,963,497	£11,559,057	£12,079,554

The weight of quinine and quinine salts exported in 1903 was 926,149 ounces, as against 793,639 ounces in the previous year; the respective values were £55,663 and £50,976. The imports of quinine and its salts amounted to 822,570 oz., a decrease of over half a million ounces on the quantity imported in 1902. Unclassified drugs and medicines to the value of £1,352,675 were exported in 1903, being an increase of about £35,000 on 1902. The imports of these goods were valued at £961,531 in 1903, and £996,840 in 1902. The export trade in soap has shown a decided improvement. Last year over 1,000,000 cwt. (of which 33,372 was described as toilet soap), valued at £1,143,661, were exported, while the imports of this article amounted to 462,959 cwt. (of which 25,749 cwt. was toilet soap), valued at £499,407. Of glycerin 153,801 cwt. were exported, and 70,226 cwt. imported. The imports of borax show an increase on 1902, but a considerable decrease on 1901; in 1903 the amount imported was 259,801 cwt., while in 1901 it was 309,253 cwt. The imports of Peruvian bark show a considerable decrease on the two previous years.

Peruvian Bark.

	1901.	1902.	1903.
Cwt.	42,546	39,705	29,851
Value	£120,670	£97,058	£69,258

The total value of spices imported has increased from £734,910 in 1901, to £856,957 in 1903, but this latter sum is a decrease on the figure for 1902, which was £865,079.

MEDICAL SCIENCE AT LONDON UNIVERSITY.

A definite scheme for the Institute of Medical Sciences, which it is proposed to establish at London University, has now been approved by the Senate, and published in the *London University Gazette.* It is suggested that accommodation adequate for 500 students should be provided in connection with the teaching of anatomy, physiology (including pharmacology), biology (zoology and botany), chemistry, and physics. The cost of building is estimated to be £160,000, of which sum £50,000 is allocated to physiology, including pharmacology, while the annual expenditure on staff and service is estimated at £19,500. The report of the Faculty of Medicine states that, with regard to the remuneration of teachers, it is desirable that in each case the salary should consist of a fixed stipend, to which should be added an additional sum, being a fixed proportion of the balance remaining after deducting the departmental expenses from the sum received from students' fees. An attempt should be made to obtain the various fixed stipends, which should be about three-quarters of the total salary, by endowments. A physiological laboratory for advanced students has already been established in the University, and is well attended. The instruction is given by the principal teachers of the University in that subject, who at present are all working gratuitously. The University has provided rooms for the laboratory, and £2,000 has been given by Mr. Walter Palmer, M.P., to enable the experiment to be tried for two years. Mr. G. W. Palmer, M.P., has also given £1,000 towards the formation of a fund for the permanent endowment of the laboratory, which it is hoped may form the nucleus of the research department of physiology in the institute. A further donation of £1,000 has been received from Mr. Alfred Palmer, J.P., conditionally upon the establishment of the laboratory upon a permanent basis. If Lord Rosebery's appeal for funds meets with a hearty response much valuable research in clinical medicine and pharmacology may confidently be expected.

FORCING PLANTS BY MEANS OF ANÆSTHETICS.

Some interesting investigations have been made of recent years into the action of the vapours of ether and chloroform in promoting the process of inflorescence in plants. The results obtained have been summed up by M. Emile Lemoine, a fellow of the Horticultural Society, and form the subject of an annotation in the *Lancet.* Dr. W. Johannsen, of Copenhagen, noticed that many plants push forth their buds after a period of repose such as occurs during the winter months or even in unfavourable seasons during the summer, and conceived the idea that by inducing such a condition of rest by means of anæsthetics the plants would be, as it were, renovated and stimulated and rendered capable of developing their buds with greater vigour. Acting on this principle he was able to show, at a meeting of the Copenhagen Academy of Sciences, lilac blooms forced by etherisation. The plan adopted by Mr. Harms, of Hamburg, was described in the *Pharmaceutical Journal* [4], **16**, 234. He placed the plants in a hermetically sealed case and suspended them inside a vessel containing ether. The plants were exposed to ether vapour for forty-eight hours, the time of exposure and the quantity of ether used varying according to time, temperature, etc. On removal from the ether the plants were taken to an ordinary forcing house, when, after three or four days, the flower-buds commenced to expand, and after eight days more the inflorescence was fully developed. The method employed by another investigator, M. LEBLANC, who substitutes chloroform for ether, is detailed in a report to the Société Centrale d'Horticulture de Nancy. On February 19 last, he chloroformed some plants of *Azalea mollis*, using about half the quantity he would have employed had it been ether, and exposing them to the action of the vapour for about forty-eight hours. They were at once removed to a greenhouse at a temperature of 65° F. From March 5 the flowers began to expand a little, and attained about to their full dimensions on the 8th, whereas plants grown for comparison were not expanded until March 21. The chambers in which the vapours are set free should be of large size and absolutely air-tight. The quantity of ether employed to air was about 30 or 40 Gm. of pure sulphuric ether, boiling at 95° F., to 100 cubic litres of air, and the duration of exposure one or sometimes two periods of forty-eight hours.

THE STANDARDISATION OF GALENICALS.

AN important contribution to the literature of the day on the important subject of the standardisation of pharmaceutical products is the twelfth annual laboratory report of Messrs. SOUTHALL BROTHERS AND BARCLAY, LIMITED, Birmingham. The report, a volume of nearly fifty pages, contains numerous results of the analyses and examinations of crude drugs, fixed oils, essential oils, galenicals, etc., which have been conducted in the laboratory of the firm. Mr. E. W. MANN, F.C.S., has succeeded Mr. JOHN BARCLAY, whose untimely death will be remembered as a great loss to pharmacy, as chief of the analytical department, and editor of the report. Mr. MANN's researches and comments are of no small value and interest. He intends shortly to make thorough investigations of the methods for the assay of ipecacuanha root and crude cocaine recently published in the *Pharmaceutical Journal* by Mr. A. G. C. PATERSON and Mr. W. GARSED respectively. The necessity for standardising, or replacing, the green extract of belladonna of the British Pharmacopœia is strikingly exemplified in the very varying percentages of alkaloid that have been found by Mr. MANN in that preparation. Acetic extract of colchicum, again, varies greatly in strength, and the suggestion is made that this extract might well be replaced by a standardised alcoholic or acetic extract of the seeds or dried corms. No trouble has been experienced by Messrs. SOUTHALL BROTHERS AND BARCLAY, LIMITED, in preparing BLAUD's pills which will contain 20 per cent. of ferrous carbonate for any reasonable length of time. A precipitate of strychnine sulphate in a sample of Liquor Strychninæ, which had been submitted to the firm for examination, was found to have been caused by the use of tap water containing calcium sulphate. Mr. MANN's papers on the adulteration of cod-liver oil and on the B.P. tests for balsam of copaiba, both of which have been published in the *Pharmaceutical Journal* during the past year, are given in detail in the report. Strong dissent is expressed from Mr. A. R. BENNET's suggestion, recently republished in Mr. CHATTAWAY's 'Digest of Researches,' that ginger "should not yield less than 5 per cent. of resin to 90 per cent. alcohol," as, in the view of the editor of the laboratory report, such a standard would have the effect of excluding the best Jamaica and Cochin gingers. In view of the differences of opinion which exist as to the percentage of citral which should be contained in a high-class lemon oil, and of the want of an accurate and easily applied method for determining that percentage, the firm does not now guarantee any definite proportion of citral in oil of lemon. Many other details of great interest to pharmacists are to be found in this laboratory report, which Messrs. SOUTHALL BROTHERS AND BARCLAY, LIMITED, will supply to any chemist who writes for a copy.

POISON IN THE GIN BOTTLE.

A SAD outcome of the unrestricted manner in which poisons are sold to the public, and another illustration of the results of free traffic in dangerous chemicals is recorded in this issue. The circumstances of the case are a little out of the ordinary. A preparation, known as camphor ammonia, supplied by an oil and colour dealer trading in the King's Cross district, was taken with fatal results by a man in mistake for gin. The liquid had the appearance of gin, and was supplied in a public-house spirit bottle. No label was affixed by the dealer and there was nothing to indicate that the bottle did not contain what its appearance purported. It was, moreover, stated at the inquest that this preparation was given in exchange for a coupon which had been left at the house as an advertisement. It would be assuming too deep an insight into the book of fate—it would indeed be an unwarranted presumption to assert that had the man purchased the camphor-ammonia at a chemist's shop he would not have died on New Year's day; but the probabilities are beyond dispute. The recommendation of the coroner's jury that on all such bottles a label should be affixed is not likely to be disapproved of even by the most unprincipled and interested supporter of the let-the-public-look-after-itself policy. The plan of distributing free coupons might at least deserve to be called enterprising as a means of advertising soap, or tea, or blacklead, or any other harmless commodity; but when extended to dangerous chemicals it merits as much condemnation as the practice of selling poisons in unlabelled bottles.

SOME COMING EVENTS.

ON Wednesday next, January 20, an "educational meeting" of the Pharmaceutical Society will be held at 17, Bloomsbury Square, London, at 3 o'clock in the afternoon. Professor WILD, of Manchester University, will read a paper on "University Education for Pharmacists," and Mr. H. WIPPELL GADD will introduce the subject of "Concurrent Curricula." In the evening, the thirty-eighth Chemists' Ball will take place at the Whitehall Rooms, Hôtel Métropole. At the supper, as well as at the meeting of the Pharmaceutical Society in the afternoon, the President, Mr. S. R. ATKINS, will be in the chair, and it is hoped that both at the serious and the festive functions he may be well supported.

ABSTRACTS—SCIENTIFIC AND TECHNICAL

A REVIEW OF CURRENT WORK IN PHARMACOPEDICS AND ALLIED SCIENCES

Saccharated Iron Oxide.

The following method of preparing "Ferrum Oxydatum Saccharatum" is official in the supplement to the Dutch Pharmacopœia. Ferric chloride solution (containing 15 per cent. of Fe), 20, is mixed with simple syrup, 20, and water, 20; this is gradually added to a solution of sodium carbonate, 24, in water, 60, care being taken that the temperature of the mixture does not exceed 15° C. When the evolution of carbonic acid gas has ceased, sufficient caustic soda solution, about 14, is added to give a clear liquid; then sodium bicarbonate, 9, and boiling water, 600, are added. The precipitate thus obtained is collected on a cloth, washed free from chloride with boiling water, pressed, mixed with powdered sugar, 70, and dried on the water-bath.—*Pharm. Post,* **36**, 583.

Angelic and Tiglinic Acid from Chamomile Oil.

E. E. Blaise finds that the essential oil of chamomile is a useful source of these two acids. To isolate angelic acid, 50 Gm. of the oil of Roman chamomile is shaken up with caustic potash, 50 Gm., water, 50 Gm., and wood spirit, 60 Gm. After standing for several hours, the mixture becomes homogeneous. The wood spirit is then distilled off *in vacuo*, water added to the residue, the oily supernatant layer removed, the aqueous portion shaken out with ether, and, after removing the ethereal layer, decomposed with a slight excess of sulphuric acid. The liberated acids are shaken out with ether, the solvent evaporated, and the residue cooled to 0° C., when a part of the angelic acid crystallises out. The mother liquor, after separating these crystals, is fractionated *in vacuo*, and the portion distilling above 70° C. is again cooled, when more crystals are obtained. The fluid portion is then esterified with alcohol and sulphuric acid, and the mixed esters, consisting chiefly of isobutyric and angelic ethyl esters, fractionated under normal pressure; the angelic ester thus separated is again saponified, and its acid subsequently liberated by sulphuric acid and removed by shaking out with ether. Tiglinic acid was not formed by this process, but was liberated from α-methyl β-oxybutyric acid by dehydration, this methyl ester being obtained from a polymethyl arkyl compound, which occurred as a white powder. The ethyl ester of this was treated with phosphorus pentachloride, then saponified, when tiglinic acid and a little angelic acid were obtained. 500 Gm. of oil gave 90 Gm. of angelic acid, 25 Gm. of isobutyric acid, and a larger yield of polymethyl arkyl acid. The neutral compounds isolated from the same amount of oil comprised 30 Gm. of normal butyl alcohol, 25 Gm. of iso-amyl alcohol, 80 Gm. of active hexyl alcohol, 33 Gm. of anthemol, and 5 Gm. of a white insoluble powder. Isobutyl alcohol found by Koebig in the oil was not met with.—*Chem. Centralblatt,* **1903** [1], 1226.

Detection of Tartaric Acid.

D. Ganassini detects the presence of free tartaric acid by heating its solution to boiling with a little red lead. After decanting and filtering, an equal volume of 1 : 5 solution of potassium sulpho-cyanide is added. In the presence of free tartaric acid the mixture blackens in a few seconds; other organic acids do not give the reaction. The presence of mineral acids must be avoided.—*Boll. Chim. Farm.,* through *Répertoire,* **14,** 469.

Bismuth Lactate.

The Appendix to the Dutch Pharmacopœia gives the following process for the preparation of bismuth lactate. Bismuth nitrate, 6, is treated with a mixture of solution of ammonia, 5, and water, 10; after standing, the supernatant liquid is decanted, and the precipitate washed. When free from salts it is treated with lactic acid, 5, and the resulting solution filtered into alcohol, 95-96 per cent., 10. The precipitate thus obtained is collected, washed with alcohol, and dried. It should yield from 55 to 59 per cent. of bismuth oxide when incinerated with the aid of ammonium nitrate.—*Pharm. Post,* **36**, 583.

Persian Opium.

According to M. Saugon, Chancellor of the French Embassy in Persia, opium is cultivated in the whole of Persia, the best qualities being produced in Shiraz, Yezel, Kermanshah, Ispahan, and Kerman, the amount produced being about 12,000,000 kilos. annually. A hectare of ground gives 6 kilos. of opium and 12-15 quintals of poppy-heads.—*Rev. des Cult. Colon.,* **13,** 318.

Toxic Effects of Colchicum.

L. G. Davies records a case of supposed poisoning by colchicum. The patient, an elderly man, had taken two Blair's Gout Pills on an empty stomach, and in an hour and a-half developed symptoms of acute colchicum poisoning. Recovery followed the use of sedatives and carminatives, but not before muscular twitching and choleraic symptoms had appeared.—*B.M.J.,* **2237,** 1272.

Copraol: A New Suppository Basis.

A purified, odourless and tasteless coco-nut oil has been introduced in Germany as a substitute for cacao butter as a basis for suppositories and pessaries. It is claimed to be superior to that substance for the purpose, and has a slightly higher melting-point. It may be incorporated with as much as 50 per cent. of an aqueous solution by shaking during cooling, the mixture being transferred to the moulds when just pourable. In summer, suppositories may be made with it without the use of ice for cooling. It is recommended to be melted in a flask by standing in hot water, then shaken with the medicament, and poured into the moulds in the usual manner. It sets to a firm mass much more quickly than cacao butter, and artificial cooling is only necessary, in the height of summer, when the mass contains 30 to 40 per cent. of glycerin or ichthyol, or a similar fluid. Soluble salts should be dissolved in water and then shaken with the melted copraol, insoluble substances, in fine powder, are merely suspended in it, being previously rubbed down with a little of the copraol in shavings. Tannin should not be dissolved in water previous to mixing, since it is then apt to form a viscous, separating mass. As a rule, a batch of suppositories may be made in ten to twenty minutes when copraol is used.—*Pharm. Zeit.,* **48,** 816.

Tasteless Quinine Tannate.

Quinine sulphate, 7, is dissolved in alcohol, 95-96 per cent., 14, by warming on the water-bath. To the solution a similar alcoholic solution of anhydrous tannin, 24, is added, with stirring. The mixture is heated in a covered vessel until homogeneous, then poured into water, 200, with agitation, until the precipitate becomes pulverulent. It is then collected, pressed, and allowed to drain and dry at normal temperatures, being finally powdered and dried at a heat not exceeding 30° C. It should contain at least 9·5 per cent. of quinine.—*Supp. to Dutch Pharm.,* through *Pharm. Post,* **36,** 583.

THE PRESENT RELATIONS OF SECONDARY AND PHARMACEUTICAL EDUCATION.

BY A TEACHER.

In the last ten years immense strides have been taken in making higher education in all branches of knowledge more accessible to the people of the country. The Education Act of 1870 made elementary education compulsory in the land and provided the necessary means to accomplish that end, and now we have the sequel rapidly approaching completion, namely, the provision of higher education.

Under the auspices of the old Science and Art Department, classes, which ranged from naval architecture to coal mining, were held in various parts of the country, and were used very largely by those who wished to increase their store of knowledge. These went on very quietly for about twenty years, until the passing of the Technical Instruction Act of 1889 and the allocation of the whisky money to the purposes of technical instruction took place. This had the result that was desired, and a great increase at once took place in the number of centres of technical instruction, and consequently in the numbers of science classes and students. A few years later the first beginnings were made of an endeavour to co-ordinate the various systems of education of the country. The firstfruit of the interest now taken in secondary schools was the introduction of the Organised School of Science scheme. This scheme was adopted by very many schools, and came as a great help to those schools which were able to afford the necessary amount to equip them for teaching science, both theoretical and practical, for the grants which now came in helped to pay for any extra assistance, and was always of material aid in cases of impoverished finances. In many cases the Charity Commissioners assisted the schools by inquiring into and turning over to them any local charities which had been abused or had ceased to fulfil the original purpose of their founders.

The School of Science has now developed into the Secondary School (Division A and Division B), and as at present some 400 schools are now recognised as such under the secondary branch of the Board of Education (the old Science and Art Department), it will be interesting to consider the influence which is likely to be exerted by the curricula of such schools and their possible effect on future pharmaceutical education. According to the latest return, some 250 schools are now recognised as Division A schools and about 150 under Division B, and the number is increasing every year, and includes nearly all the country grammar schools and many other secondary schools.

The difference between the two divisions is that in a Division A school the curriculum is fixed by the regulations of the Board of Education much more definitely than for a Division B school, which is allowed to choose its own course of studies within certain limitations. This difference of treatment is carried further in the grants, for a Division A school receives practically twice as much per head as a Division B school, and the difference between the two—viz., about £3 a head—amounts to a considerable sum when multiplied by the number of pupils on whom grants are claimed. To take the Division A school first, the course mapped out for it by the official regulations is a four years' one, the first two years being spent on the elementary stage and the last two on the advanced part. No pupil may take the course for the purpose of earning grants who is under twelve years of age, except by permission of the Board's inspector, and only under special conditions may grant be earned on a pupil who has passed through the four years' course. In the elementary course the obligatory subjects are mathematics, physics (including elementary mechanics), inorganic chemistry, drawing and practical geometry. For the advanced part, three courses are suggested: (1) physical, (2) mechanical, and (3) biological. Of these the first is the one most usually adopted. It includes as obligatory subjects: mathematics, geometry, advanced physics and advanced inorganic chemistry; and as optional subjects: elementary organic chemistry, mechanics, physiography, and advanced drawing may be taken. It should be borne in mind that in all these scientific subjects practical work is insisted on, and each practical lesson must not be less than one hour and a-half in duration. From the above it will be seen that to cover a syllabus like the one set out at all efficiently will require a considerable amount of time, especially with boys of twelve to sixteen. The regulations of the Board specify that not less than thirteen hours per week must be allotted to instruction in the obligatory subjects, of which not more than five are to be given to mathematics. Not less than ten hours must be allotted to the other approved subjects, which must include English subjects and at least one foreign language. Two of these ten hours may be allotted to some form of manual training and two others of them to mathematics.

As the amount of time which is spent in teaching in a school very rarely exceeds thirty hours per week, and frequently does not reach that amount, it will be seen that the time which must be devoted to the various obligatory subjects is nearly half of the week, leaving a disproportionate amount of time in which instruction can be given in those other subjects which go to make a good secondary education—*i.e.*, Latin, French, geography, English history, literature, grammar, and essay, Scripture, and perhaps German and Greek.

In a Division B school a course of general instruction must be approved by the inspector; it must be arranged so that nine hours per week or one-third of the total number of hours of instruction, whichever is least, are to be given to science and mathematics, and half of this time is to be given to instruction in science. Beyond this limitation, no other subjects are made compulsory in the curriculum.

From what has been said above, it will be seen that only in a Division B school is it possible for a good general course to be mapped out without giving undue preference to any subject or subjects to the detriment of others. The number of such schools is only about two-fifths of the total number of secondary schools which are inspected by the officials of the Board of Education, and as the requirements of the examinations which are accepted in lieu of the pharmaceutical Preliminary are such as can only be satisfied by a good general education, it will be seen that if the average boy wishes to pass any of the accepted examinations, special tuition will be necessary. How far this is true can be shown by statistics, but, as far as the writer knows, there is no method at present of getting to know if those who submit equivalent certificates have obtained them on the knowledge acquired at school or as the result of special coaching (which would include any extra arrangements outside the usual time-table which might be made in the school). Such a return, even for one year, would prove interesting reading.

One hears often an outcry about the dearth of apprentices to pharmacy, and such a scarcity is bound to be increased when education in many secondary schools is not on lines sufficiently broad to enable a youth to negotiate the first examination easily, however much it may be a good preliminary training for the Minor Examination.

The fault for this specialised form of education lies entirely with the Board of Education, and the system by which it practically pays twice as much per head for a Division A scholar as a Division B. If the grants were made the same in each case, then there would be very many cases in which schools which are at present Division A schools would join Division B, but the state of their finances will not allow them to do that while there is this difference of treatment as regards grants.

A state of affairs such as this will naturally affect in one way or another all those callings of which a good general education should be the basis. How far and in what other directions than those indicated here the profession of pharmacy is and will be affected must be left to the consideration of those who control and guide its varied fortunes.

In conclusion, there is one point in the present state of affairs which might be made good use of in many cases. In the advanced course, advanced inorganic chemistry, theoretical and practical, is taught. This might be useful to many a chemist's apprentice or junior assistant who wishes to gain a good insight into the subject before going to a school of pharmacy for a year's work before taking the Minor Examination, and who is unable to get to any science classes, but who has in his neighbourhood a secondary school which is carried on as a Division A school. It will be found possible in most cases to gain admission to these classes, which are, of course, held in the daytime, and probably not more than three or four hours a week would be necessary, so that no insuperable difficulty should exist in getting away from business for the time.

NOTE ON GUADELOUPE JABORANDI.

BY E. M. HOLMES, F.L.S.

Curator of the Museums of the Pharmaceutical Society.

As some discrepancy occurs in the statements made concerning the amount of alkaloid present in this variety of jaborandi, a sample of the leaves was submitted for assay to Mr. A. J. Cownley, whose exceptional experience in the extraction of alkaloids gives considerable weight to his opinion. He kindly consented to examine the leaves, and he has found on analysis that they yield 0·6 per cent. of total alkaloids, which give about 50 per cent. of a crystalline nitrate melting at 155° C. According to Jowett, pure pilocarpine nitrate has a melting-point of 178° C., and anhydrous isopilocarpine nitrate of 159° C. It would seem, therefore, that the nitrate probably consists largely of isopilocarpine nitrate, or possibly of some other alkaloid. Isopilocarpine is estimated by Marshall to be only 1/8 to 1/10 of the strength of pilocarpine, physiologically.

Further experiments as to the physiological action of the alkaloids of Guadeloupe jaborandi are therefore necessary, when larger supplies can be obtained, before it is certain that these leaves can be used as a source of pilocarpine nitrate. At present the pilocarpine nitrate of commerce is obtained chiefly from the leaves of *Pilocarpus microphyllus*, so far as can be judged from the imports. The demand for these leaves is already considerable, orders for five or ten tons being placed at one time.

The discrepancy in the results obtained as to percentage of alkaloid in Guadeloupe jaborandi leaves may possibly be due to the leaves having been collected at different periods of the year.

An Ideal Cold Cream.

In a porcelain or enamelled dish put—White wax, 12½ troy oz.; liquid paraffin, 48 oz.; dissolve on the water-bath. To this add a solution of borax, 5 drachms, in distilled water, 24 fl. oz. Stir constantly until nearly cold, then add, with continued stirring, oil of geranium, 40 minims. The stirring is best done with an egg-beater.—*Amer. Drugg.*, **43**, 167.

THE STUDENTS' COLUMNS.

REPORT ON PRIZE COMPETITION.

Papers were received from thirty-seven students, replying to the set of examination questions published in the *Pharmaceutical Journal* of November 28 last. The results were extremely gratifying. The papers in every case showed evidence of careful work and, with six exceptions, every question was dealt with by each candidate, so that the work involved in the correction of so many long papers has proved heavier than was anticipated. None of the competitors failed to reach a standard of 50 per cent. of marks, while the three at the head of the list scored heavily. The work of those three is practically of equal merit and each will, therefore, be presented by the Editor with a gift of books to the value of ten shillings.

1. Percy A. W. Self, 111, Newlands Park, Sydenham 95 per cent.
2. Alfred J. Dodd, 24, Evington Road, Leicester .... 94 ,,
3. Norman S. Goodyer, 27, High Street, Sheffield .... 91 ,,

The marks awarded to the other competitors are as follow:—

"Marin"	89	S. R. M.	75
M. W. B.	88	A. W.	
"Carolus"	87	"Fiat Lux"	74
T. A. C.	86	J. W. W. D.	71
T. E. T.		W. S. R.	68
F.B.	84	S. J. S.	67
"Iterum Audiar"	82	D. F. F.	
"Ronim"	81	C. G. T.	65
"Toc"		C. T. J.	64
J. H.		G. H. P.	62
H. J. R.	80	W. F. G.	61
E. J. T.		"Pumilio"	59
"Equus"	79	A. M. D.	58
"Lupulin"		A. W. (Miss)	55
E. A. J. P.	78	R. H.	54
H. S.			
C. P. W.	76		
D. M.			
A. E. W.			

With regard to the whole competition, the results, as stated above, are extremely satisfactory. All the competitors had evidently carefully studied the matter in the Students' Columns upon which the questions were based. But where any of the questions went further afield, nearly all the answers showed that the writers had taken the trouble to seek out the necessary information from the sources indicated in the Students' Columns. Many of the candidates appeared to be novices so far as written examinations were concerned, and to such the following suggestions may be of value in the future. Do not stray from the questions, for no credit is given for information not bearing upon the subject in hand. Always write legibly, and always frame your replies clearly and in the best language at your command. Punctuation and the use of capital letters should be studied carefully, for answers in scrappy phrases, badly put together, cannot fail to produce a bad effect upon the mind of the examiner to whom they are submitted. Do not make your answers any longer than is really necessary to express what you know about the question—wading through pages of matter not bearing upon the question is irritating to the examiner, and the candidate runs the risk of obscuring what he does know.

The following remarks should be read side by side with the examination paper, and are numbered to indicate the questions to which they refer:—

1. There were few failures with this, and most answers showed that the writers understood the possible sources of variations in the fineness of powders passed through sieves of any given size.

2. This gave considerable scope for experiment, and though several candidates appeared to have attempted the answer without doing the work, the observations in most cases were pertinent.

3. In this students should remember the possibility of changes occurring in plants during drying as a result of the action of enzymes, particularly oxydases, contained in the tissues themselves. Few mentioned the desirability of avoiding mechanical injuries to delicate organs, like leaves and fresh fruits, which would break the epidermis and allow the entrance of organisms from without.

4. This was not so well done, although several candidates appeared to have extracted all the available information from text-books.

5. Several of the candidates appeared to be very weak in their Latin terminations, which is surprising, considering that they must have recently passed an examination in Latin. It should be remembered that candidates for the Minor Examination are expected to be able to do such simple translations quite accurately.

6. The answers to this were very instructive, and the best were given by candidates who had evidently dispensed the prescriptions before attempting any criticism. The prescription (3) was stated by several to give a *precipitate* of iodine—a mistake which can only be attributed to bad observation or arm-chair work. It should be noted that the liberation of iodine is not due to free acid in the iron solution.

7. The conversion was made accurately by nearly all the candidates. Great attention should be paid to weights and measures by pharmaceutical students, and no uncertainty should exist in their minds as to the relative values of the weights and measures used in prescriptions.

8. Very few failed to appreciate the effect of the low conductivity of water and the convection currents in producing the results observed in carrying out the experiments in this question.

9. The answers to this were extremely good, and showed that candidates had drawn upon their own experience as well as the text-book statements.

10. While many of the answers were good, several were very weak, and showed want of knowledge of vegetable physiology. Very few candidates noted the coagulating effect of strong alcohol upon enzymes like emulsin, and the necessity for adding the water *first* in making the tincture of wild black-cherry bark.

11. The answers showed that the article on drug-grinding had been carefully read, but the examples chosen were not always good.

12. This proved an exceedingly good exercise. Many of the candidates were not familiar with technical terms, but the main object of the question being to get them to state as exactly as possible what they actually saw, marks were awarded from this point of view and not in proportion to the technical terms introduced into the description. Beginners should note that a knowledge of botany does not end with the acquisition of a glossary of botanical terms.

13. This showed clearly the difference between practice and theory. Several neatly written descriptions were sent in, evidently based upon what the writer assumed ought to have occurred, but actually did not, under the conditions described. Most candidates, however, went correctly to work, and performed the experiment, recording their observations without bias.

14. The replies to this question indicated that illegible writing in prescriptions is not confined entirely to the medical profession.

15. Most of the candidates might advantageously study the comparative solvent effect of different menstrua upon the proximate principles of vegetable tissues.

16. The answers to this were very good, considering that the candidates were mostly in an elementary stage in their study of botany and physics.

17. Several descriptions were given almost verbatim from the Pharmacopœia, and were not assessed so highly as those which showed that the writers were recording observations in their own language upon specimens before them.

18. This question was not well answered, the statements being in many cases speculative, and not based upon experimental work, which might easily be done by the student with a little aid from his books.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN.

LIBRARY, MUSEUM, SCHOOL, AND HOUSE COMMITTEE.

At a meeting of this Committee, held on Wednesday, January 13, 1904, the following reports were presented:—

Attendance in Museum.

	Total.	Highest.	Lowest.	Average.
London, December	442	40	3	17
During the year 1903	5,347	—	—	18

Donations to the Museum.

Messrs. Ferris and Score, Bristol:—Specimen of a root used as a fish poison in Honduras.

Messrs. Burroughs and Wellcome, London:—Specimen of a plant used for dysentery in South Africa.

Messrs. Wright, Layman, and Umney:—Specimen of Guadeloupe Jaborandi.

No donations were reported from the Edinburgh Museum.

Enquiries.

Seven specimens of drugs had been sent for identification.

Applications for duplicate specimens had been received from Mr. P. H. Marsden, Mr. J. R. Jackson, and Mr. D. Finlayson, F.L.S.

Investigations.

Guadeloupe Jaborandi had been examined by Mr. A. J. Cownley, who found it to contain 0·6 per cent. of mixed alkaloids, of which 50 per cent. gave a crystalline nitrate with a melting point of 159° C.

Miss Hooper had undertaken the microscopical examination of a supposed Apocynaceous bark from South Africa, and had found that it did not belong to that natural order.

Mr. E. W. Pollard had undertaken the histological examination of the white gentian root of commerce.

Loans.

The specimens of opium and opium-smoking apparatus lent to Mr. J. Austen had been returned in good order.

Museum Report (1895-1902).

The report had been printed and was being distributed.

Attendance in Library.

	Total.	Highest.	Lowest.	Average.
London, December	357	32	3	14
Year 1903..................	4,159	38	0	14

Circulation of Books.

	Total.	Town.	Country.	Carriage Paid.
London Library, December ..	262	152	110	17s. 5d.
London, Year 1903..........	2,506	1,392	1,114	£10 19s. 5d.
Edinburgh Library, Dec.....	357	198	159	12s. 8d.

Donations to the Library (London).

British Pharmaceutical Conference:—Year-Book of Pharmacy, 1903. Two copies.

Mr. R. Bremridge:—Year-Book of Pharmacy, 1903.

Proprietors of the *Chemist and Druggist*:—The Numbers for 1903; Diary for 1904.

Royal Institution of Great Britain:—Proceedings, 1902; List, 1903.

Missouri Botanical Garden:—14th Annual Report, 1903.

Royal Dublin Society:—Scientific Transactions, second series, Vol. 8, Nos. 2-5; Scientific Proceedings, new series, Vol. 10, Part 1; Economic Proceedings, Vol. 1, Part 4.

Dr. A. B. Griffiths, London:—Die Pigmente des Geraniums und ander Pflanze, 1903; Les Bases Azotées dans le Pétrole Roumain, 1901.

Kaiserlich-Japanische Universität, Tokio:—Mitteilungen aus der Medicinischen Facultät, Band 6, No. 1.

Dr. K. Linsbauer, Vienna:—Wiesner und seine Schule, ein Beitrag zur Geschichte der Botanik, 1903.

Mr. D. de St. Cyr:—La Tuberculose et sa Guérison par une Plante des Antilles, 1903.

DONATION TO THE LIBRARY (EDINBURGH).

British Pharmaceutical Conference:—Year-Book of Pharmacy, 1903.

PURCHASE OF BOOKS.

The Committee authorised the purchase of the undermentioned books for the Library in London:—

A. I. Cohn, Tests and Reagents, Chemical and Microscopical, 1903.

Von Post and Kuntze, Lexicon Generum Phanerogamarum.

Kuntze, Nomenclaturæ Botanicæ Codex.

Walker, Introduction to Physical Chemistry, third edition.

Lester-Garland, Flora of Jersey.

Foster and Porter, Elementary Treatise on Electricity and Magnetism.

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EXAMINATIONS IN LONDON,

January, 1904.

MAJOR EXAMINATION.

Candidates examined 20
" failed 12
" passed 8

Chalmers, Edward; Kennington
Cooper, Walter M.; Brixton Road
Cranshaw, Walter W.; Bingley
Gale, Percy; London
Harbordt, Paul H.; Camberwell
Ridehalgh, Lincoln; London
Sweetman, Robert V.; Kennington
Watt, George G.; Clapham

MINOR EXAMINATION.

Candidates examined 293
" failed 177
" passed 116

Abrey, Rd. Blake H.; Woolwich
Adams, Frank R.; London
Anderson, George; London
Archer, Arthur E.; Nuneaton
Assinder, Leslie; Walsall
Avery, C. W.; Hemel Hempstead
Bamforth, Cyril B.; Linthwaite
Baxter, Percy C.; Walthamstow
Bayley, Arthur W.; Brighton
Bayley, Charles W.; Brighton
Beeley, William H.; Manchester
Berriman, Fras. John; Liscard
Billington, John J.; Birmingham
Body, Sidney F.; London
Bourne, C. W. K.; W. Bromwich
Brand, Thos. H.; London
Brett, Percy C.; Sherborne
Cooke, Leslie T.; Gloucester
Cooper, Egbert F.; Woodstock, S.A.
Day, Harold D.; Dewsbury
Daykin, Albert E. S.; Clay Cross
Davies, Arthur L.; Carmarthen
Davies, Benjamin P.; Saundersfoot
Davies, William J.; Ton Pentre
Dunn, Wm. H. Spokes; Rugby
Edward, R. R. Wales; Chatham
Edwards, Herbert; Hastings
Fereday, Ernest A.; Bridgtown
Gardner, William T.; Bournemouth
Goble, Joseph H.; Lydd, Kent
Graham, Robert M.; Blackpool
Gray, George W.; London
Gwatkin, Laurence; Brighton
Hall, William T.; Redruth
Hamnett, John W.; Blackpool
Hawkins, Gilbert H.; Dulverton
Hearder, Henry N.; Plymouth
Hepworth, Rufus; Wakefield
Hill, William T.; Chorley
Hindle, Fred; Preston
Hitchen, Robert; Burnley
Hodkinson, R. G.; Newton-le-Will'ws
Hunt, Eric B. K.; Wellington
Isaac, William; Kidwelly
Ivimey, Harold E. W.; Southampton
Jackson, Frederick C.; Leeds
Jackson, William F.; London
Jacques, Percy; Manchester
Jenkin, Baldwin H.; Helston
Jones, Arthur L.; Liverpool
Jones, Edward G.; Llwynpia
Jones, Gwilym; Denbigh
Jones, Vincent H.; Carmarthen
Jukes, Bernard C.; Muswell Hill
Jung, Fritz R. W.; Southampton
Kendrew, William H.; Southport
Kent, Edwin H.; Cardiff
Kirby, Francis B.; Bristol
Lester, George H.; Dunstable
Lewis, Dan; Clynderwen
Liner, Frederick; Chester
Lusher, George J.; London
Mangion, Joseph; Sliema
March, Frederick W.; Thrapston
Morris, Harold J.; Brecon
Muston, Samuel H.; Brighton
Oddie, Arthur M.; Ilford
Ostle, Thomas W.; Workington
Paley, Joseph; Pontefract
Payne, William H.; Haverfordwest
Peel, Richard; Liverpool
Pegg, George C.; Burton-on-Trent
Perfect, Richard; Bingley
Phillips, John; Trawsfynydd
Philpot, Philip H.; Walsall
Price, Arthur F.; Abertillery
Proctor, Ernest J.; Whaley Bridge
Purvis, John M. T.; Cardiff
Rees, David G.; Swansea
Rich, Edward T.; London
Richardson, Sidney F.; Hull
Robertshaw, Henry; Burnley
Rutter, Ernest; Wandsworth
Seaborne, Eric S.; Wombwell
Sharland, John H.; Bournemouth
Sharp, Henry W.; Leamington
Shaw, Edgar P.; Birstall
Shaw, Samuel; Whaley Bridge
Shufflebotham, E.; Newcastle, Staffs.
Silvester, Joseph B.; Knutsford
Simpson, Allwood; Stalybridge
Sirvai, Pestonji H.; Clifton
Skidmore, Bertrand; Nantwich
Smith, Bernard; Thrapston
Smith, Mark E.; Louth
Snell, James S.; Accrington
Sowden, William; Shipley
Spiers, Charles S.; Melton Mowbray
Taylor, Arthur C.; Richmond
Teesdale, Arthur; Horncastle
Thomas, Wilfred J. L.; Stepaside
Tomlinson, T. McN.; P.-le-Fylde
Trattles, William E.; Whitby
Turnbull, William; Loftus
Uttley, Walter; Manchester
Ventham, Alfred J.; Southampton
Watkinson, Joseph W.; Walkden
Williams, Alfred; Croydon
Williams, Gwilym E.; Abergele
Williamson, John S.; Liverpool
Witchell, Robert W.; London
Wood, Harry M.; Hanley
Wood, Isaac; Aspatria
Wood, Margaret M. A.; S. Wanstead
Yates, John; Blackburn
Young, Arthur E.; Leicester

MODIFIED EXAMINATION.

One candidate was examined, and passed:—

Frost, John; Hucknall Torkard.

Registration as Apprentices or Students.

Certificates by approved examining bodies were received from the undermentioned fifty-four persons desirous of registration as apprentices or students:—

Adams, Hubert; Shrewsbury
Arnfield, Thos. Owen; Harlesden
Bays, Walter Hy.; Swindon
Campbell, Jean Murray; Edinburgh
Clarke, Alfred Wm.; Southampton
Cogan, Richard A.; London
Cooke, Colin; Farnworth
Cutaiar, Charles; London
Darmanin, Emmanuele; London
Donaldson, Harry; Dunfermline
Dowie, George; Edinburgh
Drake, Arthur Marsden; Bradford
Duckett, Richard A.; Blackburn
Dunn, Peter P.; Edinburgh
Evans, Thomas Vernon; Putney
Fletcher, William H.; Birmingham
Forgan, Robert Berry; Strichen
Gilmour, Thos. J.; Fochabers
Gray, Stanley; S. Shields
Green, George; Watham Station
Hamer, Tom; Stalybridge
Haw, George Harold L.; Leeds
Horton, George; Stratford-on-Avon
Hunter, George Forbes; Aberdeen
Hunter, John F.; Arbroath
Jones, William H.; Hengoed
Joyce, Theobald U. S.; Liverpool
Kirkwood, Janette L.; Saltcoats
Lindsay, E. A. S.; Haddington
McLaren, Frank D.; Forfar
Mason, George J.; Welshpool
Maughan, Edith M.; Maryport
Meacock, John C. E.; Northampton
O'Brien, William G.; Edinburgh
Owen, William D.; Whitland
Page, Sydney H.; Clapham
Palmer, Colin; Dulwich
Pierson, G. H.; Tunbridge Wells
Procter, William; Sheffield
Radnor, Osmond E. J.; Ashbourne
Ridges, R. H.; Wolverhampton
Robinson, Reuben; Blaenavon
Sanders, Richard V.; Nottingham
Scales, Leslie A.; Cambridge
Schramm, Felix J.; London
Sellers, Horace B.; Romford
Sheasby, Herbert; Kidderminster
Smith, Charles; Hexham
Spouse, H. A.; St. John's Wood
Temple, William; Galashiels
Thomas, John P.; Neath
Wadsworth, Norman F.; Halifax
Walker, Percy; Southport
Warburton, Arthur W.; Farnworth

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EXAMINATIONS IN EDINBURGH,

January, 1904.

MAJOR EXAMINATION.

One candidate examined and failed.

MINOR EXAMINATION.

Candidates examined 123
" failed 85
" passed 38

Arnott, William P.; Kirkcaldy
Baxter, Henry; Dunfermline
Bowskill, E. W.; Grimsby
Bullions, John; Glasgow
Campbell, William J. F.; Nairn
Dewhurst, George E.; York
Fairful, Robert; Stirling
Gardner, John W.; Coatbridge
Garrow, Robert W.; Keith
Haigh, William S.; Bradford
Hair, George; Paisley
Henderson, John R.; Edinburgh
Johnstone, James H.; Glasgow
Low, John H.; Fraserburgh
Lund, Frederick A.; York
MacIntosh, John; Glasgow
McKay, David E.; Ayr
Mackenzie, Donald G.; Helensburgh
Milne, John M.; East Newport, Fife
Morris, David; Edinburgh
Morrison, James A.; Aberdeen
Murray, William B.; Rothney, N.B.
Pratt, George H.; Huddersfield
Robb, William R.; Aberdeen
Russell, Thomas; Coaltown of Weymss, Fife
Semple, James, C.; Glasgow
Skinner, David D.; Oban, N.B.
Smith, Cyril C.; Nottingham
Smith, William H.; Batley
Steedman, William; Cupar Angus
Summerfield, A. W.; Middlewich
Todd, Andrew; Edinburgh
Todd, James W., Sunderland
Walker, Margaret K.; Shawlands
Weir, Thomas; Innerleithen
Wiley, Harry; West Hartlepool
Williamson, Adam; Innerleithen
Wood, Andrew; Kildrummy, N.B.

PHARMACEUTICAL SOCIETY OF IRELAND.

MEETING OF COUNCIL.

On Wednesday, January 6, 1904, at 67, Lower Mount Street, Dublin, the President, Mr. Johnston Montgomery (Belfast), in the chair. Other members of Council in attendance were the Vice-President, Mr. Wells; Messrs. Moffitt (Belfast), Connor (Newry), Kelly, Vincent Johnston, Watson, Smith, Beggs, White (Sligo), Dr. Walsh, and Professor Tichborne.

The Sale of Sheep-Dip.

Several letters were read, including one from Mr. T. P. Gill, of the Department of Agricultural and Technical Instruction for Ireland, acknowledging the receipt of a letter from the Council in reference to the sale of sheep-dip in Ballinasloe.

The Vice-President said a copy of the same letter had been sent to the Ballinasloe Urban District Council, but no reply having been received, the Registrar wrote a second letter to the Clerk of the Ballinasloe Council, but up to the present no acknowledgment of the receipt of that letter either had been received. What the first letter contained was in reference to a statement that there was only one chemist in the district who could sell poisons. The fact was that there were certainly two in the town. It had also been stated that there was only one person in Ennis who was qualified to sell poisons, whereas there were three licentiates of the Society there, and also a doctor keeping open shop. A communication had also been sent to the Urban Council of that district, and he had no doubt that a reply would be received to it.

The Conference 'Year-Book.'

A donation was received from the British Pharmaceutical Conference of a copy of their 'Year-Book' for 1903.

Proposed Index of Registered Persons.

The President moved that the Council should not proceed any further with the publication of the Index of persons keeping open shop as pharmaceutical chemists, apothecaries, and chemists and druggists. Twelve months ago the Council passed a resolution that this Index should be prepared, but it had been found practically impossible to prepare a complete list, and unless the list was perfect it would not be of any use.

The Vice-President seconded the motion, and after some discussion it was carried unanimously.

Councillors' Travelling Expenses.

The Vice-President moved a resolution authorising the payment of a sum of £51 17s. 7d., the full amount of the travelling expenses of members of the Council who had to come up from the country to attend its meetings. The present order, however, was not to form a precedent.

Dr. Walsh seconded the motion, which was carried unanimously.

The Company Pharmacy Problem.

Mr. Kelly moved that the Council should summon a meeting of licentiates, chemists and druggists, and druggists to consider the advisability of seeking an amendment of the law to enable the enforcing of the following:—

> That no person, persons, or corporate body be permitted to keep open shop for the dispensing of physicians' or surgeons' prescriptions, or the sale of poisons, except they be duly qualified to do so by education and examination.

The carrying out of the proposed resolution into law was the only way out of the difficulty under which pharmacists laboured. In the past the Council had spent, he might say, a fabulous amount of money in the law courts, and in almost every big case they had been beaten. They had lost their money and had not improved their position, because the consequence of such results had been that people who had not previously thought of forming companies started them with the aid of qualified men. He had asked the Attorney-General would it be possible for six men not qualified in the law to carry on the business of a lawyer with the aid of one lawyer, and the Attorney's answer was "No," and he admitted that pharmacists had a grievance, and said that if they brought it before Parliament he would help them. The present Solicitor-General said to a deputation: "You are not going to monopolise the thing"; and his (Mr. Kelly's) reply was that they did not want monopoly, but only protection—that whilst the law compelled their licentiates to be educated it allowed six unqualified men to do what one of them could not legally do singly. The Solicitor-General admitted that that was a grievance. There was now a cry for fair dealing, and, therefore, the present was a good time for bringing their grievance before the Chief Secretary for Ireland, or Parliament.

Mr. Connor said he had much pleasure in seconding the motion. The matter was one that concerned every pharmaceutical chemist in Ireland.

Dr. Walsh said he perfectly agreed with Mr. Kelly as to the desirability of obtaining an amendment of the law; but his proposal to hold a meeting was one that required a little consideration. Supposing that it were held, the result of it would be to ask the Council to take the necessary steps in the matter, and, so far as the licentiates of the Society were concerned, the meeting had already taken place, for the proposed resolution had already been discussed and passed at an annual meeting, and sent forward to the Council with instructions to take the necessary steps.

Mr. Beggs asked would it be advisable at the proposed meeting to have representatives of the limited companies present, and thus give sanction to their vested interests? The object of the motion was, no doubt, a laudable one if they could accomplish it. Every pharmaceutical chemist in the country would thoroughly agree with it. They all felt that their rights were being filched from them.

The Vice-President pointed out that many of the members of the present Government were interested in companies, and there were very few members of Parliament who were not interested in those institutions, and they would be going to ask those gentlemen to shut up their own shops. In 1890, when the Council had an Amendment Bill before Parliament, the President and those who were sent over with him to London did not forget the big co-operative stores, and they had a clause drafted to bring before the House of Lords, but Lord Waterford told them that they had his sympathies in the matter, as well as those of the Attorney-General, but that they would not get the Houses of Parliament to pass such a clause, and that they need not put it into their Bill. Did the Council imagine that they would be able to pass such a clause now? He thought they should take care, if they went to Parliament, that they did not come home a great deal worse than they were when they went there. If they did decide to go to Parliament, let Parliament be asked to enact that no limited company be allowed to trade as pharmaceutical chemists, except under certain conditions, one of which should be that the members of it were all qualified. The English Society was going for a Bill in which they did not seek to shut up the limited companies, but asked that every limited company should have qualified directors, and that was as much as they would get. Let the limited companies be brought under the Acts of Parliament, and subjected to some restrictions. At present they were subject to none.

After further discussion, in which Professor Tichborne and the President took part,

Mr. KELLY said he was satisfied to fall in with the wishes of the Council, and accepted instead of his motion a resolution referring the question as to obtaining an amendment of the Pharmacy Acts to the entire Council to meet in committee on the first Wednesday in February at 7 p.m.

Resolutions from the Annual Meeting.

The Law Committee reported on the three resolutions sent to the Council from the annual meeting which had been referred to them. As to the first, which suggested a two-years' certificate in practical pharmacy for assistants who had passed the Preliminary Examination, the Committee were unanimously of opinion that to reduce the term from four years would do no good. As to the second, which asked that "steps should be taken to secure absolute secrecy of voting for members at the annual meetings," they recommended that the matter be held over. The third resolution affirmed that the preparation of drugs and chemicals in Ireland should, as far as possible, be encouraged, in order to give the students an opportunity of acquiring practical knowledge of them; and that the Local Government Board of Ireland should be requested to empower poor-law guardians and other public bodies to give a preference to drug contractors supplying articles of Irish manufacture when the prices were nearly the same as those of articles of English manufacture. As to this resolution the Committee thought it was outside the province of the Council, and that no action should be taken in reference to it.

The report was adopted.

Other Business.

Dr. DANIEL CROWLEY, L.P.S.I., of Loughrea, was elected a member of the Society.

Other business having been disposed of, the Council adjourned.

GREAT YARMOUTH PHARMACEUTICAL ASSOCIATION.

ORDINARY MEETING.

Thursday, January 7, 1904, at 156, King Street, Mr. A. E. RICHMOND in the chair.

"Cash on Delivery."

The chief business of the meeting was to consider the cash on delivery scheme of the Post Office. The SECRETARY introduced the subject, and most of the members present took part in the discussion. The general opinion was that, though in many ways it might prove a convenience, the disadvantages it would entail would far outweigh the advantages. The following resolution was passed and directed to be forwarded to the Postmaster-General:—"The members of this Association view with grave concern the proposed cash on delivery scheme as outlined by the Post Office authorities. They feel it will be prejudicial to the interests of all small shopkeepers, and will mean a serious loss of business to most retail chemists. They sincerely hope it will not come into operation."

CHEMISTS' ASSISTANTS' ASSOCIATION.

SMOKING CONCERT.

On Thursday, January 7, 1904, at 73, Newman Street, London, W., Mr. SYDNEY JAMIESON in the chair. The musical programme on this occasion was rendered entirely by professional artistes, the Chairman having kindly made all the arrangements. There was a good attendance, and the concert was much enjoyed by all present. A collection, taken on behalf of the Benevolent Fund of the Pharmaceutical Society, amounted to 17s. 11d., a sum which the Chairman said was a record for these gatherings.

DEWSBURY AND DISTRICT CHEMISTS' ASSOCIATION.

MONTHLY MEETING.

Monday, January 11, 1904, at Dewsbury, Mr. R. GLEDHILL, President, in the chair. A discussion took place on the question of co-operative buying, and nearly all those present spoke in favour of a system being adopted if it could be worked. It was stated that such a scheme had been tried at Leeds and Bradford, and had resulted in a great saving to members of those associations, as they were able to buy much cheaper collectively than they could do individually. It was eventually decided to start a system at Dewsbury. the benefits to be confined to members of the Association, and also to those who fell in with the arrangement and agreed to stock some special article. Each member undertook to buy a certain proprietary article, and to him the others will apply for supplies. It is hoped to extend the list at the next meeting Reference was made to the fact that the resolution passed at the last meeting on the Spirits Act, and calling for its more stringent enforcement, had been brought before the Council. It was not thought advisable to take any further action in the matter.

Arrangements were made for the annual dinner to be held on February 18, and it was decided to invite delegates from the following associations:—Leeds, Bradford, Huddersfield, Wakefield, Halifax, and Barnsley.

SOCIETY OF CHEMICAL INDUSTRY.

MANCHESTER SECTION.

Friday, January 8, 1904, in the Municipal School of Technology, Manchester, Mr. J. CARTER BELL in the chair.

Mr. R. S. HUTTON read a paper which had been written by Mr. J. E. Petavel and himself on the "Preparation and Compression of Pure Gases for Experimental Work."

Mr. W. THOMSON then addressed the section on

The Electrolytic Method for the Determination of Arsenic in Food.

Mr. THOMSON referred to the work of the special Board of Trade Committee in dealing with arsenical poisoning in beer, and described the results given by the electrolytic method, as devised by that Committee when using a platinum kathlode. While Lord Kelvin's method was a very good one, especially as coming from a non-chemical expert, he (Mr. Thomson) had conducted a number and variety of experiments, in order to discover a more infallible test, and he had succeeded in discovering even the 1,000th part of a grain of arsenic in a gallon of beer. As a standard process, Lord Kelvin's Committee had set up the electrolytic method. This he described in detail, and exhibited the apparatus. 100th per cent. of arsenic to the gallon of beer was allowable, but that was the limit. This could be readily ascertained by the electrolytic method, but he thought it well that an apparatus should be designed which would tell exactly what quantity of arsenic a compound contained, and not let it be left to the region of doubt. He thought, after the Board of Trade Committee's pronouncement, that he had not studied the matter completely, and so he began his experiments. He had tried lead, copper, aluminium, plumbago, platinum, tin, and zinc as kathlodes, and found the best medium to be pure zinc. A large number of lantern illustrations were shown, giving the arsenic mirrors obtained by each of the appliances in comparison with those obtained by the Marsh-Berzelius process.

Mr. **SCUDDER** questioned the necessity of such refined analysis as the discovery of the 1,000th part of a grain in a gallon of beer. It was not necessary to have a test more delicate than would disclose the 250th part of a grain of arsenic in anything.

Dr. A. K. **MILLER** said he had had no experience of the electrolytic method; but he had been delighted with the work which Mr. Thomson had done, and considered his method an improvement on that of the Board of Trade Committee.

The **CHAIRMAN** believed Mr. Thomson's apparatus to be a great improvement on that of the Committee of the Board of Trade, and its chief merit was in the top part being fastened into the lower vessel to prevent loss by frothing or boiling over.

Mr. **THOMSON** said his method was much simpler than that adopted by the Committee.

Votes of thanks were accorded to the readers of papers, and the meeting terminated.

BLACKPOOL AND FYLDE CHEMISTS' ASSOCIATION.

MONTHLY MEETING.

Friday, January 8, 1904, at the Palatine Hotel, Blackpool, Mr. Councillor **LAURIE** in the chair.

The **CHAIRMAN** invited discussion on the question of window displays, which was brought forward at the last meeting.

Mr. J. **JACKSON** said that he would allow no firm to have his window unless they paid a handsome sum in cash in advance. He thought it very foolish of chemists lending themselves to the encouragement of quackery, it being lowering to their dignity.

Mr. **LAURIE** thought if the members would come to some mutual understanding it would be to the advantage of all.

Mr. **GREENWOOD** was much in favour of a mutual arrangement now the firms had good terms, whereas the chemist might arrange better terms without fear of loss if he took cash instead of a large consignment of goods.

One member said he had taken £6 per week cash in advance for the use of one of his windows, which was considered a handsome remuneration, such firms being in the minority.

After further discussion the subject was postponed to the next meeting, when it was hoped some definite understanding could be arranged.

The Benevolent Fund.

The Divisional Secretary, Mr. Turver, wrote expressing his regret at being absent, and suggested something should be done to aid so worthy an object, as, by the report in that week's Journal, funds were very low, and he thought a whist-drive or collection would be an excellent work for the Association to show its interest in less fortunate chemists.

Mr. J. **JACKSON** took exception to the way the funds were distributed. He thought the only persons eligible to receive help should be members of the Society.

Mr. **JOHNSON** said he would willingly give his little to a special subscription fund.

The **HON. SECRETARY**, Mr. Sankey, strongly advocated a whist-drive. He referred to going with the Divisional Secretary, and, after considerable persuasion, collecting £1 1s. for the provident fund off a retired chemist, who said he had never before subscribed to the Fund.

The dinner being at an early date, the question was postponed for members to think about the best scheme for reducing the adverse balance.

WAKEFIELD AND DISTRICT CHEMISTS' ASSOCIATION.

ANNUAL MEETING.

Tuesday, January 12, 1904, at the Victoria Temperance Hotel, Wakefield, Mr. **POLLARD**, President, in the chair.

Annual Reports.

From the annual statement of the Hon. Secretary-Treasurer (Mr. J. Judge), it appeared that the income for the year amounted to £8 3s., made up of cash in hand, £1 7s.; subscriptions, £4; and dinner tickets, £2 16s. Details regarding expenditure set forth that the dinner cost £4 1s. 6d., and also included 10s. as a subscription to the West Riding Federation. The balance in hand showed a reduction of 6s. on the year's working, but, as a set-off to this, it was stated that there were three annual subscriptions still unpaid.

On the motion of Mr. **CHAPLIN**, seconded by Mr. **DUFFIN** the annual statement was adopted

Election of Officers.

Mr. Pollard declined re-election as President, having occupied that position for two years. He therefore proposed as his successor Mr. Whalley. This was seconded by Mr. **GREEN**, supported by Mr. **CHAPLIN**, and was carried unanimously.

M. **WHALLEY** acknowledged the high compliment which had been paid him.

Mr. Chaplin was chosen as Vice-President.

It was decided to hold the annual dinner at the White Horse Hotel on Wednesday, March 23, and also to issue the customary invitations to kindred associations.

It was announced that Mr. Sargeant, the principal of the Leeds College of Pharmacy, would read a paper on "The Division of the Minor" on the first Tuesday in February.

The meetings of the Association will, it was decided, in future be held at the White Horse Hotel.

HUDDERSFIELD CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Tuesday, January 12, 1904, at the Queen's Hotel, Huddersfield, Mr. **WALSHAW** in the chair.

At the outset the **HON. SECRETARY** reported that he had had a letter from the Hon. Secretary of the Proprietary Articles Trade Association, on the subject of dealings by co-operative societies in proprietary articles. He stated that the giving of dividends or bonuses off P.A.T.A. articles by co-operative stores had been repeatedly before the Council. He would be glad to have particulars of any co-operative societies which were selling P.A.T.A. articles in the Huddersfield district below the protected prices, and the prices at which they sold them to members and non-members.

Mr. **WOOD** reported that he had made inquiries, and he gave a number of specific prices, but the meeting concluded that the matter was not one which need engage their attention further.

The Hon. Secretary of the Leeds Association had written, inviting members of the Huddersfield Association to a dance to be held by the Leeds Association on January 20.

Co-operative Buying.

There was some further discussion as to the proposed co-operation of members for the purpose of buying certain standard articles. The methods which were in use by other associations were commented upon, but the difficulty of applying such to Huddersfield was readily recognised.

The meeting agreed that as an association they could not hope for good results in a scattered district like Huddersfield, and the matter was allowed to drop.

Federation.

There was some discussion as to points in the report of the Federation of Local Pharmaceutical Associations. It was remarked that the Federation had not realised its promise. An energetic pharmaceutical council would, in the opinion of the meeting, be the best federation of local societies. The Federation might be of more use, it was suggested, by meeting twice a year, and also by supplying the local associations with information not always for publication. They were not disposed to depreciate the Federation, but were disappointed to see how little the affiliated associations had done. On the question of territorial representation, it was agreed that it was difficult to bring about a better arrangement than the present one. The next Pharmacy Bill should be simple, and directed at making limited companies conform to the conditions which affected individual chemists. The division of the Minor Examination was advocated.

In the matter of an annual social function, the idea of a dinner was abandoned, and a social evening decided upon instead.

WOLVERHAMPTON AND DISTRICT CHEMISTS ASSOCIATION.

ORDINARY MEETING.

On Wednesday, January 6, 1904, at Wolverhampton, Mr. Phillips in the chair,

Mr. A. T. Hall read a paper on

Cod-liver Oil and Its Adulteration.

He pointed out the great natural advantages of Norway for the production of good cod-liver oil. These advantages, briefly summarised, are:—(1) Fishing comparatively near land; (2) It is conducted during cold weather, so that the livers do not decompose in the short time necessary to deliver them to the factories on shore; (3) The large supply of fish available ensures, as far as possible, an adequate return for capital invested in plant. *En route* to the factory the livers are cut out and placed in tubs, which are delivered to the factor, who removes the gall-bladders, washes the livers with cold water, and transfers them to a steam-jacketed pan, by means of which heat is carefully applied. Oil soon rises, and the first skimmings constitute the cream of the product. With further heat comes an increase of quantity, with a decrease of quality. The next step is the removal of stearin. This is effected by means of combined cold and pressure, and here again comes in one of Norway's natural advantages, winter cold rendering unnecessary the artificial lowering of temperature. Whether the removal of stearin from the oil is a real advantage is at present open to question. Amongst small makers, and in less favoured fishing grounds, such as Newfoundland, a modification of this process is adopted. The livers are placed in wooden vats and steam blown through them, but this method is less satisfactory. There remains another—the "natural" mode of extraction or the "putrefactive process." The livers are thrown into tubs, which, when full, are put aside until the end of the season. On opening, the livers are found in a more or less advanced stage of decomposition, a layer of oil floating on the top; this is skimmed off, and constitutes "raw medicinal oil." The livers are again stirred and left, the second quantity of oil skimmed off is called "pale oil," the process is repeated, and the resulting oil, which contains a large amount of putrefactive matter, is of a dark colour, a very pronounced odour and nauseous taste, and is known as "pale brown oil." The liver residues of both the steam and natural processes are placed in iron pots over naked fires, and subjected to considerable heat. The product thus obtained is the dark coloured, evil-smelling "currier's oil." The chief adulterants of cod-liver oil are liver oils from the haddock, skate, coal-fish, shark, etc. The oils obtained from the whale, seal, dugong, menhaden, etc., are also employed. Most of these possess a fishy odour and more or less closely resemble cod-liver oil. The sulphuric acid test admits all the above liver oils, as it really is a test for cholesterin, which is present in all liver oils. Much work remains to be done. A most promising test is that recently suggested by Mr. E. W. Mann, Ph.C., but further examination is desirable, as the result is seriously vitiated by the age of the sample under examination. The so-called Japanese cod-liver oil is of very uncertain origin, whilst the oil produced in the British Isles and Newfoundland suffers from the lack of those natural advantages which Norway possesses.

Mr. Gibson proposed, and Mr. Godsell seconded, a hearty vote of thanks to Mr. Hall, who suitably responded.

Mr. Phillips then called upon Mr. Forster to give a paper on

Pharmacopœial and Other Notes.

Mr. Forster suggested that for a year or two the Pharmacopœia should be published in serial form, so as to be corrected before publication as a whole. He recommended boiling the aloes, myrrh, and potassium carbonate, and adding extract of liquorice to the hot liquid, in making Dec. Aloes Co., because when making as now the liquid is apt to boil over. Mr. Forster gave hints for diluting S.V.R. to the various B.P. degrees. He had found neatsfoot oil to make a good Lin. Ammoniæ, which could be easily poured. In making enemas, he suggested a tragacanth mucilage instead of starch. He found an ointment of—

Lanolin (anhydrous).	
Vaseline ....aa	℥i.
Glycerin	℥iss.
Ol. lavand	♏ 40.

very good for chapped hands, and without the irritation usually caused by glycerin.

He recommended the following for the hair:—

Lanolin (anhydrous)	℥i.
Castor oil	℥i.
Eau de Cologne....................	℥iii.

This was very similar in appearance to what is known as lime cream.

Mr. Godsell proposed, Mr. Warner seconded, and Mr. Weaver supported, a hearty vote of thanks to Mr. Forster, who responded.

STOCKPORT CHEMISTS' ASSOCIATION.

ANNUAL MEETING.

On Wednesday, January 6, 1904, at the Albert Hall, Stockport, Mr. Royse in the chair.

After the usual votes of thanks had been passed, Mr. Wm. Dodge was elected President, Mr. J. C. Arnfield Treasurer, Mr. W. B. Orton Hon. Secretary for the ensuing year, and Mr. Samuel Kay, J.P., Hon. Vice-President. It was also decided to send a donation of £1 1s. to the Benevolent Fund of the Pharmaceutical Society.

BRADFORD CHEMISTS' ASSOCIATION.

ANNUAL CONVERSAZIONE.

Tuesday, January 12, 1904, at the Royal Hotel, Bradford. The special committee which had in hand the arrangements for the event had evidently determined to break in upon the formality which usually prevails upon such occasions, and their plan was carried out with decided satisfaction to the 120 members and friends who assembled for the occasion. The more formal part of the entertainment was contributed with entire satisfaction to the audience by Miss E. E. Wilman, Mrs. Jas. Hartley, and Messrs. C. Mackay, C. H. Simonds, A. T. Bailes, and Jno. Roberts as singers, Mr. W. Cannon Dalby as elocutionist, Mr. H. G. Dutton as solo 'cellist, the Pharmaceutical Band (composed of Messrs. M. Firth, R. T. Simpson, Sutcliffe, J. G. Brigham, and H. G. Dutton, and Ald. Dunn), and Mr. Parker, of Messrs. Brooke, Parker and Co., as manipulator of a very good gramophone. In intervals between these soberer enjoyments, however, games were indulged in under the stewardship of Mr. A. H. Waddington, and the diverting character of these may be judged from the statement that there were, amongst other devices for producing merriment, a smelling competition for ladies, who were set the task of guessing by the odour of the contents of a dozen bottles, and a spoon and potato race for people of both sexes and all ages. Prizes were given for these competitions. Very adequate arrangements were made for refreshments, and, as an extension of time had been obtained, the pleasant occupations of the evening were maintained until midnight. At an appropriate opportunity thanks were accorded to the Entertainment Committee and to those who had contributed in other ways to the pleasures of the occasion, and an appeal was made to the chemists present, who might feel warmed to the point of a philanthropic impulse, to express it in a contribution to the Benevolent Fund of the Pharmaceutical Society.

HARROGATE AND DISTRICT PHARMACEUTICAL ASSOCIATION.

ORDINARY MEETING.

Friday, January 8, 1904, at the Salisbury Hotel, Harrogate, Mr. Eynon in the chair.

The Medicine Stamp Difficulty.

Mr. Handford introduced the subject of the medicine stamp regulations, and a general discussion ensued. The present uncertainty in regard to the matter was greatly deplored, and regret was expressed that no particulars had been given as to the result of the visit of the deputation from the Pharmaceutical Council to Somerset House. The following resolution, proposed by Mr. Walker and seconded by Mr. Weston, was passed unanimously:—

> The Harrogate and District Pharmaceutical Association wish to express their opinion that the members of the Pharmaceutical Council should make every effort to get the medicine stamp duty regulations placed on a better and clearer basis, and be as energetic as other interested bodies in their efforts to influence the Board of Inland Revenue, and safeguard the interests of the trade.

OXFORD AND DISTRICT CHEMISTS 'ASSOCIATION.

ORDINARY MEETING.

Tuesday, January 12, 1904, at the Golden Cross Hotel, Oxford, Mr. Clayton, Vice-President, in the Chair.

A lengthy discussion took place on Mr. Tocher's paper on territorial representation, and the members were unanimously of opinion that the scheme (or a modification of the same), if workable, would be beneficial to country chemists, by reason of their being represented in the Council by country members. These would naturally know more of the technicalities of business outside the metropolis. The Secretary was directed to write to this effect to the Secretary of the Federation of Local Associations.

MANCHESTER PHARMACEUTICAL ASSOCIATION.

SOIREE.

Wednesday, January 13, 1904, in the Municipal Art Gallery, Mosley Street, Manchester. For the convenience of those attending, the Corporation had extended the usual hour of closing from nine until ten o'clock. About 250 ladies and gentlemen were present, and these included many well known in the chemical and pharmaceutical circles of Manchester society. The *soirée* extended over three hours. From 7 till 7.15 the President (Mr. Geo. S. Woolley) held a reception in one of the lower galleries. Here also had been arranged a collection of microscopes and X-ray photographs, which were under the care of Messrs. Flatters and Garnett. At the opposite end of the room was the concert and entertainment platform. In a darkened room radium formed an attraction, in the hands of Mr. Kirkby. Mr. Grier also did much self-denying work in connection with Röntgen ray apparatus and radiographs, kindly lent by Messrs. Charles Midgley, Limited, and Messrs. Mottershead and Co. The primary attraction of the evening was a plentiful series of splendid lantern slides illustrative of the Canadian Rocky Mountains, the Caucasus, Norway, and the Swiss Alps in winter. These views were nearly all taken by Mr. Hermann Woolley, F.R.G.S., at various periods within the last few years, and the audience had the pleasure of hearing that gentleman's description of his travels. An excellent musical programme was rendered during the evening.

NEWCASTLE-ON-TYNE AND DISTRICT CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Wednesday, January 13, 1904. At the Hôtel Métropole, Newcastle-on-Tyne, the President, Mr. Foggin, in the chair.

Mr. G. F. Merson, F.C.S., opened a discussion on

Territorial Representation.

He quoted liberally from published reports, and gave a brief and concise *résumé* of the paper which was read by Mr. J. F. Tocher, F.I.C., at Bristol, before the delegates of the annual meeting of the Federation of Local Pharmaceutical Associations. He discussed the salient points of similar schemes, together with criticisms, which have appeared from time to time since then. Mr. Merson concluded by proposing the following:—

> That this meeting of the Newcastle-on-Tyne Chemists' Association, representing a large area in the North-East of England, is of opinion that a scheme of territorial representation—such as that proposed by Mr. J. F. Tocher, in the paper read before the delegates to the annual meeting of the Federation of the Local Pharmaceutical Associations, at Bristol—would be preferable to the present method by which members of the Pharmaceutical Council are elected, and would tend to stimulate interest in the work of the Pharmaceutical Society; but considers the present is not an opportune moment to push the scheme forward.

Mr. C. Ridley seconded the motion, and an animated discussion followed, which was taken part in by the President, Messrs. Gibson, T. Maltby Clague, Gilderdale, R. Wright, Buckley, Kerse, and others.

Eventually the resolution was carried by a considerable majority, and the meeting terminated.

LONDON CHEMISTS' ASSOCIATION.
(NORTH LONDON BRANCH.)

ORDINARY MEETING.

Thursday, January 14, 1904, at Messrs. Idris and Co.'s premises, Camden Town, the PRESIDENT, Mr. T. H. W. Idris, in the chair. There was a fairly good attendance.

The SECRETARY, Mr. R. B. Betty, stated that the forthcoming dinner in connection with the London Chemists' Association was being organised with a view to the promotion of the interests of the Pharmacy Bill.

Chemists' Assistants—The Outdoor System.

The SECRETARY, in the absence of Mr. C. E. Pickering, through illness, read a paper on "Chemists' Assistants" by that gentleman, in which he depicted the lot of an "indoor" assistant, and stated that the life of such an assistant was not always as comfortable as it might be. He believed that the "outdoor" system was much better, and that in future that system would come to the front. If the stores, with their "cut" prices, could afford to pay their assistants sufficient to live on under the outdoor system, he did not see why chemists could not.

In the course of the discussion which followed, the general opinion seemed to be that the life of the average "indoor" assistant was not so uncomfortable as it was sometimes said to be.

Photographic Apparatus.

Mr. V. H. C. BASKIN then read a paper dealing with photographic apparatus, and gave a practical demonstration showing the uses of hand and stand cameras of various kinds.

Co-operative Buying.

The SECRETARY introduced the subject of co-operative buying, and after some discussion it was thought advisable to postpone any decision as to the desirability of organising a scheme till a future meeting, when the matter could be thoroughly gone into.

LEGAL INTELLIGENCE.

Pharmacy Act, 1868.

Prosecution at Bradford Under Section 15.

Pharmaceutical Society v. Ullathorne.

On Tuesday, January 12, 1904, at the Bradford County Court, before his Honour, Judge Bompas, K.C., the Pharmaceutical Society sought to recover two penalties of £5 each from William Ullathorne, assistant to Mr. George Brook Parker, in respect of two sales of scheduled poisons. Mr. Beldon (Messrs. Beldon and Ackroyd) appeared for the Pharmaceutical Society, and the defendant appeared in person.

Mr. Beldon, in opening the case, said this was rather an aggravated case, for the reason that the defendant had previously committed a similar offence in March, 1902, upon which he, or his master for him, had paid the penalty without the matter coming into Court. The defendant had been in the service of Mr. George Brook Parker, who was a chemist, and had three shops, one in Leeds Road, Bradford, one in Barkerend Road, Bradford, and one at Cleckheaton, where the defendant was employed. At each of these three shops Parker kept an unqualified assistant, and each of these three unqualified assistants had committed an offence in the shape of the sale of scheduled poisons to an agent of the Pharmaceutical Society, and applications had been made for penalties. The other two cases were to have come on in the ordinary course for hearing in that Court that day—the cases of Graham and Saunders—but in these two cases penalties had been paid. He did not know for what reason it was that Ullathorne's case had not been dealt with in the same way as the rest. With regard to one of the offences charged against Ullathorne, it would perhaps be suggested that it was not a sale of poison, but a gift of poison to the agent of the Society; but, even if the circumstances were as he understood would be suggested, it simply meant that this man knew perfectly well that he was committing an offence in what he did, and was simply making a colourable endeavour to evade the consequences of his act. What took place was that the agent of the Society called at the shop and purchased three-pennyworth of nitre, for which, with the bottle, he paid 3½d., and then asked for two-pennyworth of laudanum, the charge for which, with the bottle, was 2½d., and paid a total of 6d. to the defendant, who observed that he was charging the 6d. for the sweet nitre and was giving him the laudanum. On the second occasion no question of that kind arose, because he was asked for some precipitate powder, and said that he did not keep it, and then he supplied the laudanum separately upon being asked for it. With regard to the analysis, he would produce, as was usual in these cases, the certificate of the analyst, and the defendant had written a letter, which he (Mr. Beldon) should put in, saying that he admitted that the bottles in question, which he had sold to the agent, did contain poison within the meaning of the Pharmacy Act. The effect of putting in the analysis, of course, was to save the cost of the Society's analyst attending the Court. Practically, he thought, Ullathorne would admit that he had committed the two offences, subject to what he (Mr. Beldon) had already stated in regard to the first of these offences; and then there might be raised a question as to his paying in instalments. His Honour had power to order payment by instalments; but he wished to observe, with regard to that in the case of a man carrying on three shops systematically with unqualified assistants—which meant that he was committing breaches of the law practically every day—if any credit was to be given to the penalised unqualified assistant, this credit should be given by the master and not by the Society, and, therefore, he suggested that the order should be made for satisfaction of the penalty in one sum, and the master should either have the money to find or risk the loss of his assistant by his refusing to work under such conditions. That was the only way in which the Society could have any hope of being able to put a stop to these offences.

His Honour asked the defendant if he admitted the offences.

Ullathorne replied that he did not intend selling the poison, and did not think he had sold it. He thought he had given it willingly. He did not think he had done anything wrong in either case. He had not made a practice of selling laudanum, though the stuff was in the shop. Upon the other occasion when he had to pay a penalty, it was not laudanum that he sold, but a "patent medicine," and he did not know that at any time since then he had willingly sold any poison.

Mr. Harry Moon, clerk to the Registrar, proved the previous penalty against Ullathorne, and the payment of penalties within the last few days by two other assistants of Mr. Parker. He also proved the authority for the proceedings, and that the name of Ullathorne did not appear on the Register.

Arthur Foulds, inquiry agent, of Manchester, gave evidence that he went to Parker's shop in Cleckheaton on September 24, and found the defendant alone in the shop. He asked for an ounce of sweet nitre, and asked how much it was. The defendant said it was 3½d. He then asked him for two-pennyworth of laudanum, and asked him how much that was with the bottle, and the defendant replied that it was 2½d., and 6d. altogether, and added, "But I will charge you 6d. for the sweet nitre and give you the laudanum." He paid the 6d. and came away. On Tuesday, October 13, he visited the shop again, and found the defendant there alone. He asked for two-pennyworth of laudanum, and asked him how much it was with the bottle. The defendant replied that it was 2½d., and he paid that. He also asked him for a pennyworth of white precipitate powder, and he said he did not keep it.

The defendant said that the first time Foulds came he brought a two-drachm bottle and put it on to the counter, and asked for a pennyworth, and the bottle had a label on with the name of another chemist in Cleckheaton. He also asked for Winslow's Syrup.

The witness Foulds denied that any such transaction took place.

His Honour: I must give judgment for the two penalties. (To Mr. Beldon): Do you wish me to give it in any special form?

Mr. Beldon: As a penalty, your Honour

His Honour: Do you mean to make an order for the payment of the two penalties instead of giving judgment?

Mr. Beldon: I understood that your Honour would give judgment in future as for penalties, so that we had a record upon the face of the order that it was for penalties.

His Honour: My notion was not to give judgment, but to make an order for payment of penalty.

Mr. Beldon: All the Registrar wants is that it should appear upon the face of the order that it is for penalties.

His Honour: Two penalties of £5. (To the defendant): Do you want to pay by instalments?

The Defendant: I cannot pay it at all.

His Honour: Will your master pay it?

The Defendant: It does not look as if my master intends paying anything.

His Honour: Then I think I will say one payment. He may perhaps feel more responsible for you.

Prosecution under Section 15 at Dartford.

Pharmaceutical Society v. Bishop.

On Wednesday, January 13, 1904, at the Dartford County Court, before his Honour Judge Emden, J. H. Bishop, an unqualified assistant in the employment of Mr. Sykes, at 109, West Street, Erith, was summoned for a breach of the Pharmacy Act by selling a poison, being laudanum contained in a mixture of "Laudanum and Soap Liniment."

Mr. W. H. Quarrell (of Messrs. Flux, Thompson, and Quarrell, solicitors for the Pharmaceutical Society of Great Britain) appeared for the plaintiffs. The defendant had made an admission of the claim, and had offered by letter to pay the penalty of £5 by instalments of 10s. a month, which the Society could not accept, except under the direction of the Court, the claim being for a penalty. He informed the judge that the defendant was already under Order, dated June 9, 1903, in respect of a similar penalty in another Court, which penalty was not discharged.

Mr. Quarrell also applied for the Order to be now endorsed with notice that the defendant would, unless the Order was obeyed, be held to have committed contempt of Court, and would be liable to be committed. He cited the Debtors Act, 1869, and the rules on the point, the Society intending, if necessary, to apply for attachment.

His Honour made the usual order for payment forthwith of the penalty of £5 and costs under Scale B, declining to accede to the defendant's application for leave to pay by instalments, the case appearing on the facts to be one in which the Court should only give judgment for the full amount forthwith. The Judge referred the application for indorsement of notice of attachment to the Registrar, who made the indorsement asked for.

Merchandise Marks Act.

Soda Crystals.

On Friday, January 8, 1904, at the Mansion House Police Court, London, before the Lord Mayor, Messrs. Burgoyne and Co., 18, Billiter Street, E.C., were charged, at the instance of Messrs. Brunner, Mond, and Co., Limited, on six summonses under the Merchandise Marks Acts for that the company, on October 7 and 21, and November 13, 1903, did unlawfully apply a false trade description to goods called soda crystals, and on the same date did unlawfully sell, with a false trade description, goods called soda crystals.

Mr. D. M. Kerly was counsel for the prosecution; Mr. Arthur Langridge, barrister, appeared for the defence.

Mr. Langridge said the defendants would plead guilty to the summonses for applying a false trade description to the goods and for selling the goods to which the false trade description was applied.

Mr. Kerly intimated that the prosecution did not propose to proceed on other summonses which had been taken out against the defendants, alleging that there were applied to the goods in question marks so nearly resembling the trade mark of Messrs. Brunner, Mond, and Co., Limited, as to be calculated to deceive, and those summonses were withdrawn. The case related to the question whether certain stuff called soda crystals could be honestly sold under that description. The prosecutors had ascertained that an enormous quantity of this stuff had been imported into this country, and had got into a good many hands. Soda crystals—the washing soda of commerce—consisted properly of carbonate of soda with the water of crystallisation; but in the preparation of soda crystals—for the convenience of manufacture, in order to make the crystals less sticky, so that they could be crushed and put into the drying machine more conveniently—a very small percentage, which in honest manufacture was never more than 2 per cent.—in his clients' case 1 per cent.—of sulphate of soda was added. A practice had grown up of adulterating soda crystals—carbonate of soda—with sulphate of soda, the obvious advantage of that being that soda crystals cost £4 10s. per ton, whereas sulphate of soda only cost £1 16s. It had been discovered that a number of manufacturers had been putting on the market what was described as sulphate of soda, made up in soda form. Sulphate of soda was useless for washing purposes. Messrs. Burgoyne and Co. had been sending out to the trade letters asking for a trial order for their No. 1 quality soda crystals, and stating that the War Office and Admiralty used their soda, and it had passed their tests satisfactorily. A Mr. Drake ordered a ton of the goods from Messrs. Burgoyne and Co., and they were forwarded in bags marked B. M. C. on the outside. Mr. Drake sent the goods on to Messrs. Brunner, Mond, and Co., Limited, who caused them to be analysed, and it was found that instead of containing 98 or 99 per cent. of carbonate of soda, they contained 9 to 10 per cent., and they contained not less than 91 per cent. of Glauber's salt in the form of crystals.

Mr. Gordon Salaman, analytical chemist, who, with other chemists, made an analysis of the goods, was then called, and stated the result of the analysis.

Mr. Kerly said his clients' object was attained by the defendants' plea of guilty to the summonses for applying the false trade description to the goods, and selling the goods to which the false trade description was applied. The prosecutors, therefore, did not propose to proceed on the other summonses, although they might have cause of complaint in regard to the letters B. M. C. being placed on the bags containing the goods, and they would not offer any evidence on those summonses. He asked the Lord Mayor to make an order for the destruction of four tons of the goods which were in the possession or under the control of the defendants.

Mr. Langridge, for the defence, said that Mr. Burgoyne had only been in the trade since last May, and had only dealt in these goods to a very small extent. There were, no doubt, many manufacturers who had been importing and selling these goods to a large extent. The goods were imported from Belgium, and they were bought on a representation from the seller that they contained 80 to 85 per cent. of carbonate of soda. Mr. Burgoyne had no dealing with the goods except to deliver them, and he thoroughly relied on the seller's representation. No one was more astounded than Mr. Burgoyne when he discovered that he had been imposed on and deceived. He had been brought into the matter through no fault of his own, he having relied upon his suppliers. He had ceased to supply goods got from these manufacturers. Counsel suggested that the justice of the case would be met by merely a nominal penalty. He asked the Lord Mayor not to make an order for the destruction of the three or four tons of the goods which were in the possession or under the control of the defendants.

Mr. Kerly said that if an order for the destruction of the goods was made the prosecution would not ask for a severe penalty.

Mr. Langridge said that the goods were obviously Glauber's salt, and they could be sold as Glauber's salt. It was a pity that goods which were saleable, and which were an object of merchandise and could be honestly sold, should be destroyed, merely because the defendants had inadvertently committed an offence against the Act of Parliament.

The Lord Mayor remarked that Messrs. Burgoyne, if they had taken the trouble to analyse the material, would very soon have found out that a fraud had been perpetrated upon them. However, as the prosecutors did not press for a heavy penalty, he should only impose upon the defendants a penalty of £5 on each of the six summonses—£30 in all. He should not make an order for the four tons to be destroyed, as he did not see any necessity for it.

The prosecution did not ask for costs.

The Lord Mayor said he took it that the persons who supplied the goods to Mr. Burgoyne would hold Mr. Burgoyne harmless in the matter.

Dentists Act.

"Evading the Act."

On Friday, January 8, 1904, at Bow Street Police Court, London, Mr. Fenwick delivered a considered judgment in the case of John Panhaus, of Gower Street, who had been summoned by the British Dental Association for using a description wrongly implying that he was a person specially qualified to practise dentistry.

The defendant acted as the sole director of the "Dental Institute, Limited," in Gower Street. Those words appeared on the door-plate, and also in an advertisement as to dentistry inserted by the defendant in a German paper published in London.

For the defence, it was stated that the defendant was a qualified dentist abroad, and that he told all the customers he saw at the Institute that he had no English qualification. It was urged, moreover, that the advertisement was inserted and the business carried on by the Institute, or company, who could not, in the language of the Act, be "a person specially qualified to practise dentistry."

In giving his judgment, Mr. Fenwick said it was perfectly clear that the defendant was not a qualified and registered person within the meaning of the Dentists Act of 1878. It was equally clear that he practised dentistry at the Institute, which appeared to have been carried on for his sole profit. He quite agreed with the contention that a company could not be a person properly qualified to practise dentistry. He had no doubt that the defendant himself knew that he was not properly qualified to act as a dentist, and that he registered the company for the purpose of evading the Act. The words "Dental Institute" on the door-plate and in the advertisement clearly implied that the persons using them were specially qualified to practise dentistry, and the defendant must pay fines and costs amounting to £14 1s. The magistrate consented to state a case if he should be requested to do so.

Medical Acts.

A Disregistered Practitioner.

On Friday, January 8, 1904, at the West London Police Court, James Charles Ady, a coloured man, carrying on a medical practice at 95, Wardo Avenue, Fulham, was summoned under the Medical Acts of 1858 and 1886 for unlawfully using the description of "Doctor," "L.R.C.P.," "L.R.C.S. Edin., 1878."

Defendant held the degrees of L.R.C.P. and L.R.C.S. Edin. in 1878, and down to 1896 his name duly appeared on the Medical Register. Towards the end of 1895 the Medical Council decided to strike his name off the register for "infamous conduct." In January, 1898, he was convicted at the Central Criminal Court, and sentenced to seven years' penal servitude. In April, 1903, he was released on ticket-of-leave. Recently it came to the knowledge of Chief Inspector Leach that the defendant had set up as a medical practitioner at Fulham, and the officer communicated with the Medical Defence Union.

Thomas William Tyrell, clerk to Messrs. Hempson, solicitors, of King Street, Cheapside, stated that he visited the house in Wardo Avenue, on November 16, 18, 23, and 29. He was shown into a room fitted as a surgery, and the defendant, who announced himself as Dr. Ady, examined him and wrote a certificate. Witness added that he received another certificate, on a subsequent occasion, and some bottles of medicine, one of which—a lotion—contained a poison, and was unlabelled. The defendant warned him to be careful about the lotion, but he did not tell him it was poison.

The Magistrate imposed a penalty of £20, with ten guineas costs, or two months' imprisonment with hard labour.

Sale of Food and Drugs Acts.

Camphorated Oil and Sweet Spirit of Nitre.

On Wednesday, January 6, 1904, at Rochdale, James Hannah, 41, Milkstone Road, Rochdale, was summoned for selling 8 oz. of camphorated oil not of the nature, quality, and substance demanded. He was also accused of selling 8 oz. of sweet nitre not of the nature, quality, and substance demanded.

The Town Clerk, who prosecuted, said Mr. Whiteley visited the defendant's shop and asked to be served with 8 oz. of camphorated oil. The defendant handed the oil to him, and he paid 1s. 4d. for it. The Defendant said, "It is not 'B.P.'" The sample was found to be deficient in camphor to the extent of 11 per cent.

The Defendant said he prepared the camphorated oil himself, and he could have staked his life that it was correct. He told the inspector before the latter paid him that he had put "Not 'B.P.'" on the bottle to protect himself; it was impossible to keep the liquid without its evaporating. The magistrates inflicted a fine of 5s. and costs.

In the second case the Town Clerk stated that the analysis showed a deficiency of 30 per cent. of nitrous ether. The sample contained 98·78 per cent. of alcohol and water, and only 1·22 per cent. of nitrous ether.

Mr. T. Stenhouse, borough analyst, questioned by the defendant, admitted that sweet nitre would decompose, but added that in a properly corked bottle the amount decomposed would be infinitesimal.

As that fact was not stated on the analyst's certificate, the case was dismissed.

Lime Water.

On Tuesday, January 12, 1904, at Greenwich Police Court, Charles Garrett Willsher, chemist, of 70, Perry Vale, Forest Hill, was summoned by the Lewisham Borough Council for selling lime water which contained 171 per cent. more (*sic*) calcium hydrate than is permitted by the standard of the British Pharmacopœia.

Mr. Templer L. Down, who supported the summons, said this was a different case to a milk-seller having an excess of cream. In the latter case no harm would arise, but in this instance it was necessary that the proper quantity of lime should be in the water, and doctors prescribed accordingly.

Mr. Kirby, who defended, said that if just sufficient lime were used to comply with the requirements of the British Pharmacopœia, evaporation would reduce the strength. There was no more lime used than would allow for deterioration.

Mr. W. Johnston, pharmaceutical chemist, who was called as an expert, stated that the effect of an excess of lime would not be injurious, as its effects were so gradual. Lime water was used to produce and nourish bone, and to check diarrhœa. Witness added that a bottle of lime water such as defendant sold would go three times as far as the ordinary lime water, and it would not be injurious to give a child 171 per cent. more lime than a doctor ordered. It would soon be found out if too much were given.

The Magistrate (Mr. Baggallay), addressing the witness, said he supposed witness would expect to find out by an experiment on the children if the chemist had given too much. How would he like to have a pill 171 per cent. stronger than the doctor ordered?

Mr. Johnston did not think the case was analogous, for the effect of lime water was so gradual.

His Worship said it was "really too ridiculous." A fine of £3 and costs was imposed.

James Thomas, another chemist, of Sydenham Road, Sydenham, was fined 40s. and costs for selling lime water containing a deficiency of 34 per cent. of calcium hydrate.

High Court of Justice—Chancery Division.

A "Koko" Action.

On Wednesday, January 13, 1904, before Mr. Justice Farwell. The action relates to "Koko for the Hair," a preparation widely advertised, and it is brought to restrain the defendants, or each of them, or each of their servants and agents (*a*) from passing off, or enabling or assisting others to pass off, any preparation for the human hair, or similar preparation for the plaintiffs' preparation; and (*b*) from selling or offering or exposing or advertising for sale, or procuring to be sold or otherwise disposing of any preparations for the human hair or any similar preparations not of the plaintiffs' manufacture, under or by means of the name "Koko for the Hair," or under or by means of any other name which by reason of colourable imitation of the name of "Koko for the Hair" or otherwise is calculated to lead to the belief that such preparation is the preparation of the plaintiffs; (*c*) from in any manner infringing the plaintiffs' registered trade marks, numbered respectively 67,932, Class 3, and 67,933, Class 48. The action further asks for the delivery up or, at the plaintiffs' option, the destruction of all labels, etc., in the possession or under the power or control of the defendants. There is also a claim for damages or an account of profits, and for costs.

Mr. Upjohn, K.C., led the case for the plaintiffs, and Mr. Jenkins, K.C., appeared for the defence.

The defendants, it would appear, rely upon an agreement, of date March 15, 1888, between one of the defendants, Cadman, of the one part, and Major Seth W. Herrick and the defendant Lunger of the other part (then trading as the Koko Maricopas Co.), by which it was agreed that the said Herrick and Lunger should, for a consideration named in the agreement, communicate to the defendant Cadman a full and unreserved knowledge of the ingredients in their various proportions, strength and means employed to produce "Koko for the Hair," and that the trade marks registered and then exclusively owned by the said S. W. Herrick and the defendant Lunger, on signing of the agreement, should, subject to a condition therein mentioned, become the property of the said Cadman for all and every country, principality, and power—Great Britain, Ireland, the United States of America, Canada, Australia, Mexico, and South and Central American States excepted; meaning thereby that the secret mode, means, or principle employed should be communicated as therein before mentioned to the defendant Cadman, so that the defendant might use and employ, in such a manner as he, his heirs, executors, administrators or assigns might from time to time decide, the trade marks for "Koko for the Hair" above indicated by number and class.

In giving judgment, Mr. Justice Farwell held that the agreement of 1888 between Herrick, Lunger, and Cadman was a subsisting agreement; that it was a contractible agreement with the grantors; but was not enforcible against their assignee (the present company). The injunction asked for by the plaintiff company must be granted, but was not to prejudice the rights which the defendants had under the agreement of 1888 to sell "Koko for the Hair" in any country other than those prohibited by the agreement, or to manufacture the preparation in this country.

High Court of Justice—King's Bench Division.

Arsenic in Beer.

On Tuesday, January 12, 1904, before Mr. Justice Walton, Messrs. Bostock and Co., Limited, of Liverpool, brought an action against Messrs. John Nicholson and Sons, Limited, of the Hunslet Chemical Works, Hunslet, Leeds, to recover damages for wrongfully supplying to the plaintiffs sulphuric acid not made from brimstone and not a pure commercial acid, but containing arsenic, in breach of a contract to supply the plaintiffs with pure commercial sulphuric acid made from brimstone.

Mr. C. A. Russell, K.C., Mr. Danckwerts, K.C., Mr. Rhodes, and Mr. Rogerson appeared for the plaintiffs; Sir E. Clarke, K.C., Mr. Tindal Atkinson, K.C., Mr. M. Lush, K.C., and Mr. Simpson for the defendants.

Mr. Russell said that the plaintiff company, which was now in liquidation, carried on the business of manufacturers of brewing sugars. From March to November, 1900, the defendants delivered sulphuric acid to the plaintiffs containing considerable quantities of arsenic. The sugar, and consequently the beer, was impregnated with the arsenic, and several deaths occurred among consumers in consequence. The result to the plaintiffs was the ruin of their business; and the question in the action was to what, if any, extent the plaintiffs were entitled to hold the defendants responsible. The contract note under which deliveries were made was dated January 20, 1900, and the description in the contract note was "all the B.O.V. buyers may require to use during the year 1900." Sulphuric acid if manufactured from brimstone was not liable to the impurity of arsenic, but if manufactured from pyrites it was liable to be contaminated by arsenic. The acid originally supplied by the defendants to the plaintiffs in 1888 was a brimstone acid. Sulphuric acid was manufactured in two different strengths. The stronger was known as "double oil of vitriol," the weaker as "brown oil of vitriol," or B.O.V., which was what the plaintiffs asked for. Instead of supplying acid made from brimstone, the defendants sent acid made from pyrites. A fresh contract was not signed for the year 1899; and it was now, he believed, contended by the defendants that that made a break in the continuity of the dealings, and that they ceased to be under an obligation to deliver the acid on the old terms. The defendants contended that the contract was only for B.O.V., and that if the goods sent answered that description they were absolved. The practice in the defendants' works was to attach to the carboys free from arsenic tickets with "B.O.V." in red letters, and to those not free from arsenic "B.O.V." in black letters. They continued after March, 1900, to send the carboys with red tickets. Before March, 1900, the plaintiffs' chemist from time to time tested the acid delivered by the defendants and never discovered any arsenic. After a time he desisted from further testing it, believing it was certain to be pure. In January, 1900, the defendants were behind in their deliveries, and the plaintiffs then placed an order with another manufacturer, and their chemist did test the acid sent by him. There was therefore no negligence on his part.

At this stage the Court adjourned.

On Wednesday, January 13, Mr. Russell continued his statement, and said that two kinds of sugar were made by the plaintiffs—glucose and invert sugar. The fact that the arsenic was present in the beer was discovered by noticing a peculiar form of sickness, which was at first supposed to be due to excessive drinking. The Medical Officer of Health for Salford took steps to procure from a brewery beer which was known to have been consumed largely by some of the persons who suffered from this sickness, and an analysis showed that the sugar supplied by the plaintiffs was contaminated. As soon as the discovery was made, it, of course, became necessary for Messrs. Bostock to notify their customers of it. The result was that the brewers who had been dealing with them in many cases absolutely declined to continue doing so. The position of the brewers was one also of great difficulty, but their refusal to deal any longer with the plaintiffs compelled them to go into voluntary liquidation. The total amount of damage which the plaintiffs claimed would, if the judge found for the plaintiffs, have to be settled by an authority to be agreed on. In conclusion, the learned counsel mentioned the various heads under which the plaintiffs sought damages, including the estimated claim by the brewers of £185,000, depreciation of premises and goodwill amounting in all to nearly £300,000. He contended that there was a distinct representation by the defendants as to the quality of the acid to be supplied, and that it was to be entirely free from arsenic.

Mr. Lutze Gerken, works manager of Messrs. Bostock, described the manufacture of glucose and invert sugar from sulphuric acid and starch. The refuse was sold either as manure or for other purposes. They received about eight tons of sulphuric acid a week from Messrs. Nicholson. Sulphuric acid was only used by the plaintiffs for their manufacture of glucose. After 1897 the acid supplied by the defendants varied in colour. It was analysed by Mr. Cooke, the firm's chemist, and he reported that there was no cause for alarm.

Mr. Cooke, analytical chemist, said that, from time to time, he tested Nicholson's acid, and, three or four times a year, analysed it for arsenic. He never analysed for arsenic in 1900. He thought it unnecessary, as he had never found any, and he believed Bostock's were getting acid made from brimstone.

Mr. Tindal Atkinson cross-examined the witness as to the manufacture of sulphate of ammonia, the questions tending to show that he desired to prove that Messrs. Bostock used sulphuric acid for other purposes than for the manufacture of glucose and invert sugar for brewing purposes.

The trial was adjourned.

POISONING CASES AND INQUESTS.

The deaths from poisoning reported during the seven days ended Wednesday, January 13, 1904, numbered seventeen:—

Poison.	Accident.	Suicide.
Ammonia	1	—
Carbolic Acid	—	2
Coal Gas	1	—
Hydrochloric Acid	1	—
Hydrocyanic Acid	—	1
Laudanum	3	—
Liniment	1	—
Morphine	—	1
Narcotics	2	—
Oxalic Acid	—	3
Ptomaine	1	—
Total	10	7

Ammonia.—The Manchester Coroner held an inquest at Manchester, on Tuesday, relative to the death of Jos. Cottrial, 55, of Boston Street, Hulme, who died from the results of ammonia, administered in mistake for medicine contained in a similar bottle.—The Coroner (Mr. E. A. Gibson) expressed the opinion that the pharmaceutical regulations had not been carried out. It was specially laid down that bottles containing poison should be distinguishable from ordinary bottles, but in this case the ammonia bottle was very similar to that which had contained the medicine. He thought the jury ought to hear what the chemist had to say on the matter. The inquiry was adjourned for the presence of the chemist, who, on being called, was asked by the Coroner if he was acquainted with the regulations with regard to selling strong poisons. He replied in the affirmative. Continuing, he said that he did not consider ammonia a strong poison, and one to which the regulations applied, though he agreed with the coroner that it would have been a very wise plan had the ammonia been put into a poison bottle. He thought it very hard lines for chemists if they had to get distinctive bottles when ammonia was sold in such small quantities as pennyworths.—The Coroner said he had never had ammonia given to him except in a distinctive bottle, and he thought that if it was not compulsory chemists, in the interests of the public, should use distinctive bottles.—The jury returned the following verdict: "Death due to pneumonia, accelerated by ammonia taken by mistake."

Carbolic Acid.—A servant girl of Malton committed suicide with this poison. A verdict of suicide was returned at an inquest held at Denton's Green, on Tuesday, on the body of

John Nichol (50), who died from carbolic acid poisoning, self-administered.

Coal Gas.—A gas escape at Stockton-on-Tees resulted in a fatality.

Hydrochloric Acid.—On Tuesday Wm. Henry Goodwin (30) died from the results of taking hydrochloric acid in mistake for whisky. He was a native of Southport, where he died.

Hydrocyanic Acid.—This poison was taken by Dr. Hassard, of Mountain Ash, near Cardiff, with suicidal intent.

Laudanum.—An Edinburgh man died from the effects of this drug, which also caused the death of a three months' old child at Berwick, to whom a few drops were administered; a veterinary surgeon of Tarbert took laudanum in mistake for wine and died; and a Derby man also met his death through laudanum.

Liniment.—At Saltley a man took a dose of liniment in mistake for medicine and died.

Morphine.—"Suicide during temporary insanity" was the verdict of the coroner's jury, who inquired into the cause of the death of Maud Winifred Pittway, aged 29, the widow of a medical man of Maida Vale. Morphine was the poison self-administered with suicidal intent.

Narcotics.—Two children of Strabane died from the effects of narcotic poison. The exact poison is not stated.

Oxalic Acid.—A Preston baker committed suicide with this poison. A young actress of Pimlico took her life with the same poison, as did also a man of Kent.

Ptomaine.—Ptomaine poisoning was the cause of the death of a Codnor Park woman.

Attempts at Suicide.—Several attempts at suicide are reported, the poisons used being laudanum, chloroform, liniment (?), spirit of salt, and carbolic acid.

Inquest.—At the adjourned inquest held at the St. Pancras Coroner's Court, on the body of Francis Duffield, the jury returned a verdict of "Death by misadventure," and added a rider that having heard the evidence that camphor-ammonia was obtained at an oil-shop, and supplied in a bottle usually used to contain spirits, they recommended that on all such bottles a label should be affixed. A short report of the evidence given at the opening of the inquest appeared in the Journal of last week at page 40.

COMPANY INTELLIGENCE.

Scrubb and Co., Limited.—Capital, £166,000, in £1 shares. Objects: To acquire the business carried on at Guildford Street, Lambeth Road, S.E., and elsewhere under the style of Scrubb and Co., to adopt an agreement with A. S. Albert, G. B. Francis, and W. H. Francis of the one part and the company of the other part, to manufacture and deal in Scrubb's cloudy fluid ammonia, etc.

Liebig's Extract of Meat Co., Limited.—It has been resolved to declare a half-yearly interim dividend of 5 per cent. (the same as last year) on the ordinary shares of this company, being 5s. per share, free of income-tax, payable on and after February 15 next, to the proprietors of ordinary shares registered on the company's books on February 8 and to holders of ordinary share warrants to bearer.

SCHOOL AND COLLEGE NEWS.

Westminster College of Chemistry.—The annual dinner of the Westminster College of Chemistry and Pharmacy has been fixed for Monday, February 15. Particulars will be given later.

School of Pharmacy Students' Association.—A meeting of the above Association will be held in the Lecture Theatre, 17, Bloomsbury Square, London, W.C., on Friday, January 22, 1904, at 5.30 p.m., when a paper will be read on "Surface Tension," by Miss Elsie S. Hooper.

MISCELLANEOUS NEWS.

Divisional Secretaries and other Members of the Pharmaceutical Society are requested to assist the Editor by sending local newspapers containing items of interest to chemists and druggists.

Royal Photographic Society.—At a lantern meeting of the Royal Photographic Society, to be held on Tuesday, January 19, at 66, Russell Square, at 8 p.m., Mr. Douglas English, B.A., will give an address entitled "Camera Notes on Natural History."

Theft from a Derby Chemist.—An errand boy was charged, before the Derby Magistrates on Monday, with stealing £5 10s. from the till of Mr. William Elmitt, chemist, in whose employ he had been. The magistrates bound the boy over, under the First Offenders Act, to come up for judgment when called upon.

Grocers and Medicine Stamp Duty.—At a recent meeting of the Committee of the Bradford Grocers' Association a member stated that he had compiled a list of dutiable and non-dutiable titles for medicines. The President intimated that a list was being obtained from the Commissioners of Inland Revenue by the Parliamentary Committee of the Grocers' Federation, and that list would be the best to depend upon.

Manchester Chamber of Commerce.—At a special meeting of the Manchester Chamber of Commerce, on Tuesday, Mr. Ivan Levinstein (the Chairman) resigned his position in consequence of having been appointed on the Tariff Commission as an expert in the dyeing industry. His resignation was accepted, and Sir Frank Forbes Adam, C.I.E., was appointed in his stead for the remainder of the year, which ends next month.

A Dishonest Traveller.—At Leeds Quarter Sessions on January 7, Chas. Robert Greenwood, traveller, employed by Messrs. Wilkinson and Simpson, Limited, wholesale druggists, of Newcastle-on-Tyne, was indicted for embezzling sums of money amounting to £12. For the prosecution, Mr. Felix Palmer said that during the past fifteen months prisoner's defalcations amounted to between £390 and £400. A sentence of four months' imprisonment was passed.

Cough Mixture and Coupons.—A man named J. H. Todd, described as a chemist, Aberdare, was summoned, on Tuesday, for illegally holding a lottery. Defendant had advertised in a local paper that every box of cough mixture sold by him contained a coupon entitling the buyer to participate in a drawing for sums of money. One of the police witnesses produced a cheque for £1 10s., which he had won at the drawing. A fine of £1 and costs was imposed.

Pharmacy-breaker Punished.—At the West Riding Quarter Sessions, on January 8, a Wombwell miner, named Herbert Vickers, was indicted for breaking into the premises of Mr. John Thos. Lambert, chemist and druggist, of Wombwell, on Christmas Day. A resident of the neighbourhood heard the sound of glass breaking, and on investigating the matter he discovered prisoner in the shop. He was arrested, and on his house being searched the proceeds of two other cases of shop-breaking were discovered. Prisoner was sentenced to six months' hard labour.

Pepper Adulteration.—Since the price of pepper rose in 1899, analyses by county analysts have shown continuous adulteration with husk. Last year the number of samples analysed up to June 30 was 204, of which sixteen contained bleached husk. At the Manchester County Police Court, on Tuesday, a grocer named Harrison Rutter, of Moss Side, was summoned by the Lancashire County Council for selling six ounces of white pepper adulterated with 15 per cent. of husk, but the Somerset House analysis only gave about 5 per cent. of adulteration. The case was adjourned.

Window Smashing at a Pharmacy.—At Gloucestershire Quarter Sessions, on January 6, James Allen was indicted for wilfully damaging a plate-glass window at the premises of Mr. John Percival Hawley, chemist and druggist, of High Street, Winchcomb, on December 5. The evidence showed that whilst under the influence of drink the accused went up to the window at Mr. Hawley's pharmacy and kicked a large sheet of plate-glass to pieces, doing damage to the extent of between £10 and £15. Accused pleaded not guilty, but was found guilty, and sentenced to twenty-one days' hard labour.

A Congress of Botanists.—An International Congress of Botanists will be held in Vienna in June of next year, with the object of settling, if possible, the important question of botanical nomenclature. Representatives from the leading botanical societies and establishments of the world are, a *Scotsman* correspondent states, expected to attend, and it has been arranged that, in connection with the Congress, a meeting shall take place of representatives of agricultural experimental stations. Tours will be organised to Dalmatia, Bosnia, and Herzegovina, and to other districts which have a special interest for botanists.

More Aggressive.—The question of the respective spheres of the grocer and chemist was raised at a meeting of the Rhondda Grocers' Association on Tuesday, the 5th inst. A discussion arose as to whether it was worth while for a grocer to take out a "patent medicine" licence. One speaker said that chemists were now selling tea, and it behoved grocers to be more aggressive and to "go in for patent medicines." Another gentleman remarked that in many cases there was a fair margin of profit, and strongly advised grocers to deal in patent medicines. It was a ready-money business, and they should cultivate it.

Protest Against Municipal Trading.—At the meeting of the Burnley Town Council, on January 6, a letter was received from the Burnley and District Chemists' Association, stating that that body had considered the question of municipal trading, more especially with regard to the Health Committee of the Corporation selling various commodities to all applicants, such as disinfecting powder and certain soaps, and the purchasing of feeding-bottles. The Association had passed a resolution of protest, with a request that the various Corporation Committees be called upon to explain such trading. It was added in the letter that there was no necessity for the Corporation to undertake such business. It was injurious to the chemists of the town, whose margin of profit was less than other tradesmen's. The Council referred the letter to the Health Committee for consideration.

Defrauding a Chemist.—At Northampton Quarter Sessions, on Friday, Geo. Sexton, horse trainer, and Chas. Wm. Jackson, clerk, both of Walthamstow, were indicted for conspiring together to defraud certain tradesmen of the town and district, including Mr. Ebenezer Scott, chemist and druggist, of 31, Tavistock Street, Bedford. The prisoners called upon tradesmen and solicited advertisements for blotting pads and portfolios, which, it was represented, would be displayed at hotels. Mr. Scott gave an advertisement and paid £2 5s. for it. Sexton told him that if he paid cash his would be the only chemist's business in Bedford advertised on the pads. Evidence was given proving that the whole business was a fraud. Sexton was sentenced to three years' penal servitude, to be followed by two years' police supervision, and Jackson to fifteen months' hard labour, with two years' police supervision.

The Benevolent Fund.—The Secretary of the Pharmaceutical Society has this week issued to the Divisional Secretaries a letter drawing attention afresh to the great need of further support for the Benevolent Fund. In March next nearly £500 will become payable to the annuitants. The sum of £750 must be received within the next few weeks to meet that liability and to clear the Fund of debt, irrespective of the applications now in hand, and others which will certainly be received during the next two months. Owing to the generosity of a member of the Council, the applications immediately under consideration at the last meeting of the Committee were dealt with, but the debt still remains, and it is necessary for some vigorous effort to be made at once to create greater interest in the Fund if the good work being done is to be efficiently continued. Divisional Secretaries are being asked to make a direct appeal to every registered person in their respective districts to become a subscriber, or to increase the amount of his contribution.

Herbert Spencer's Will.—Mr. Herbert Spencer's will has just been made public. The great philosopher directed that on the completion of certain specified work in connection with his books his trustees should sell by auction the copyrights, stereotype plates, and stock of the whole body of them, and sell in the usual way the shares, stocks, funds, securities, and other property held by them as trustees, and "give the sum realised in equal parts to the Geological Society, the Geographical Society, the Linnean Society, the Anthropological Institute, the Zoological Society, the Entomological Society, the Astronomical Society, the Mathematical Sciety, the Physical Society, the Chemical Society, the Royal Institution, and the British Association, or such of them as shall then be in existence, and shall accept the gift upon the condition in each case that the sum received shall, within five years from the date of payment, be spent by the governing body for the purchase or enlargement of premises, or for books or apparatus, or collections, or for furniture or repairs, or for equipment, or for travellers and donations of instruments of research, but in no way or degree for purposes of endowment."

Wholesale Firms and Medicine Stamp Duty.—At the annual dinner of the Burnley Grocers' Association, on Tuesday last, Alderman Parkinson, J.P., head of the firm of Messrs. Parkinson and Son, wholesale chemists, Burnley, spoke at length on the subject of medicine stamp duty. He and Mr. Wren, of London, had decided, he said, some time ago, that it would be well to form an association, and they formed one of between forty and fifty wholesale druggists in England. They did him the honour of putting him (Alderman Parkinson) in as President, and Mr. Wren the Secretary. The Association gave them *carte blanche* with Somerset House to do what they could to get the law altered. They consulted a solicitor in London, who said they could not do anything, as the Inland Revenue department was justified. They consulted Mr. Asquith and Mr. Bonsey, counsel, and both were dead against them. Then they reported to their Association, who said they must not give up. They began to read up the Acts of 1802 and 1812, and found in the former a clause which had apparently escaped the attention of Somerset House. They got up a case on this which they presented to Somerset House, and, after considering it five weeks, they sent the Society a letter to say that they would not now consider that the mention of an organ made an article liable to duty. They could now use the name of an organ, but not of an ailment. Their whole request was not granted, but it left it open to them to go again to Somerset House. But they found they could accommodate themselves to the change. There were not more than two or three articles in the whole range of things that affected grocers but could have the name changed so as to be non-liable in future; but there were two or three which they could not get a suitable name for, and these must be held in abeyance for the present. Wholesale firms now could not make up proprietary articles for chemists without liability unless each member of the wholesale firm was a chemist. What was to become of the limited companies such as Evans, of Liverpool? Alderman Parkinson pointed out that a patent medicine licence did not permit them to sell anything unless it had a stamp except pure drugs.

PERSONALITIES, BUSINESS CHANGES, ETC.

Mr. Ivan Levinstein, formerly President of the Society of Chemical Industry, has been appointed on Mr. Chamberlain's Commission.

Mr. S. B. Boulton, chairman of Messrs. Burt, Boulton, and Haywood, Limited, chemical manufacturers, will sit on Mr. Chamberlain's Tariff Commission.

Dr. Robert McLeod Watson has taken the shop recently vacated by Dr. Nesbit, Cathcart Road, Govanhill, and intends carrying it on as a high-class pharmacy.

Mr. W. J. Goulding, of the firm of Messrs. W. and H. M. Goulding, Limited, chemical manure manufacturers, is one of the members of the new Tariff Commission.

Mr. Armstrong, chemist, Maybole, has bought the business of Mr. W. S. Adams, Cathcart Road, Govanhill. Mr. Adams intends to devote his whole time to his newly-acquired pharmacy at Battlefield Road, Langside.

Bro. Samuel Baker, S.W., was unanimously elected W.M. for the ensuing year at the monthly meeting of the Lodge of Union, No. 38, Chichester, on January 7. The installation takes place on Thursday, February 4.

Mr. Ernest G. Swift has been appointed general manager in America of the firm of Messrs. Parke, Davis and Co., in succession to the late Mr. William M. Warren. Mr. Swift has up to now been general manager of the Canadian laboratory.

Mr. Jonathan Hutchinson, after several years' service a Editor of *The Polyclinic,* has ceded his place to Dr. C. O. Hawthorne, and the current number is the first issue since Mr. Hutchinson's resignation. Dr. Hawthorne has been closely associated with *The Polyclinic* since its foundation. He is the son of the late Mr. Hawthorne, chemist and druggist, of Stafford, and his own name also appears on the Register of Chemists and Druggists.

MARKET REPORT.

The quotations given below are the lowest prompt cash prices for bulk quantities, to which other charges have to be added. It is important that this should be borne in mind in making any comparison between the prices quoted and those of the wholesale drug trade.

General Markets.

London, Thursday, January 14, 1904.

On the Drug and Chemical Markets there is little indication of improvement. During the week things have been very dull indeed. It might have been expected that the existing war scare would have caused a flutter in Japanese products, but so far this hardly seems to be the case to any considerable extent. Camphor stands out from all the rest as the most interesting item of the week. German makers withdrew from the market a short time ago, and English refiners are unwilling sellers. It is reported that sales of Camphor have been made at a few pence above the listed prices; in fact, 2s. 9d. is talked of. The general feeling is that a further advance at an early date is not improbable. According to a telegram received from Smyrna this morning, 200 cases of Opium have been sold at an advance of 3d. It is further reported that, owing to a severe frost, there are at present no sellers; for Persian 11s. 6d. has been paid. Mr. A. S. Pickering points out that the exports of Quicksilver are the smallest since 1880. Several causes have combined to bring about this state of affairs, the most important perhaps being that the Chinese market has not been buying to the same extent. Whether the Heathen Chinee is losing his partiality for vermilion-coloured junks or whether he is getting his mercury elsewhere is immaterial, but the fact remains he is importing less through England.

ALUM.—Lump, £5 12s. 6d.; Ground, £6 2s. 6d.

ARROWROOT.—300 barrels were disposed of at the Spice sales on Wednesday, St. Vincent fair manufacturing at 1¾d. to 1⅞d. Bermuda fetched 1s. 5d.

BICARBONATE OF SODA.—£7 5s. per ton, landed.

BISMUTH.—Carbonate, 8s. 1d.; Subnitrate, 7s. 4d.

BLEACHING POWDER.—English, £4 15s. to £4 17s. 6d.

BORAX.—In powder, 14s. 6d.; crystals, 13s. 6d.

BORACIC ACID.—Powder, £1 4s. 6d.

BROMIDES, IODIDES, and **MERCURIALS** are unchanged.

CAMPHOR.—The market is exceedingly firm. The German makers have withdrawn from the market, and English refiners are not at all eager sellers. The quotations given last week no longer hold good, and no definite price can now be stated. Sales have already been made at a few pence in advance of last week's prices.

CAPSICUMS—Fetched lower prices at the Spice sales on Wednesday.

CARBOLIC ACID.—Crystals, 39° to 40°, 5d.; crude 60°, 1s. 6½d.

CASTOR OIL.—Belgian 1sts, £20 2s. 6d.

CLOVES.—In the private market, Zanzibar are rather quieter at steady rates. At the Spice sales, over 100 bales "sea-damaged" sold at 7¾d. to 8d.

COCAINE.—11s. 9d. to 12s. 3d. per oz. for the hydrochloride, according to quantity.

COCOANUT OIL.—Cochin is dearer at £30 spot.

CODEINE.—8s. 11d. per oz. for the pure alkaloid.

COD-LIVER OIL—For fair Norwegian, 300s. is now quoted.

CINCHONA BARK.—The following is abstracted from the report issued by C. F. Böhringer und Söhne (agents in England, Messrs. David Thom, Domeier and Co., Limited):—

Imports into the United Kingdom:—

1903	3,343,000 lb.
1902	4,447,000 ,,
1901	4,765,000 ,,
1900	4,604,000 ,,

Exports from Java:—

1903	13,725,000	Amsterdam lb.
1902	13,346,000	,, ,,
1901	12,799,000	,, ,,
1900	10,780,000	,, ,,

Stocks of Bark (First Hands) on December 31:—

	In London.	In Amsterdam.
1903	5,458	16,072 packages
1902	8,080	16,952 ,,
1901	10,298	13,100 ,,
1900	9,621	13,775 ,,

Range of Unit at the London Bark Sales:—

1903	1¼d.	to	1½d.	per lb.
1902	1⅛d.	,,	1¾d.	,,
1901	1⅜d.	,,	2d.	,,
1900	$1\frac{1}{16}$d.	,,	2½d.	,,

Range of Unit at the Amsterdam Sales:—

1903	6·20	to	8·20	cents per ½-kilo.
1902	4·90	,,	8·65	,, ,,
1901	7·25	,,	10·45	,, ,,
1900	8	,,	12·25	,, ,,

CREAM OF TARTAR.—98 per cent. foreign powder, 87s.

GINGER.—200 bags Cochin sold without reserve at the Spice sales. Privately, Cochin is firmer and Jamaica dull at unchanged prices.

GLYCERIN.—£68 per ton.

MENTHOL.—18s. 6d. to 19s., according to quantity, is quoted. Some holders, however, are asking less.

MORPHINE—Is unchanged at 4s. 6d. per oz. for the hydrochloride.

NUTMEGS.—There was no demand at Wednesday's sales.

OPIUM.—A Smyrna telegram has been received to-day, stating that over 200 cases have been sold at 3d. advance. Owing to a severe frost there are at present no sellers. For Persian, 11s. 6d. has been paid. The alkaloids of this drug remain unchanged.

OXALIC ACID.—2⅝d., delivered free London.

PEPPER—Is rather easier. White pepper is firm.

PEPPERMINT OIL.—There is a better feeling in Japan Oil. American brands are unchanged and quiet, the normal price for H.G.H. is 14s. 9d.

PIMENTO—Was quiet, but steady, at Wednesday's sales A few bags of fair sold at 4d.

PODOPHYLLIN—Is dearer, owing to the scarcity of the rhizome. For B.P. as much as 13s. has been asked.

QUICKSILVER.—The following is abstracted from the report of Mr. Alexander S. Pickering:—

	Imports. Bottles.	Exports. Bottles.	Price. Highest. £	s.	d.	Lowest. £	s.	d.
1903	34,886	18,816	8	15	0	8	5	0
1902	33,192	19,519	8	17	6	8	14	6
1901	35,341	26,863	9	2	6	8	17	6
1900	32,725	25,869	9	12	6	9	2	6
1899	51,696	32,239	9	12	6	7	15	0
1898	54.563	34.014	7	15	0	6	16	0
1897	54,734	30,768	7	7	6	6	9	6
1896	47,159	35,211	7	6	0	6	5	6
1895	49,654	36,827	7	8	6	6	7	6
1894	51,251	43,598	6	14	0	5	7	0

Estimated Consumption United Kingdom 13,000 bottles per annum.

QUININE.—The market remains quiet, and prices are unchanged. The following statistics are of interest:—

Quinine (estimated contents) in the Bark sold at the Twelve Public Bark Sales in London:—

1903	about 1,150,000 oz.
1902	,, 1,400,000 ,,
1901	,, 1,800,000 ,,
1900	,, 2,000,000 ,,

Quinine (estimated contents) in the Bark sold at Amsterdam:—

1903	about 11,680,000 oz.
1902	,, 11,300,000 ,,
1901	,, 11,500,000 ,,
1900	,, 8,800,000 ,,

Stock of Quinine in London:—

December 31, 1903	3,266,000 oz.
,, 1902	3,594,000 ,,
,, 1901	3,557,000 ,,
,, 1900	3,356,000 ,,

SHELLAC.—The market remains quiet; there is no appreciable change in price.

SULPHATE OF AMMONIA—Is firm at £12 17s. 6d.

TARTARIC ACID.—English, 1s. 1½d.

TURPENTINE—Is active; American spot, 46s.

VANILLA.—The first auctions of the year commenced on Wednesday. The supply was very large, and the sales were not completed until to-day. The offerings consisted of 2,710 tins, and the prices obtained were rather easier.

Dates fixed for this year's Bark Sales.—In London: January 19, February 16, March 15, April 19, May 10, June 14, July 13, August 9, September 13, October 18, November 15, December 6. In Amsterdam: January 28, March 3, April 7, May 19, June 23, July 28, September 1, October 6, November 10, December 15.

TRADE NOTES.

Glutolin and Cutoline are two handy little articles. The former, which has already been noticed in these columns, is used to take the rough edge off collars worn by people with a tender skin, and the latter is an excellent styptic prepared in the form of a stick, which ought to be welcomed by shavers. The firm of Dr. Max Lehman and Co., 68, Basinghall Street, London, E.C., will be pleased to supply further particulars.

Robinson's "Stag Brand" Surgical Dressings.—The various grades of cotton wools, lints, gauzes, and bandages manufactured by Messrs. Robinson and Sons, Limited, of Chesterfield, and 55, Fann Street, London, E.C., meet every requirement as to quality and price. The approaching winter season calls to mind the suitability of Robinson's Original Gamgee Tissue for making chest protectors. It is well understood that the name "Gamgee Tissue" is a registered trade mark, and its use is exclusively the right of Messrs. Robinson and Sons, Limited. Robinson's Gamgee Tissue may be procured from any wholesale house in three qualities. It is not generally known that the original packages of Gamgee Tissue may be had in 8 oz., 4 oz., 2 oz., and 1 oz. sizes. Among the "Stag Brand" Antiseptic Dressings may be specially noted the non-dusting and non-irritating double cyanide gauze, containing 3 per cent. of Lister's cyanide of zinc and mercury. Another excellent preparation is the "Stag Brand" Boric Wool. This contains 40 per cent. boric acid, and is perfectly soft and free from felting or hardness. A second quality of the same strength is put up for hospital use and for veterinary practice. Messrs. Robinson and Sons, Limited, being manufacturers of cardboard boxes and folding cases, are in a position to pack all kinds of surgical dressings in any style that may be required, thus rolls of gauze, etc., are put up in paper, round cases or cartons, and flat folded gauze in paper, or if folded zigzag folding enables just as much gauze to be lifted out as may be required without removing the whole of the gauze from the box.

LETTERS TO THE EDITOR.

The Benevolent Fund.

Two thoughts have pressed themselves upon my mind since reading the report of the last meeting of the Council in this week's Journal, in special reference to the desirability of a far wider extension of membership, and also the real pleasure which a large proportion of the trade deprive themselves of by failing to recognise the privilege (as well as duty) of holding forth a helping hand to those who in the hard battle of life have had to succumb to circumstances over which, in most cases, they have had no control. With respect to both of these points it seems to me that our Divisional Secretaries might, by a little self-sacrifice, exercise an immense influence for good on their constituencies. As regards the first, a friendly line addressed to each chemist in their respective districts, drawing attention to the new and greatly improved Calendar as specially useful and interesting, might be the means of extending its circulation, and its perusal very probably have the desirable result of leading many outsiders to become members. Again, as regards the Benevolent Fund, it is my firm belief that much ignorance still exists among many of our friends as to the working of this Fund beyond the election of annuitants; also as to the desirability of contributions being sent as subscriptions instead of as donations; the former directly assisting present expenditure rather than invested capital, as was fully explained by the Vice-President at the Council meeting. A personal call and a quiet talk over the subject would, I believe, not only produce a more friendly feeling among ourselves, but, in many instances, bring about a willing response in an annual subscription. Once again, I feel sure we must all appreciate and be thankful that we have amongst us such generous friends as Mr. Carteighe, able and willing to come to the rescue in the hour of need; but we are not all in that happy position as regards means, however willing we might otherwise be. As an old subscriber to this Fund, may I make a practical suggestion which might in very many cases be easily carried out, to the great advantage of the Fund, viz., that every present subscriber shall at once increase his subscription by at least one-half, and that every chemist and associate on the Register shall at once become a subscriber according to his means? Enclosing my additional guinea for the current year,

January 13, 1904. "A Willing Helper" (269/37).

Normal Saline Solution.

The above is not often in request, but, in view of the ignorance prevailing among chemists and their assistants as to what is meant, it is advisable to inform dispensers that a normal saline solution is a 0·6 per cent., or 6 parts per 1,000 (roughly, 1 drachm in 1 pint), of pure sodium chloride in sterilised distilled water, and is generally used for injecting directly into the blood to replace the serum which has drained away through excessive hæmorrhage. Two cases have come to my knowledge within the last two years where the normal volumetric (N/1 NaCl) has been supplied, and in one case the patient died; but I have not been able to ascertain the result in the other case. This week a junior assistant, recalling the commotion caused some eighteen months ago in a West-end establishment by an urgent order for half a gallon of normal saline solution, asked me to explain and give the strength of this solution, and I have not the least doubt, judging from what he told me, that the volumetric solution, which is nearly ten times too strong, was supplied. It is young qualified assistants who are most likely to commit this error, for most chemists of the old school have probably never had anything to do with volumetric solutions, which are all Greek to them. It is a solution which is generally wanted in a violent hurry, and adrenalin chloride solution is generally ordered at the same time. Mistakes of this sort are not likely to inspire the confidence of the medical profession in chemists generally.

London, W., January 9, 1904. T. H. H. Francis.

The Determination of Mercury.

It was not my pleasure to be present at the last meeting of the London section of the Society of Chemical Industry, when a paper was communicated by Mr. Bernard F. Howard on "The Rapid Estimation of Mercury by Means of Hypophosphorous Acid." While refraining from all attempts at judging the degree of originality that properly belongs to it, I am much surprised at the absence of any mention of a paper on the same subject published in the *Pharmaceutical Journal* ([4], **11**, 575) by Mr. C. T. Bennett. It seems probable that the author has overlooked Mr. Bennett's communication, as the two processes are practically identical in their main features, their application, and in the results obtained by each. It is many years since I first used the converse of the process for the determination of hypophosphorous acid, and two years since I first employed Bennett's process by means of a simple adaptation for determining quantitatively the mercury in mercuric oleate with satisfactory results. My present object is simply to confirm the usefulness and accuracy of Bennett's process, and not in the smallest degree to detract from the credit and merit that attaches to Mr. Howard's communication.

London, January 11, 1904. W. A. H. Naylor.

Disinfecting Apparatus for Large Rooms.

I have been asked by the sanitary inspector to the Rural District Council if I could ascertain the best way to disinfect large rooms, such as a public assembly room or a school, by means of a spray. He does not want to use a hand bellows to work it, and says there is an arrangement called "Chloros," which is worked by compressed air or hydraulic means. I think the authorities will not allow him to go to the expense of one of this make, and he wants to know if there is any other make or an arrangement for the same purpose. I should be greatly obliged if any reader could tell me of one, or an address where I could get any information on the subject.

January 11, 1904. "J. S." (104/28).

A Disclaimer.

Our attention has been called to a report of police-court proceedings under the Merchandise Marks Act in respect of adulterated soda crystals supplied by a Messrs. Burgoyne and Co., and as we are commonly known in the trade and medical profession as Burgoyne and Co. we ask the favour of your inserting this letter, disclaiming any connection with the house or proceedings in question.

Burgoyne, Burbidges and Co.
Chas. P. Winchester.

London, January 11, 1904.

A Thermometer Wanted.

Can any reader tell me where to obtain Hebe's Maximal-Minuten Thermometer, with aluminium scale inside bulb? These are in use at consumption sanatoriums—at one in Wales to my knowledge. I think they must be obtainable somewhere in this country.

January 9, 1904. "J. B." (104/25).

REPLIES TO CORRESPONDENTS.

Labels (E. B.—104/30).—Both the labels you send will incur liability.

Minor Examination Fee (L. A.—104/31).—The fee payable will be three guineas.

Pill (J. J.—104/26).—There does not appear to be any reason why you should not use the name.

Sparrow Oil (G. H. D.—104/29).—Presumably, oil of swallows, otherwise green oil of elder, was meant.

Food (C. G. C.—104/22).—We are not aware of any reason why you should not label the food as you state.

Drug Vendor (T. B. C.—258/25).—You should send further particulars of the case to the Registrar of the Pharmaceutical Society, to whom your letter has been handed.

Argyrol, etc. (G. W. L.—103/32).—(1) We have no information on the subject. (2) It is a mineral substance of the nature of asphaltum. (3) Address this inquiry to the Registrar of the Pharmaceutical Society.

Medicine at Half-Price (P. H. P.—104/20).—We do not see that anything can be done to prevent the appearance of such advertisements. The name of the advertiser does not appear on the Register of Chemists and Druggists.

Moustache (C. E. G.—103/15).—Try the following lotion:—listering liquid, 1 fl. drachm; glycerin, 1 fl. drachm; alcohol (90 per cent.), sufficient to make 1 fl. ounce. Apply a little at bedtime, taking care to avoid blistering the lip.

Formulary (J. A. B.—248/34).—We hope to be able to deliver copies to subscribers by the end of this month. The printers are working both day and night on the job, but the work of producing so large a book is necessarily very heavy.

BIRTH.

Clapham.—On January 10, at the Medical Hall, Farnham, Surrey, the wife of F. G. Clapham (late of Cape Town), of a son.

DEATHS.

Beadel.—On January 7, Alfred Beadel, Chemist and Druggist Liverpool. Aged 72.

Hick.—On January 2, Thomas Hick, Chemist and Druggist, York. Aged 73.

Hodgson.—On January 11, Sir Edward Matthew Hodgson Pharmaceutical Chemist (Ireland), Dublin. Sir Edward, who was a native of Manchester, was the senior partner of the firm of Mimaster, Hodgson and Co., wholesale druggists, Dublin, and was Treasurer of the Pharmaceutical Society of Ireland from its foundation in 1875, till 1895. He received the honour of knighthood from Lord Cadogan in 1900. He was for many years Chairman of the Rathmines and Rathgar Urban District Council, and was a member of the Dublin County Council.

Leytham.—On January 7, Thomas Arthur Leytham, Chemist and Druggist, Shifnal, formerly of Carlisle. Aged 35.

Macfarlane.—On January 7, Patrick Macfarlane, Chemist and Druggist, Alexandria. Aged 82. Mr. Macfarlane, who for over forty years conducted the principal chemist and druggist business at Alexandria, was brother of the late Mr. Donald Macfarlane, assistant professor of natural philosophy in Glasgow University.

Ward.—On January 9, William Ward, Pharmaceutical Chemist, Sheffield. Aged 65. Mr. Ward, who had been a member of the Pharmaceutical Society since 1869, was a Fellow of the Chemical Society, and one of the oldest and most respected chemists in Sheffield. He was apprenticed to the late Mr. Salisbury, pharmaceutical chemist, Sheffield Moor, with whom he stayed after completing his apprenticeship, and eventually succeeded to the business, which he conducted for thirty-six years. In 1865 Mr. Ward—who, on commencing in business on his own account, had joined the local association of chemists and druggists—was appointed its president. Up to that period the local pharmacists had held aloof from active co-operation, but a conference was held, and it was unanimously resolved to merge the old association into a new one—the Sheffield Pharmaceutical and Chemical Society. Mr. Ward was a member of the Council of the Sheffield Society for thirty-six years, and was twice the president. In 1868 he delivered a course of lectures on the "Chemistry of the British Pharmacopœia" before the students of the Society and, as these were given gratuitously, the students presented him with an illuminated address. In 1879, when the British Pharmaceutical Conference was held in Sheffield, Mr. Ward acted as chairman of the local committee. He succeeded Mr. Edward Wilson as honorary local secretary of the Pharmaceutical Society of Great Britain, and about five years ago, after holding that office twenty-one years, the local pharmacists presented him with his portrait in acknowledgment of his services. He retired from business four years ago. Mr. Ward for fourteen years held the position of honorary secretary of the Sheffield Sanitary Association for the Better Housing of the Poor. He was also one of the overseers for Ecclesall township, and twice chairman of the board, and served on the board of directors of the Jessop Hospital for Women. The funeral took place at the General Cemetery, Sheffield, on Tuesday afternoon, the Sheffield Pharmaceutical and Chemical Society being represented by Mr. G. T. W. Newsholme (President), Councillor A. R. Fox (Vice-President), Mr. George Squire (Treasurer), Mr. J. H. Bradwall, and Mr. Job Preston.

Calendar for the Week (January 17-23, 1904).

Days of		Events of the Week.	Sun	
M	W		Rises	Sets.
17	S	**Second Sunday after Epiphany.** ●New Moon, 3.47 p.m.	8.1	4.19
18	M		8.0	4.20
19	Tu	East Sussex Pharmaceutical Association, at 8.30 p.m.	7.59	4.22
20	W	Pharm. Soc. G.B., 17, Bloomsbury Square, London, at 3 p.m.—Educational Meeting. Pharm. Soc. G.B., 36, York Place, Edinburgh, at 8.30 p.m.—Evening Meeting. Chemical Society, Burlington House, Piccadilly, W., at 5.30 p.m. Chemists' Ball, London, at 9 p.m. Leeds and District Chemists' Association.—Social Evening and Dance. Sheffield Pharmaceutical Society, at 9 p.m.	7.57	4.24
21	Th	Bournemouth Pharmaceutical Association, at 8.30 p.m. Chemists' Assistants' Association, 73, Newman Street, W., at 8.30 p.m. Glasgow and West of Scotland Pharmaceutical Association, at 9.15 p.m. Linnean Society of London, at 8 p.m. Midland Pharmaceutical Association, Vestry Hall, Islington Row, Birmingham.—Annual Ball. Nottingham and Notts Chemists' Association, Victoria Station Hotel, at 7.30 p.m.—Annual Dinner.	7.56	4.26
22	F	Poor-law Dispensers' Association, Surrey House, Victoria Embankment, W.C., at 8 p.m.—"Glass and Glass Bottles," by G. W. Lindsay. School of Pharmacy Students' Association," at 5.30 p.m.—"Surface Tension," by Miss Elsie S. Hooper.	7.55	4.28
23	S	Football.—Metros *v.* London College.	7.54	4.30

LETTERS, NEWSPAPERS, QUERIES, and other COMMUNICATIONS have been received from Messrs. Assinder, Baker, Booth, Bostock, Braithwaite, Brown, Buckley, Butler, Chadwick, Cheyne, Clapham, Cleland, Cluett, Coleman, Coles, Cook, Crake, Crooke, Currie, Davidge, Davidson, Davies, Dier, Dolbear, Dowdy, Evans, Eyre, Francis, Gadd, Garnett, Golightly, Gorton, Harrison, Herd, Hickin, Johnson, Johnston, Jones, Jowett, Juleff, Kelf, Latreille, Laurie, Lawton, Lloyd, Lunan, Macintyre, Manifold, Maries, Martindale, Mumford, Naylor, Nunn, Orton, Palmer, Pennock, Philpot, Prosser, Reade, Roberts, Rose, Routley, Sankey, Smith, Stanley, Storrin, Town, Turner, Turtle, White, Wild, Williams, Wyatt, Young.

Telegrams "PHARMACEUTICAL JOURNAL LONDON"
Established 1841
The Pharmaceutical Journal
A WEEKLY NEWSPAPER
FOR CHEMISTS AND DRUGGISTS.
The Oldest Organ of the Drug Trade in Great Britain.
Editorial Offices,
17, Bloomsbury Square, London, W.C.
Publishing & Advertising Offices, 8 Serle Street, London W.C.
Telephones "Editor", 3226 Gerrard: "Publishers" 370 Holborn.

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The Journal circulates widely in the United Kingdom, France, Germany, Austria, Italy, Russia, Switzerland, Canada, the United States, South America, India, Australasia, South Africa, etc. It is supplied regularly to the majority of the Chemists and Druggists in business in England, Scotland, and Wales, and to the whole of the members of the Pharmaceutical Society of Great Britain. Orders for Advertisements or for Copies of the Journal should be addressed to the Publishers, 8, Serle Street, London, W.C.

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Annual Subscription, 20s. Post Free; Single Copies, 4d. each, by Post, 4½d.

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CHANGES OF ADDRESS.

Instructions from Members of the Pharmaceutical Society, with eference to the transmission of the Journal, should be sent to the SECRETARY, 17, Bloomsbury Square, London, W.C.

The Pharmaceutical Journal Office.

Thursday, January 21, 1904.

Some Interesting Topics have been discussed by various local associations during the week.

For Selling Cream of Tartar containing 4 grains of lead per lb., a limited company, trading as druggists at Forest Gate, has been fined £10 with £7 costs.

Searl's Test for Yeast Extract is criticised in this issue by Mr. H. E. Davies, M.A., B.Sc., F.I.C. Mr. Searl's reply to the criticism also appears this week.

It Has Been Decided by the Supreme Court of New South Wales that importers of "patent" medicines will have to pay two duties thereon, a duty on the container and a duty on the contents.

At an Evening Meeting of the Pharmaceutical Society in Edinburgh held on Wednesday, practical papers on pharmaceutical subjects were contributed by Messrs. D. B. Dott, Peter Boa, and T. S. Barrie.

It is with Deep Regret that the death of Mr. John Taylor, of Bolton, is recorded in this issue. Mr. Taylor, who was first elected to the Council of the Pharmaceutical Society in 1900, passed away yesterday.

The Chemists' Ball passed off very successfully last night; the President of the Pharmaceutical Society was in the chair at the supper. About 275 tickets were sold, and in all probability the Treasurer will be able to make an acceptable contribution to the Benevolent Fund.

The "Arsenic in Beer" case still occupies the attention of Mr. Justice Bruce; this, it will be remembered, is an action in which a firm of Liverpool brewers seeks to recover damages from a Leeds firm of manufacturing chemists for wrongfully supplying sulphuric acid contaminated with arsenic.

A Copy of the 'P.J.F.' will be supplied, after publication, to any member of the Pharmaceutical Society who has paid his subscription for the current year, and sends a postal order for half the published price, *i.e.*, for 10s. 6d. This reduction does not apply to student-associates of the Society, nor to non-members, and, as only a limited number of copies of the book remain to be sold, applications should be addressed to the Manager without delay.

For Selling Quinine Wine deficient in quinine to the Stockport Co-operative Society, a Bolton firm of chemical manufacturers has been fined 40s. with costs. Defendants were also summoned for giving a false warranty by means of the label on the bottle, which stated that the wine was "Genuine B.P.," but this charge was withdrawn. The deficiency in one case was to the extent of 10 grains of quinine hydrochloride to the pint, and in the second instance 3·3 grains; for the defence, it was urged that the deficiency might be caused by precipitation.

A Cambridge Bootmaker has successfully sued the proprietors of Doan's Backache Pills and Ointment for libel. The libel complained of was contained in an unauthorised testimonial appearing in the local paper; according to this article plaintiff had suffered from a skin disease which Doan's Ointment had cured after the doctor had failed; on the other hand, the bootmaker asserted, and the jury appeared to believe him, that he had never had a skin disease and had never used Doan's Ointment.

At a Meeting held at 17, Bloomsbury Square, London, yesterday afternoon, Dr. R. B. Wild, Leech Professor of Materia Medica in the Victoria University of Manchester, read a paper in which he explained a workable scheme whereby a pharmacist might take a degree. He advocated a three years' course of study (after apprenticeship), the Minor Examination to be passed at the end of the second year and the B.Sc. degree taken at the end of the third year. A paper on "A Concurrent Curriculum" was also contributed by Mr. H. Wippell Gadd.

The Camphor Market is in a very excited condition; manufacturers are only selling small quantities from stock at very considerably advanced prices. Makers of quinine have reduced the price of the sulphate 1d. per oz. Quotations for chloroform (pure B.P.) come 2d. per lb. lower, but the quality obtained from ethylic alcohol remains unchanged. Santonin is dearer. The fortnightly Drug Auctions were held to-day.

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THE PHARMACIST—GRADUATE.

The address delivered on Wednesday, at a meeting of the Pharmaceutical Society, in London, by Professor Robert B. Wild, deserves close consideration by all who are concerned for the future of pharmacy, no less than by the educational experts within the ranks of pharmacists. Professor Wild, as an "outsider," has arrived at two conclusions, which had already been come to by many within the gates:—(1) That pharmacy is not prospering as it should; (2) that the only chance of improvement, whether in emoluments or status, is offered by the higher scientific education of pharmacists. The reasons adduced for the first conclusion include, as Professor Wild points out, not only the invasions of grocers, limited companies, and medical men on the province of the chemist and druggist, but also the great changes in the conditions of medical practice, brought about by isolation hospitals, sanatoria, and the various surgical and electrical methods of treatment which have to some extent replaced treatment by drugs. Professor Wild thinks that the intellectual superiority of the pharmacist of thirty years ago over the public of that time has not been fully maintained, and he suggests that a university degree, which is understood by the public to be the hallmark of high educational training, should be the reward of the best men among those who practise pharmacy. From this much of the address under consideration no pharmacist is likely to differ. Universal approbation, again, may be expected for the postulate that a university degree should not be a qualification for registration as a chemist and druggist. There can be no question in the minds of those who are aware of the disadvantages of more than one portal to one profession that the testing of a candidate's fitness to practise pharmacy should remain in the hands of the Pharmaceutical Society. This much, indeed, has been an essential feature of almost all the schemes of educational reform which have at one time or another been propounded.

In certain respects Professor WILD's scheme differs from that put forward two years ago by Mr. TOCHER (*P.J.* [4], **14**, 188). One such point is that while the latter suggested a special degree in pharmacy, Professor WILD does not go further than to advocate that a pharmaceutical subject might be in the list of optional subjects to be taken, in addition to a purely scientific subject at the final examination for a degree. A degree so obtained would be a science degree that might be expected with certainty to confer greater prestige than a "B.Sc. Pharm." "I hope," says the Professor, "to be able to make a beginning in this direction in the Victoria University of Manchester, so that an honours degree can be taken in chemistry, with a specialisation in pharmaceutical chemistry, and botany as the additional subject." By reference to the text of the paper (see page 78) it will be seen that the scheme provides for a three years' apprenticeship, followed by a three years' course at a college recognised by the university selected. It is suggested that the preliminary examination at the university should be passed at sixteen years of age, and that apprenticeship should then begin. Some exception may be taken to the proposal that "general" education should finish at the age of sixteen. For although many youths now are apprenticed to pharmacy at a still earlier age, anyone who wishes to take an honourable position as a graduate of a reputable university might conceivably have cause for regret in after life if his study of the classics, of modern languages, or mathematics had been given up too early. Professor WILD suggests further that the first year at college should be devoted to the study of the subjects usual for an intermediate science examination, and also a "limited amount of general biology, to include elementary animal physiology." The second year would be given to pharmaceutical subjects, and elementary pharmacology, and, at its conclusion, the qualifying examination of the Pharmaceutical Society might be taken. In the third and last year at college, the student, who would now be twenty-one or twenty-two years of age, would give his attention to such subjects as advanced organic chemistry, quantitative analysis, histology of drugs, toxicology, and bacteriology.

For his thoughtful scheme, summarised very briefly above, Professor WILD deserves hearty thanks and congratulations. He has done his best to prove that a pharmacist bachelor-of-science, who had qualified and graduated under such conditions, would be thoroughly competent to act as a public analyst, to undertake many clinical and pathological investigations for medical men, and to compete on more nearly equal terms with the foreign manufacturers whose "fine products" are so obtrusively familiar. Chemists and druggists of the old school may be opposed to anything which would tend, as Professor WILD's scheme does undeniably tend, in the direction of the establishment of a pharmacist *de la première classe*, with a probable further loss of status for the non-graduate member of the craft. Pharmaceutical chemists may be disposed to regret the practical sacrifice of the Major Examination which such a scheme must almost inevitably involve. Medical men of the less intelligent type may object, as the Society of Apothecaries objected successfully in 1852, to provision being made for the instruction of the pharmacist in pharmacology and toxicology. On this point, however, Professor WILD insists. He remarks that some knowledge on the part of the pharmacist of the action of poisonous drugs on the system is essential for the safety of the public, and he wisely adds that such knowledge would tend to check indiscriminate prescribing, since "with knowledge comes responsibility, and it is usually ignorance which is prone to rashness." There may, as we have said, be objections to part of Professor WILD's proposals; but all who hope to see the British pharmacist obtain in the future the rewards to which his training and responsibility entitle him, will recognise, in this latest contribution to a difficult problem, a scheme which will bear thoughtful scrutiny. Moreover, in outline at least, it is certainly not outside the range of what may be expected to happen if the facilities offered by the authorities of the Victoria University of Manchester be taken advantage of by those who, after all, are most closely affected—the young pharmacists and pharmaceutical students of to-day.

THE WEATHER AND PHARMACISTS' INVENTIONS.

WHAT is certainly an interesting, and what might reasonably be expected to prove a profitable sideline has for some time past occupied the attention of a Canterbury chemist. The 'Report and Transactions' of the East Kent Scientific and Natural History Society for the year ending September 30, 1903, which has just been issued, contains detailed descriptions of a new series of self-recording weather instruments associated with the name of Mr. A. LANDER, of the firm of Messrs. LANDER AND SMITH, chemists and opticians, of Canterbury. The series comprises several appliances. "The DAWSON-LANDER Sunshine Recorder" is an instrument designed to record actual sunshine, and not merely the heat rays, or the ultra-violet or chemical rays emitted by the sun. If the sunlight is sufficiently strong to cast a distinct shadow this instrument will record it. LANDER's Anemometer is an instrument in which the wind, blowing against the open mouth of a tube, which is kept facing the wind, exerts a pressure which is conducted down a tube or series of tubes fixed together by unions, and thence by means of a mercury point and flexible tubing to the interior of a thin bellows so delicately counterpoised that it rises with the faintest breeze. Attached are contrivances by means of which changes can be recorded. A simple recording glycerin barometer, a new thermograph, and a hydrometer and rain gauge are other instruments described in detail in the report of the Society's transactions. Readers interested in this branch of science would do well to read the full descriptions which appear with diagrams in 'The Report,' published by the *Kentish*

Gazette and Canterbury Press, Canterbury. Mr. LANDER displays some of these instruments in the pharmacy window, and there is little doubt that such an exhibit would attract a deal of attention. Whilst on the subject of the weather, it is pleasing to note that JAMES SIX (not James VI.), a Canterbury chemist, made regular metereological observations in that city as far back as the year 1770. He placed thermometers in his garden, on St. Thomas's Hill, and on the top of the cathedral tower. It was he who invented and made the well-known SIX's thermometer, thousands of which are still sold and are in general use. It should be mentioned that the origin of the saying, "The weather is all at sixes and sevens," which has of late been so frequently repeated, cannot be traced to this inventor of metereological contrivances.

AUSTRALIAN DUTIES ON IMPORTED MEDICINES.

THE vagaries of the Customs House authorities in France were recently dealt with in these columns, and it would appear that a similar source of annoyance exists in an equally acute form in some of our own colonies. The Federal Customs Act has recently been described by the New South Wales Supreme Court as "extraordinary and complicated," and it would not be surprising if such a censure coming from such a source should show the Legislature that some readjustment is necessary. In accordance with a decision which this Court has just upheld, all imported "patent" medicines in bottles will have to pay two duties, namely, a duty on the bottle and a duty on its contents. In this respect Australian law and the law in France are at one; in fact, in the latter country the authorities often display more concern about the containers than they do about the article itself. It would seem that the Federal Customs have recently become more alert, for they now open packages to find out whether they contain component parts of articles subject to duty. Until quite recently the authorities had been in the habit of admitting duty-free separate parts of such goods, with the result that some merchants imported their wares in separate parts, and fixed them together on arrival. One of the most trivial, but none the less annoying regulations, is that which insists on the payment of duty on price-lists sent to Australia, and it is to be hoped that this point will receive consideration when the proposed readjustment of Australian Customs duties becomes an actual fact. The question as to whether goods should be charged duty on their invoiced price or on their retail value is just now occupying the attention of the magistrates. In this connection a case was heard in the Sydney police court in November last, in which "DOAN's Backache Pills" were concerned, and is of especial interest to manufacturers of proprietary medicines. According to a report of the evidence tendered, a consignment of "DOAN's Backache Pills" was invoiced at £308 6s. 8d., and the importer claimed that duty should be charged on this amount. On the other hand, the Customs authorities asserted that, after boxing and packing, the retail value of these same pills was £10,070, and on this sum they claimed duty. The final decision will possibly be only of temporary interest, for it is quite within the region of possibility that the whole tariff system will before long be reconstructed.

OF PUBLISHED TESTIMONIALS.

IN glancing over the "medical" testimonials which appear daily in the press, it is difficult to avoid being struck by the fact that as a general rule the address of the person describing, for the benefit of fellow sufferers, the manner whereby his disease was cured, is in some place far away from the district in which the paper circulates. And it is only natural to suppose that a person detailing the symptoms of some malignant disease from which he has suffered, would not wish to have his affairs discussed in the neighbourhood where he was known. A testimonial in a local paper, from a local man, is therefore doubly valuable, for when the cured patient lives in an unheared-of quarter of an unknown town, one is rather apt to say with the old lady, "it was a long way off, and a long while ago; let's hope it is'na true." But there is another side of the question to consider; what effect will such revelations have on the one bearing testimony? SAMUEL BLACKTOP, a bootmaker, plying his awl and thread within the learned precincts of Cambridge, found it had a very bad effect. For whereas he earned £2 a week by mending boots, before his name appeared as an advertisement for somebody's ointment, his takings dwindled down to 7s. 6d. after the advertisement appeared. Customers evidently feared lest the germs of eczema might come home in their shoes. There were other interesting circumstances connected with Mr. BLACKTOP's case which decided him to bring an action for libel against the proprietors of a certain nostrum. The alleged libel was contained in an advertisement published in a local paper, and it consisted of a testimonial which purported to have been obtained from the plaintiff after he had used DOAN's Ointment.

The tale as told in the local press was drawn up in the usual and now familiar style. Mr. BLACKTOP, ran the story, had for many years been troubled with an irritating skin disease, and, like the woman in the Scriptures, he had suffered many things of many physicians, and had spent all that he had and was nothing bettered, but rather grew worse, or words to that effect. One day, however, he heard of "DOAN's Ointment," and was persuaded to procure a box from a drug store; after a few applications his irritation vanished, and within a short period his complexion was like unto that of a new-born child. This, in brief, is the purport of the narrative which BLACKTOP was alleged to have related to a representative who called on him. On his oath in the witness-box, however, he told quite another story, and one which the jury evidently believed, for they awarded him £20 damages. He had never had a skin disease in his life, he asserted, nor had he ever told anyone he had had a skin disease. Moreover, he had never used DOAN's Ointment. It is not for a moment suggested that the proprietors of this particular medicine deliberately manufactured such a statement as BLACKTOP was alleged to have made to their representative, but it is quite evident that there was something, to say the least of it, very unbusinesslike and careless in the way certain little details were overlooked.

That manufacturers of proprietary medicines show a genuine desire to obtain true statements of fact is granted. The canvasser who goes round in search of such information is probably familiar to most pharmacists. His method is to call on a chemist with his firm's card, and offer him a sum of money if he will procure him a case which has been cured by the use of the particular nostrum in which he is interested. A more frequent way is to call directly on the patient and interview him, whilst in other instances the patient, out of gratitude for benefits received, is moved to address himself of his own free will and accord to the manufacturer of the medicine. The genuine "unsolicited" testimonial is the outcome of the latter course. But for the sake of uniformity one can readily imagine that it is convenient to group the whole under the heading "Unsolicited Testimonials," though of course reputable manufacturers would never dream of such a course. A point which had no direct bearing on the case was elicited during the trial of the Cambridge action, and is of interest. It was stated by the defence that there was what was called a free distribution of the ointment from a drug store, and the names and addresses of those who profited by this were made note of for future reference. Subsequently, it would appear, representatives from the manufacturers, armed with these names, made a round of visits, and enquired after the health of those who had been supplied with these free samples. If there were any necessity for proof, this would be sufficient to show that the manufacturers did endeavour to get facts, but did not exercise sufficient care to verify what was reported to them.

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THE NUMBERS OF RECIPES IN THE 'P.J.F.'

IT is a moot point whether chemists and druggists who have had their recipes for ailment-named preparations included in the 'Pharmaceutical Journal Formulary' can be legally compelled to indicate the registered numbers of the recipes upon their labels. But, however that may be, the numbers will be available for use in case of need. In reply to numerous inquiries on the subject, readers are informed that the arrangements for notifying the registration numbers of recipes included in the 'Pharmaceutical Journal Formulary' are now approaching completion; but, in order to facilitate matters, we are compelled to ask the senders of recipes to furnish lists of the names of all recipes submitted by them, together with a stamped and addressed envelope in each case. No time will then be lost in furnishing the numbers, though it will obviously be impossible to deal with the many thousands of recipes before the printing of the book is completed. But most subscribers will doubtless be able to trace their particular recipes readily by referring to the index of the book. It may be stated that a great deal of inconvenience and delay has been caused by the fact that, in many instances, a number of persons have sent the same recipe for a given preparation. Some confusion has also arisen owing to the apparent prevalence of the idea that each chemist and druggist must have distinct registration numbers for his preparations, even though his recipes are identical with others already published. As a consequence it has been necessary to stop the press several times in order to remove "doubles," and, in spite of every care, it is quite probable that, in certain cases, the same recipe may appear more than once. For this, however, and other possible defects, purchasers of the book must be prepared to make due allowance. In any case, those who have sent recipes for registration would do well to verify the numbers in the book, on receipt, before having fresh labels printed.

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THE PHARMACEUTICAL JOURNAL FORMULARY.

THOUGH the closing of the subscription list for the 'Pharmaceutical Journal Formulary' was announced in these columns a fortnight ago, applications are still being received for copies of the book at the reduced price. It is with considerable reluctance that we are obliged to decline to accept further orders at the special subscription price; but, in fairness to those who applied early, as well as to the persons upon whom has devolved the vast amount of detail work in connection with the distribution of the book, it has become an imperative necessity to do so. As soon, however, as all the subscription volumes have been despatched, the Manager of the *Pharmaceutical Journal* will be prepared to supply any member of the Pharmaceutical Society—who has paid his subscription for the current year and applies promptly—with a single copy of the book at half the published price. This offer is open to members only, a postal order for 10s. 6d. must be sent with each order, and not more than one copy will be supplied to any applicant. Further, as the number of copies remaining to be sold is strictly limited, no guarantee can be given that orders received for the book after the next few weeks will be executed. The subscription copies will be despatched as early as practicable, but it may be the middle of February before they are all delivered.

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JOHN TAYLOR.

WE regret to announce that on January 20, the death occurred of Mr. JOHN TAYLOR, chemist and druggist, Bolton, Lancs. Aged 47. Mr. TAYLOR, who had been a member of the Pharmaceutical Society for many years was elected to the Council of the Society in 1900, when he secured election by the narrow margin of one vote. A short time previously, in February of that year, Mr. TAYLOR read an exhaustive paper before the Manchester Pharmaceutical Association on the "Outlook in Pharmacy," which attracted a great deal of attention at the time. He was again elected to the Council in May last year by a majority of 257 votes. Unfortunately, since his election he has suffered from a very painful disease which prevented his attendance at several meetings of the Council, but his sufferings were borne with that heroic fortitude which was characteristic of the man. At the last he passed away peacefully after three days' excruciating agony. Mr. TAYLOR carried on business in his own name at Bolton from 1879 to 1902, since which time he has been a travelling representative of a well-known firm of photographic manufacturers, and had thus particularly good opportunities of getting into touch with the rank and file of retail chemists and druggists. His death will be regretted by all who knew him, for he was a loveable man of strong personality and sound common sense. Mr. TAYLOR's funeral will take place at 2 o'clock to-day (Saturday) at St. Peter's Church, Halliwell, Bolton.

ABSTRACTS—SCIENTIFIC AND TECHNICAL

A REVIEW OF CURRENT WORK IN PHARMACOPEDICS AND ALLIED SCIENCES

Solubility of Mercuric Iodide in Oils.

The choice of an oil as a solvent for mercuric iodide when it is desired to use this substance as a hypodermic injection will be facilitated by the following statement:—100 parts by measure of the following oils dissolve the annexed quantities of the salt: Castor oil, 1·90; walnut oil, 1·29; linseed oil, 1·23; cod-liver oil, 0·545; arachis oil, 0·52; olive oil, 0·45; almond oil, 0·39; vaseline oil, 0·26. The oily solutions should be filtered and sterilised at 120° C. for thirty minutes.—*Bull. de la Soc. Pharm. de Bordeaux*, 1903, 7.

Composition and Determination of Sparteine Sulphate.

C. Moureu and A. Villier find that sparteine sulphate has the constitution $C_{15}H_{26}N_2{\cdot}SO_4H_2{\cdot}5H_2O$, although when dried *in vacuo* over sulphuric acid it loses only four molecules of water. Sparteine is monobasic towards phenol-phthalein, so that the sulphate reacts towards that reagent as a monoacid salt. It is, therefore, possible to determine the amount of sparteine sulphate in aqueous solution by direct alkalimetric titration, using phenolphthalein as the indicator, 10 C.c. of N/10 NaOH solution being equivalent to 0·422 Gm., or 1/1,000 of a molecule of $C_{15}H_{26}N_2{\cdot}SO_4H_2$.—*Journ. Pharm. Chim.* [6], **12**, 545.

Sensitive Colour Reaction for Chloroform and Bromoform.

Dupouy finds that when 0·5 C.c. of a 5 per cent. alcoholic solution of thymol is treated with a drop of chloroform, a fragment of caustic potash, and boiled, that the mixture becomes yellow, then red. On adding 1 C.c. of sulphuric acid to this red solution and again heating, a very intense violet colour is obtained. If a few drops of the violet liquid be dissolved in acetic acid, a solution is obtained which gives, on spectroscopical examination, a spectrum approaching that of oxyhemoglobin, but with the bands in the green nearer to the red. In the absence of chloroform, only a slight bluish tint is produced without any specific spectrum. The reaction is sufficiently delicate to serve for the detection of chloroform in toxicological analysis in the process of Vitali, the chloroform being distilled off in a current of hydrogen. Bromoform gives a similar reaction, but iodoform affords it with less facility.—*Répertoire* [3], **15**, 349, after *Bull. Soc. Pharm. de Bordeaux*.

Effervescent Sublimate Tablets.

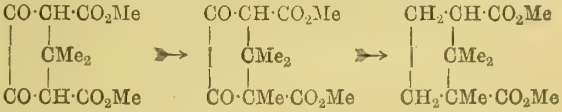
The addition of various substances to mercuric chloride to produce tablets which shall readily disintegrate in water is said to be open to several objections. The simple addition of sodium chloride does not increase the solubility of the mercuric chloride, it being merely dissolved out, leaving the corrosive sublimate undissolved. If, however, one uses the previously prepared compound, $HgCl_2{\cdot}NaCl{\cdot}1\frac{1}{2}H_2O$ for compression, then more rapid and homogeneous solution is brought about. The addition of tartaric acid and sodium bicarbonate is also open to the objection that the former reduces mercuric compounds to mercurous, and even to metallic mercury, while the latter may produce oxychloride. Freshly prepared tablets may appear satisfactory, but the objections advanced above become more manifest on keeping. The acid sulphates of potassium or sodium are not open to the objection advanced against tartaric acid, but owing to their hygroscopic nature, reaction with the bicarbonate in the tablet cannot be avoided, 'with consequent loss of effervescent properties.—*Schweiz. Woch.*, 1903, 527.

Detection of Free Mineral Acid in Vinegar.

Ganassini employs the following test to detect the presence of free mineral acid in vinegar:—To 1 C.c. of the vinegar an equal volume of 1:5 aqueous solution of potassium sulphocyanide is added, and a drop of ammonium sulphide, followed by one drop of aqueous 5 per cent. solution of ammonium molybdate. In the presence of 4 to 5 per mille of free mineral acid an intense violet colour is produced. Normal vinegar gives only a light brown colour. Another reaction is that recorded by Griggi. Antipyrine is dissolved in the vinegar to saturation, the precipitate which forms is filtered out, and a few drops of potassium sulphocyanide added to the clear filtrate. If no mineral acids be present the liquid becomes turbid, and assumes a yellow tint. In the presence of 4 to 5 per mille of free mineral acids an intensely red, wine-coloured precipitate is formed.—*Amer. Drugg.*, **43**, 176, after *Chem. Centralblatt.*

Synthesis of Camphoric Acid.

An important research has been published by Dr. Komppa, of Helsingfors, Finland, who has succeeded in producing camphoric acid by synthesis. This supplies the final step for the preparation of camphor from its elements, since the conversion of camphoric acid into camphor was accomplished by Huller some years ago. Two years ago Dr. Komppa described the synthesis of apocamphoric acid, which differs from camphoric acid only in the presence of a hydrogen atom in place of one of the methyl groups. The methyl group cannot be introduced directly into apocamphoric acid, but the diketo-apocamphoric ester can be methylated and yields a diketocamphoric acid which can be indirectly reduced to camphoric acid,



The synthetical acid is optically inactive, but proved to be identical with the known racemic form of camphoric acid. Although the correctness of Bredt's formula for camphor has been fully established by the synthesis of several of its oxidation products, the synthesis of the ketone itself has for some years been one of the most attractive problems in organic chemistry, and its solution marks a distinct step forward.—*Berichte*, through *Nature*, **69**, 259.

Formation of Camphor.

In an interesting paper, published in the *Bulletin of the College of Agriculture of Tokio*, v. 3, by H. Shirasawa, an account is given of the formation of camphor in the leaves and stem of the tree. The oil cells appear very early under the vegetative point. In the young organs the oil cells contain an ethereal oil formed in the layer called, by Tschirch, the resinogenous layer, in which drops of the oil appear. In tropical regions the oil and the resinogenous mass in that layer are thicker than in the temperate climate of Southern Europe. The oil exists in larger proportion in the old than in the young leaves. The transformation of the oil into camphor does not take place for some time after the formation of the oil. In young wood the oil is more frequently yellow than in the old wood, in which also crystals of camphor are more abundant. More colourless oil and crystals are formed in the parenchyma than in other tissues. The oil cells do not exist in the woody parts, fibrovascular bundles, nor in the epidermis, and there are more oil cells in the secondary than in the primary bark, but they are more abundant in the wood parenchyma than in other tissue. In the young pith they are numerous, but diminish in number by age. The autumn wood contains more oil than that of spring.—*Rev. des Cult. Colon.*, **13**, 369.

UNIVERSITY EDUCATION FOR PHARMACISTS.*

BY ROBERT B. WILD, M.D., M.SC., M.R.C.P.,

Leech Professor of Materia Medica and Therapeutics in the Victoria University of Manchester.

While thanking you for the honour you have conferred upon me in asking me to give an address on this important occasion, I have at the same time to confess that I enter upon my duty with the greatest diffidence, and no little fear lest I may justly lay myself open to the charge of presumption in venturing to address the members of so important a profession as that of pharmacy upon a subject with which they are far more conversant than I can possibly be. The only excuses I can offer for my temerity in accepting your invitation are the sincere interest I take in pharmaceutical education, and the opportunities I have had for watching the work of the pharmaceutical department of the Owens College from its foundation by my predecessor, the late Professor Leech, in 1883, to the present time, and more especially during the last three years, when it has been under my charge. I have also some hope that it may possibly be of use to you, in the process of your evolution, to have a view from the outside upon some of the questions which I gather from the pharmaceutical journals are now under discussion, but upon which there is as yet hardly a sufficient consensus of professional opinion among pharmacists to warrant a definite course of action.

In stating my opinions frankly upon a few of these questions may I ask you to believe that, should my views not be entirely in accordance with your own, they are nevertheless put forward sincerely and without any intention to offend, and that I am perfectly willing to consider, without prejudice, any criticisms you may have to make from your more intimate knowledge. I hope to receive from this conference much information which may help us in what I hope will be the further development of the pharmaceutical department of the University of Manchester.

Former Papers on Pharmaceutical Education.

To consider the many able papers, from various points of view, which have been written upon the subject of pharmaceutical education would fully occupy the whole of my time to-day. That the question is not a new one is shown by the fact that the Pharmaceutical Society saw the necessity of founding a school of pharmacy over sixty years ago, "in order to provide for the pharmaceutical student a sound education in the scientific principles on which the practice of pharmacy is based." At the Pharmaceutical Conference held in Liverpool in 1870, I find that the question of education was raised by the late Mr. Baden Benger. It was afterwards elaborated by Professor Attfield, and it was again taken up by your President, Mr. S. R. Atkins, in his presidential address at the Conference in Manchester in 1887; and that it is still unsettled is shown by the more recent papers of Professor Fraser, Mr. Tocher, Professor C. R. Marshall, Mr. Kirkby, Mr. Grier, Mr. Gerrard, Mr. Gadd, and others, with which you are all fully acquainted.

I will, however, recall to your recollection an address on "The Evolution of Pharmacy," which was given by the late Professor Leech, at the opening of the School of Pharmacy of the Pharmaceutical Society in October, 1899; it was almost the last of his public utterances before his long and painful illness, and one which I know gave him great pleasure and gratification. After describing the growth of pharmacy from the earliest times he went on to speak of the future course of pharmaceutical evolution, and said:—

> "The considerations which I have brought forward, and others which might be urged if time allowed, point to the large amount of scientific knowledge which the practice of pharmacy will require in the future. But it may well be said, What about the other side of the question; will higher scientific education lead to a betterment in a pecuniary or social sense?
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> "Now it must be confessed that pharmacy, like medicine, can rarely lead to fortune-making. In medicine part-payment is taken in the pleasures arising from the work itself; and the pharmacist, too, will have to receive part-payment from the pleasures of his scientific work, and the position which a knowledge of science will give him among his fellows."

It is this desire to do certain work for the work's own sake rather than for the sake of the pecuniary reward, which, to my mind, constitutes the difference between a profession and a trade, and, in spite of a few brilliant exceptions, no man who looks merely to the making of a fortune as his aim in life would be well advised to enter either medicine or pharmacy.

I may be wrong, but, after watching the work and after-career of many of our own students, I feel that when the money, time, and intellectual work expended in the training of a pharmacist, and the responsibility which rests upon him throughout his whole working life, are considered, there is hardly any department of human activity in which the pecuniary reward or the social status attained affords so inadequate a return.

The Pecuniary Deficiency.

At the present time the pecuniary deficiency appears to be largely due to the fact that the legitimate work of the pharmacist is gradually becoming more and more limited from the simultaneous action of a number of factors. To some of these factors, such as the sale of many pharmaceutical articles at low prices by the large grocers, the practice of pharmacy by limited companies, and the production of drugs and chemicals on a large scale by manufacturing chemists, I shall not further allude, but there are some others to which it is necessary for me to refer. First of all, I should lay stress upon the fact, often overlooked, that the diminution in the work of the retail pharmacist is to some extent the reflex of that diminution in the work of the doctor which has been brought about in recent years by alterations in the conditions of medical practice, such, for example, as the removal to isolation hospitals or sanatoria of so large a proportion of patients who suffer from long and serious illnesses of an infectious nature, and who required, when nursed and treated at home, not only medicines, but also many other articles which the pharmacist supplied. Another factor acting in a similar manner is the growing tendency of those invalids who can afford to do so to spend the winter months out of England, and thus appreciably lessen the number of better-class patients during a considerable portion of the year. Then, again, we have to consider the fact that of late years surgical, electrical, thermic, or other methods of treatment have largely replaced drugs in the practice of some medical men; while others have, I think unwisely, allowed themselves to be too readily convinced of the superior value of widely-advertised ready-made articles, the handling of which affords neither the opportunity for the pharmacist to exercise his skill nor the realisation of an adequate profit.

There are some pharmacists who look upon dispensing by doctors for their own patients as the chief cause of the diminution in legitimate pharmaceutical work, and look forward to a time when the whole of the dispensing for the community will be done by the retail pharmacist. This separation of the practice of medicine from that of pharmacy is, I think, desirable, and would, on the whole, be a gain to the public. I know that many medical men would be only too glad to be free from the burden of dispensing, and in better-class practice much less dispensing is now done than was the case some years ago. I am sure that very much less dispensing would be done by medical men if the prescription were retained by the pharmacist, and not returned to the patient for unlimited repetition and indiscriminate use by his, or more frequently her, friends and relations. In poor districts, however, I see no prospect whatever of the general abandonment of dispensing by doctors so long as the total sum which an average member of the working classes can afford to pay for his treatment when ill is so small that it will not bear division so as to afford adequate remuneration to two highly-trained men. In considering this point it is necessary to bear in mind that in England the general practitioner of to-day is the direct descendant of the apothecary of the eighteenth century as well as of the surgeon and physician, and that, as you know well, the people of this country are still possessed by the desire to receive their advice and medicine from the same source and for the same fee.

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* Address delivered before the Pharmaceutical Society of Great Britain, on Wednesday, January 20, 1904.

Dispensing by Medical Men.

I have noticed of late that some opinions have been expressed to the effect that medical men are not qualified to dispense for their own patients, and, as there seems to be some danger of serious misconception, I feel that it is necessary to point out that a medical man differs from a pharmacist in that he is only called upon to dispense his own prescriptions, and that his training in chemistry, physics, materia medica, and pharmacy is amply sufficient to qualify him for all the dispensing required in a general practice. I do not think that the pecuniary loss to pharmacy of the dispensing in the poorer districts is anything like so great as is often supposed, since it would necessarily have to be done by the retail pharmacist at prices which could hardly be very remunerative, and it must be remembered that the medical man who dispenses provides ample work for the manufacturing and wholesale pharmacist.

I have by no means exhausted the factors which have brought about a decline of pharmaceutical work, but I think I have cited sufficient to show that there is a reasonable ground for the dissatisfaction which I believe to exist, as to the present condition of pharmacy in this country. This unsatisfactory state of things is, I take it, an example of that biological law—which is equally a sociological one—that for an organism to survive in the struggle for existence it must be in harmony with its environment, and that the organism which can most readily adapt itself to changes in the environment will flourish the best.

A profession which depends for its existence upon the services which it can render to the public is a complex organism, and its environment is continually changing with the growth of an advancing civilisation, of which the conditions appear every year to become more artificial, the relations more intricate, and the strain and stress of daily life more keenly felt. It appears to me that during the latter half of the nineteenth century the lines of evolution in the organisation of the healing art have not been quite parallel to the general line of social development, but somewhat divergent, and that the troubles which now agitate doctors as well as pharmacists are merely the expression of a want of harmony between the organisation of the whole medical profession and the needs of the general public which forms its environment. If this supposition is correct, then it is necessary that the profession in all its branches must adapt itself to the changing conditions of the times, and my duty to-day is to suggest to you one direction in which I think such an adaptation can be made in one essential branch of medicine, with advantage to the general public and the doctor, as well as to the pharmacist himself.

Pharmacy as a Profession.

What I wish to suggest is, that since the trade aspect of pharmacy does not apparently hold out much hope for the future, whether it is not desirable to endeavour to develop pharmacy upon its professional and scientific aspect, and whether there is not a sufficient scope and a brighter prospect in the future for a highly-trained scientific man who chooses pharmacy as his profession.

In his presidential address at the Pharmaceutical Conference in Manchester in 1887, at which I had the privilege to be present, Mr. Atkins said:—

> "Pressed as we are in our purely business relations by the severe competition of the age, it behoves us to develop as far as possible the purely scientific portion of our work."

The events of the sixteen years that have now elapsed since that address have, I think, only emphasised the wise foresight of the present President of the Pharmaceutical Society, and the sentence I have quoted is the keynote of my address to-day.

If we compare the amount of scientific knowledge possessed by the general public, say, thirty years ago with that which is possessed by a person of average education at the present day, and similarly compare the amount of knowledge which was demanded of a pharmacist thirty years ago with what is now required, I think we shall find that the pharmacist of the earlier period possessed an amount of scientific knowledge which raised him above the people among whom he lived to a greater extent than is now the case, when chemistry, physics, and biological subjects are so widely taught, and ambulance classes and hygienic lectures have been scattered broadcast over the country.

In many branches of medicine we have seen the amount of work required from those who enter them continually increased. The minimum curriculum for medical men has been lengthened to five years, a time which is often exceeded by men preparing for the higher qualifications. An additional year of study is required for a diploma in public health. The dentists have achieved registration, and now have to take a severe curriculum. For nurses a three years' training is the least which is considered sufficient to justify a certificate of competency, and, as you know, steps have recently been taken to ensure the proper training of midwives. In all these cases it is worthy of note that the tendency has been to insist as much upon the candidate having passed through a proper curriculum extending over a sufficient length of time as upon the successful passing of an examination.

A New Era in University Education.

We are now, I believe, at the dawn of a new era in university education, in which our universities will take to themselves the highest education in every department of human knowledge which is a factor in the life, work, and intellectual development of the population amongst which each university is placed. We have already seen music, architecture, education, engineering, agriculture, and commerce added to the list of university subjects, and I do not doubt that other subjects will follow, among which pharmacy might well be included. A university degree, which is the reward of a thorough training followed by examination, is well understood by the general public as the hall-mark of the highest attainable standard of education; and while, perhaps, too much to expect at present from the average man who wishes to practise pharmacy, it should be the reward of the best men. Even now the Major candidates do an equivalent amount of work in some subjects which often goes without due recognition, since, in my experience, few members of the public discriminate between a chemist and druggist and a pharmaceutical chemist.

With respect to the nature of a university degree for pharmacists, I am not of the opinion that it is desirable to institute a special degree in pharmacy. I am sure that the degree in science will always carry with it a greater value as evidence of sound scientific training than will any special degree open only to a special class of men. What might well be done, however, by the universities is to include in the list of optional subjects for the degree in science most, if not all, of those studies which a pharmacist has to pursue for his qualification, so that they would thus become part of the course for his degree. I hope to be able to make a beginning in this direction in the Victoria University of Manchester, so that an honours degree can be taken in chemistry, with a specialisation in pharmaceutical chemistry, and botany as the additional subject. In the present state of pharmaceutical education I do not see our way to go further in this direction, but I shall be prepared to advocate a considerable recognition of pharmaceutical subjects should there prove to be any demand on the part of pharmacists for a university degree.

I do not consider that it is desirable for a university degree to be a qualification for registration as a pharmacist; such a course would entail a loss for which nothing could compensate—I mean the loss of that one-portal entrance into pharmacy for Great Britain which you already possess, but which the medical profession has as yet found impossible of attainment.

The Need of a Pharmacist's Work.

The work of a pharmacist demands the possession of the highest scientific knowledge, a readiness to apply that knowledge to the solution of technical problems, a very considerable degree of manual dexterity, and, finally, a good business capacity. The training of a pharmacist, then, naturally divides itself into a purely scientific part and a technical part. The testing of a candidate's proficiency in the technical work of his profession ought certainly to remain in the hands of the Pharmaceutical Society, and the qualifying examination for registration might well be confined to the more technical subjects.

The examination in pure science should, I think, be separated from that of a technical character, and taken at an earlier period. In lieu of its own examination in pure science the Pharmaceutical Society might well accept an equivalent examination conducted by a university as the intermediate examination for a science degree.

I should like to recall to your minds the words of the late Professor Leech on this question, in the address on "The Evolution of Pharmacy," to which I have already referred. He said:—

> "At present there is no curriculum, and students are tempted to spend as short a time as possible over lectures and laboratory work. The shorter the time men take to acquire knowledge of the subjects of examination, and the greater the number of these subjects, the less will be the amount of knowledge retained subsequently. I am quite satisfied it would be greatly for the advantage of all if a curriculum were established and students were obliged to distribute their work over a definite period, receiving instruction in science first, and then in the more technical subjects. My belief is that a year, at least, should be devoted to the science subjects, and that even this will be found all too short for that thorough grounding in science which a pharmacist requires. The lengthening of the educational period would allow of some wider knowledge of physics, and, perhaps, of some biological training. Moreover, it would allow of all education being practical.
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> "A second year might be devoted to technical training, and to the acquirement of a fuller knowledge of organic chemistry; and I think it will become necessary that the technical training be widened, and that instruction should be received in urine analysis, bacteriological analysis of foods, toxicology, and some other subjects. But even if the scientific and technical training be not widened, a two years' educational course for pharmaceutical students is very desirable."

A Suggested Curriculum.

I cannot here enter into all the details of a scheme to fulfil the conditions thus laid down by Professor Leech such a scheme as my own experience fully endorses. I may, however, briefly summarise what I think might be made into a workable plan to provide for a thoroughly satisfactory curriculum for the average pharmacist, and at the same time a highway to a university degree for those whose abilities and opportunities warranted their aspiring to leading positions in the pharmaceutical profession.

The first step for a boy, say of sixteen, who proposed entering pharmacy should be the passing of the preliminary examination of the university in which he proposes to graduate. There is now but little difference between what is required by the Pharmaceutical Society and the preliminary or matriculation examination of most universities in the prescribed subjects—and the university examinations are, I believe, accepted by the Society. I am sure that the examination in general knowledge is best passed direct from a secondary school; and I hope that the plan of accepting a school-leaving examination, conducted under university supervision, in place of a special preliminary, may in a few years become general.

Next would follow the apprenticeship, during which the student would acquire a knowledge of business and a training in neatness, quickness, accuracy, and manual dexterity. He would then be about nineteen years of age, and would enter upon his strictly scientific training in a college of university rank. The School of Pharmacy of the Pharmaceutical Society is so complete and its teachers so distinguished that there ought to be no difficulty in obtaining its recognition as a science school in the University of London. A year would be devoted to the study of chemistry, physics, botany, and, perhaps, a limited amount of general biology to include elementary animal physiology. At the end of the year the examination in science would be passed. This would be the intermediate examination for a B.Sc. degree, and would be accepted by the Pharmaceutical Society in lieu of its own examination in the same subjects, which would be taken by those candidates who did not purpose to proceed to a university degree. A second year would then be devoted to more advanced chemistry and pharmaceutical chemistry, practical pharmacy and dispensing, prescription reading, pharmacy law, materia medica and elementary pharmacology. At the end of this year all candidates would present themselves to the Pharmaceutical Society for the qualifying examination for registration as pharmacists. Candidates who wished to proceed to a university degree, which requires three years of study, would then devote the third year to advanced organic chemistry and quantitative analysis, practical pharmacognosy, the analysis of foods and drugs, toxicology and bacteriology. At the end of this year he would take the final examination for the B.Sc. degree and would be eligible for the D.Sc. in due course should he continue his scientific work.

Advantages of the Proposed Scheme.

In presenting to you this brief outline of what I believe to be a feasible scheme for pharmaceutical education, I must leave the details for future elaboration; but I should like to call special attention to several points. The first point is that it would maintain the one portal to pharmaceutical practice and leave the qualifying examination entirely in the hands of the Pharmaceutical Society. A second point is that it leaves the period of apprenticeship unencumbered by classes and outside interests, and open for that discipline in business habits and for that manual training which, if it is to be done at all, must be done while the pupil is young and impressionable. The scientific training taken at a later age is more certain of being assimilated and studied with intelligent interest in the light of the past practical work, the interest of which will already have prompted the acquirement of much information which systematic teaching will soon reduce to an orderly arrangement. I am quite sure, from my experience of teaching medical students, that the average boy of sixteen is not mentally fitted for the study of science, and I doubt the educational value of much that is now taught in many schools under the name of science.

A third point is that even those students who are unable to proceed direct to a university degree would have their two years' work for the qualifying examination as a university course, and have the great advantage of working in company with students preparing for other professions. A better knowledge of each other's work would, I am sure, be mutually beneficial, more especially with respect to medical and pharmaceutical students. A last point is the introduction of teaching in elementary physiology and pharmacology. Elementary physiology is necessary now that so many remedial agents are derived from the higher animals, and as regards pharmacology, I feel strongly that, among the properties of drugs with which a pharmacist ought to be familiar, some knowledge as to the action upon the body of at least the poisonous and more active drugs is essential for the safety of the public. I am sure that such knowledge would not lead to any abuse, but rather tend to check indiscriminate prescribing, since we all know that with knowledge comes responsibility, and that it is usually ignorance which is prone to rashness.

The Financial Aspect.

The financial aspect of such a scheme of pharmaceutical education, and especially the cost of a compulsory curriculum, is a subject which cannot be ignored. In Scotland, I presume, the endowment of Mr. Carnegie would materially assist a university curriculum; in England I think that great use might be made of the scholarships for higher education in science, which are now offered by many of the county and municipal councils. Some of these are of the value of £60 per annum, provided that the holder enters upon a course for a university degree, and I am sure that a pharmaceutical student who had passed the Preliminary Examination and made good use of the opportunities afforded him during his apprenticeship ought to have an excellent chance of winning one of these scholarships.

Is it too much to expect that, in due time, the generosity of exceptionally successful pharmacists would endow, by donation or bequest, a few scholarships, to be awarded, say, on the results of the qualifying examination, and of sufficient value to provide for the work of the third year of study? Moreover, I think it quite possible that the attainment of a university status by the pharmaceutical profession would attract to it a class of men for whom the cost of such an education would not be any obstacle, and to whom pharmacy at present offers little inducement.

I have now to consider, finally, what prospect there is likely to be in the future for a highly-educated scientific pharmacist of university status. First of all, so long as suffering humanity requires the aid of medical men, so long will the pharmacist be required for the preparation of medicinal substances for administration.

The forms of medicine will very likely change; active principles and synthetic products may to a large extent replace galenicals; the use of sera and vaccines may, for a time, diminish the consumption of drugs, and various novel methods of treatment rapidly succeed one another, as each, in turn, becomes the fashionable fad of the moment. Behind all this, however, there is an ever-increasing edifice of therapeutical knowledge, based upon a solid foundation of pathological and pharmacological work. The tendency of modern investigations is to give increasing importance to chemical action as a pathological factor, and the therapeutical action of antitoxins, sera, vaccines, or animal extracts will, I believe, eventually prove to be chemical in nature. I do not see any reason why these remedies of uncertain composition should not be found to be replaceable by drugs, any more than I perceive any difficulty in believing that quinine or mercury may, in actual practice, always prove to be more convenient and reliable, even though active antimalarial or antisyphilitic sera were now available. In the investigation of these and similar problems there is ample scope for the exercise of the very highest qualities of a scientific pharmacist in the research laboratories, which I hope we shall, in time, find as indispensable parts of all our universities. But I take it that the pharmacist of the future must be something more than a compounder of medicines, or even a research worker. He ought to be able to assist the doctor in his clinical work by undertaking processes of chemical analysis, which a medical man has not the time or chemical training to conduct for himself. The practice of medicine is daily requiring a more careful chemical analysis, often of a quantitative nature, of such things as food substances, or the various excretions of the body. The simpler bacteriological examinations, and the preparation of specimens for microscopical examination, the maintenance of electrical apparatus in an efficient condition, and perhaps photographic work, might well be within his province. There are many medical men who would prefer to have the necessary scientific work of this character done under their own eye by a man whose scientific attainments they know, and upon whom they could thoroughly rely, than to be obliged to send their specimens away for analysis or examination, to strangers, or to institutes of various kinds.

Other Fields of Work for Pharmacists.

Another field of work of the highest importance for the best men in pharmacy ought to be that of public analysts of foods and drugs under the borough and county councils. I have always looked upon it as an anomaly that these posts should not be filled, as a matter of course, by pharmacists, who have the best knowledge of the drugs which the analyst has to examine for purity and strength. The claim of a pharmacist, who had added to his pharmaceutical experience a degree in science with the training I have already outlined, to such a post would, I think be irresistible, and the community at large would eventually be the gainer. Another field for a thoroughly trained man should be that of research work and manufacturing on a large scale in the works of manufacturing chemists. I do not see any valid reason why we should have to rely upon foreign chemists and manufacturers for our pure drugs and chemicals, or for devising new processes or improved preparations.

In hospitals all over the country and in union infirmaries it ought to be as unheard of a thing to have an unqualified dispenser as to have an unqualified doctor, and the pharmacist ought to be looked upon as a professional member of the staff, whose scientific knowledge and help should be found valuable in many phases of institutional work besides the compounding of prescriptions.

The public services—the Army and Navy—should provide careers, with a well-defined professional status, for a certain number of well-qualified pharmacists, and here again the pharmacist to a military or naval hospital might well perform other scientific duties for which his training and knowledge would specially fit him. Beyond indicating the increased need for thoroughly capable teachers for the university schools of pharmacy, I need not go further to indicate that, in the future, there will be an increasing need for a scientific man thoroughly trained in chemistry, physics and biology, as well as pharmacy, to perform functions of essential importance in all civilised communities; but it must be remembered that the world to-day has no use for half-trained men in any profession.

Will pharmacists lay hold of the opportunity I believe to be now open to them, or will they allow what may be regarded as the legitimate development of their work to be taken up by others?

If pharmacists fail to adapt themeselves to the advancing scientific requirements of the present and the future, while they are unable to prevent the more purely commercial part of their work from passing into the hands of large traders, then the outlook for pharmacy is dark indeed.

I feel that the time for choice may be short, and that very soon you will come to the parting of the ways. I believe that under the guidance of the distinguished men who control the fortunes of the Pharmaceutical Society to-day, and who are animated by the spirit of their predecessors—the founders and supporters of your pharmaceutical school, such a solution of your present difficulties will be found as to raise the profession of pharmacy to its proper place in the community, and to bring honour, respect, and prosperity to those who practise it.

A CONCURRENT CURRICULUM.*

BY H. WIPPELL GADD, F.C.S.

The object of pharmaceutical education is to fit men for pharmacy—an axiom which would be hardly worth stating if it were not so generally ignored. Too often the best pharmaceutical education has led men out of pharmacy, whilst the worst has somehow dragged them over or through the Minor hedge, leaving them prone, on the right side indeed, but otherwise unprepared for their life's work. Pharmacy, broadly speaking, is the preparation and distribution of drugs, and a pharmacist one who stands between the public and the drugs, too ready access to which would bring disaster and death. The State needs pharmacists that in every small town and large village, and in every district of every large town and city, there shall be a trained and educated man, who will distribute with discretion such drugs as the public needs, translate into practice physicians' precepts, and bar the way to the illegitimate use of poisons. It is an honourable position, too often, one fears, almost an honorary one. But if the qualifications for the position be made too high, or the restrictions as to the auxiliary occupations which may be associated with it be too stringent, the State will suffer, for the supply of fit men will fail. There is room for the highest talent in pharmacy, for the unsolved problems connected with even the drugs which have been in common use for centuries are many, and the one solid fact which each worker realises is that there is no end to all that he does not know. But investigators are born not made; it is the rank and file for whom regulations must be framed.

"The nation needs," writes Professor Karl Pearson, "that the great bulk of its members shall work at the same tasks as their forefathers, only with increased intelligence and more highly developed craftmanship. . . Training is essential to a nation, but it must be specialised to each social activity if it is to perform its function. . . The education is in no sense to leave the feeling that it is finer to follow one trade than another, but is to develop the consciousness that it is a disgrace to follow any craft without an intelligent appreciation of the way of its processes." And such should be pharmaceutical education, its object being not to make men chemists, botanists, physicists, or physicians, but pharmacists men who know drugs! The State requires certain things of the men whom it calls, somewhat strangely, "chemists and druggists." *First*, a declaration, which is too often, we are told, a "perfunctory formality," that the aspirant has passed three years in translating and compounding physicians' prescriptions. *Secondly*, evidence of having passed that curse of education—an examination. Examinations! the fetish before which the English and the Chinese nations bow; Examinations! the method by which no employer selects his servants; Examinations! too often the cause of the survival of the most unfit; Examinations! the nineteenth-century's equivalent of the mediæval trial by torture. The nineteenth-century's; for already there are faint signs of the dawn of a brighter educational day, in which less antiquated tests shall be used.

Teachers of eminence, foremost among whom is Sir William Ramsay, are advocating less dependence on examinations, and more consideration of methods of training, and even that great examining body, the London University, is at last realising that it is the function of a university to teach rather than to question. Examination is, one would have thought, the least important of the methods by which the fitness of men to be pharmacists can be gauged; for in their preparation, as in that of galenicals, it is not so much the tests which can be applied to the finished product which ensure efficiency, as the method of manufacture.

It is more satisfactory to take a drug of known origin and evident value, and to treat it by the most approved methods of extraction and exhaustion, than to examine the finished galenical by the most stringent physical, or even chemical, tests; and it is more important to obtain the right material, and to mould it in the right way to make a pharmacist than to examine the finished product to see if it is of the nature and substance demanded for the public weal.

How are Pharmacists Manufactured?

Originally, and still primarily, by the good old system of apprenticeship. "The word apprentice," it has been said, "carries with it a vision of thorough training by someone who is master of his craft. The apprentice looks to be vigorously instructed in the details of each separate department of the calling selected, from the lowest to the highest branch." Such is apprenticeship at its best, than which no better method of training has been, or probably ever will be, devised. At its worst, it has been described by one who rose to eminence, in spite of his apprenticeship. For a premium of 100 guineas, he was initiated in the art and mystery of three branches of knowledge—the sweeping of floors, the carrying of parcels, the adulteration of pepper. But that was long ago.

But to-day some educationalists advocate the abolition of apprenticeship in pharmacy. A wilder idea surely never emanated from the brains of reasonable men. It is common knowledge that many medical men regret that apprenticeship in their profession no longer exists, and, that being so, it is folly to think that pharmacists—who, if they are to be successful, must be commercial as well as professional men—can do without a business training.

The posing of pharmacists as purely professional men reminds one of a story of Abraham Lincoln. "Gentlemen," he is reported to have said, "if I call a sheep's tail a leg, how many legs will the sheep have?" "Five," was the answer. "No." "Why not?" "Because calling a sheep's tail a leg doesn't make it one!"

But in these days of stress and strain masters have little time or opportunity to impart theoretical knowledge; and the growth of the use of factory-made goods and ready-dispensed specialties reduces practical experience to a minimum. Apprenticeship must therefore be, and generally is, supplemented by a more or less prolonged collegiate course. It has been suggested that this should be taken before apprenticeship—an inverted form of procedure, akin to the administration of the palliative jam before the remedial powder—but practically it is almost always taken after apprenticeship.

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*Communication to the Pharmaceutical Society of Great Britain, read at an afternoon meeting in London, Wednesday, January 20, 1904.

My object to-day is to advocate that it be taken during apprenticeship, that it be concurrent with business training. It is no new idea; it has been ably advocated by others in the past. I make no acknowledgments, for fear of being invidious, but there is one much-abused man who, as far as my researches have gone, was the earliest apostle of concurrent curricula, whose words I must quote: "We go upon the practical method of teaching, Nickleby; the regular educational system." "Where is the second boy?"—"Please, sir, he's weeding the garden." "To be sure, so he is—B-o-t, bot; t-i-n, tin; bottin; n-e-y, ney, bottiney; noun substantive, a knowledge of plants. When he has learnt that bottiney means a knowledge of plants he goes and knows 'em. That's our system."

I do not mean to say that the lines on which Mr. Squeers developed his educational schemes are worthy of imitation, but the idea, as stated, was sound.

Theory and Practice

must go hand in hand if the best results are to be obtained. "Pave the way for a study of causes by an accurate presentation of facts," wrote Professor Lloyd Morgan, many years ago. "A bare fact by itself is nothing, or is little; it is a bald, bleak thing until it is clad in theory," said Sir Oliver Lodge at Birmingham a few days since.

Let students pass continually from the shop to the lecture theatre, and from the laboratory to the dispensing counter, and they will gain information concerning drugs whilst they are handling them, and see many practical examples of the truths they learn while they are yet fresh in their minds. Such a method has been tried in other industries. In engineering, for instance, what is known as the sandwich system has been introduced, the students spending the six summer months in the shops and the six winter months in college. But better than a sandwich system of alternate layers would be a bread-and-butter system of intimate mixture, remembering that a lump of butter which would make one sick if taken at once is easily digested when spread in a thin layer over bread. How can pharmaceutical students take their studies concurrently with their business training? By taking advantage of the educational facilities provided throughout the land.

If knowledge has not yet been delivered like milk at each man's door, paternal governments—Imperial and municipal—supplementing the efforts of pious founders, have gone far to provide technical instruction for all who need or desire it. In almost every large city and town there is a university college or technical school offering instruction in the sciences which the pharmaceutical student needs to know, and many have a specially organised pharmaceutical department. Thus, at Bradford there is a full pharmaceutical course, extending over two years, an average of ten hours a week being given to lectures and practical work. At Bristol there is a pharmaceutical department at the University College, offering a course for the Minor Examination, which lasts for one academic year for whole-time students, whilst it can be spread over three years for those who wish to take it concurrently with their apprenticeship. At Brighton, at the Municipal School, full instruction for the Minor is given, the official syllabuses being closely followed, except that the chemistry course is wider and more general. At Derby both day and evening classes are held at the Technical College in the subjects required by pharmaceutical students. At Exeter a school of pharmacy is an integral portion of the local college, and derives much advantage from being part of a large educational scheme. Owens College, Manchester, has long had one of the best of provincial schools of pharmacy. Nottingham offers, at its University College, a two years' course for pharmaceutical students. At the University of Liverpool, a course of study at the school of pharmacy, has been specially arranged by Mr. Prosper H. Marsden for students who desire to spread their education over three years, taking it concurrently with their apprenticeship. At the University College, Sheffield, there is a three years' course of evening classes for preparation for the Minor Examination. The University College at Reading has a distinguished pharmaceutical chemist, Dr. Luxmoore, on its professorial staff, and a full course for the Minor Examination can be taken there.

This is by no means an exhaustive list; it is rather a typical one. I make no mention of the many excellent private schools which exist, nor even of the Pharmaceutical Society's own School, in the theatre of which we are assembled. My attitude to the latter is that of the American poet, who bore a name much honoured in this house:—

> We're all alike; Vesuvius flings
>   The scoriæ from his fountain,
> But down they come in volleying rain,
>   Back to the burning mountain.
> We leave, like those volcanic stones,
>   Our precious Alma Mater,
> But will keep dropping in again
>   To see the dear old crater.

But the schools and colleges I have named are all alike in being public institutions offering education under cost price, and in many cases for merely nominal fees. The cry comes, however, alike from them all that they are not sufficiently used by pharmaceutical students. An essentially modest race, pharmacists somehow fail to seize the advantages which are their birthright as citizens. In one town, which shall be nameless, it is remembered as somewhat of a grievance that successive Presidents of the Pharmaceutical Society have visited the place without inspecting the college. It is not money that is wanted, but recognition and encouragement.

Is it too much to hope that the Society will give its official blessing to some such scheme as the following? A curriculum to be spread over three years, and divided as follows:—

FIRST YEAR.

Chemistry	2 hours per week
Practical Chemistry	3 hours per week
Materia Medica	1 hour per week
Pharmacy	1 hour per week
Physics	1 hour per week
Botany	1 hour per week
Practical Botany	1 hour per week
Total	10

SECOND YEAR.

Chemistry	2 hours per week
Practical Chemistry	3 hours per week
Botany	1 hour per week
Practical Botany	2 hours per week
Materia Medica	1 hour per week
Pharmacy	1 hour per week
Total	10

THIRD YEAR.

Chemistry	2 hours per week
Practical Chemistry	3 hours per week
Botany	1 hour per week
Practical Botany	2 hours per week
Materia Medica	1 hour per week
Pharmacy	1 hour per week
Total	10

This shows an average of ten hours per week, and of course, to keep pace with class work, it is necessary to do much private reading. Apprenticeship, therefore, under such a scheme would be little more than half-time employment. The employer might, therefore, well ask for a higher premium for the apprentice taken under such conditions. The student would have a better chance of being thoroughly educated, and, as soon as he reached the legal age, would probably be able to pass the qualifying examination. The expenses falling on parents and guardians would be greater for the time, but would cease sooner. An ideal method of qualification would be the consideration of a joint report from the business employer, the college instructor, and the official examiner.

Whether such a scheme be officially sanctioned or not, I would, in conclusion, respectfully ask that, if the Council of this Society obtain and use the powers they are now seeking, and sentence students to undergo both an apprenticeship and a collegiate course, the students be treated as other minor criminals usually are, and the sentences be allowed to run concurrently.

PODOPHYLLIN.*

BY D. B. DOTT, PH.C., F.I.C., F.R.S.E.

The resin of Indian *Podophyllum* being official in the Colonial Appendix, there is no reason why it should not be official in our own country, if it be really true that it is equal in value to the resin of *Podophyllum peltatum.*

In a brief note read here last year I ventured to suggest that the subject still required investigation, both on the chemical and pharmacological sides. A letter thereon was sent to the *Chemist and Druggist* (April 18, 1903, page 630) by Mr. T. A. Henry, who, along with Dunstan, made an able and elaborate investigation of the subject (*Journ. Chem. Soc.*, 1898, 209). In this letter Mr. Henry suggests that the difference between the two resins is due to the fact that "the Indian resin contains from one and a-half to three times as much podophyllotoxin as the American resin," and that Dr. Mackenzie (*Edinburgh Medical Journal*, Nov., 1898, page 393) has demonstrated "the greater activity of the Indian product." As podophyllotoxin is the chief active principle of the resin, one would expect from the above that the Indian resin would possess a far more powerful purgative action than the American. But the bulk of evidence is quite against that conclusion. In the 'Year-Book of Pharmacy' for 1903 (page 232), the Editor, Mr. J. O. Braithwaite, mentions three cases in which gradually increased doses of the *P. emodi* resin produced no effect, even when amounting to 3 grains. In view of such statements it can hardly be contended that we are yet in a position to substitute the resin of *P. emodi* for that of *P. peltatum.* Even if it were proved that the resin had become altered in the process of extraction, that would be a reason against adopting it, as we do not find any such susceptibility in the case of the American resin.

Notwithstanding the Dunstan and Henry investigation I do not think the chemistry of the subject has been completely elucidated. If the difference between the two resins were simply one of the degree mentioned we should not expect to find the insoluble matter left by treating the *peltatum* resin with dilute ammonia solution to amount to 5 to 12 per cent., and that of the *emodi* resin in same conditions to amount to 50 to 60 per cent. The Indian resin has been described as "gelatinising" when treated with ammonia. No one would think of applying that expression in the case of the ordinary resin.

With reference to Messrs. Dunstan and Henry's paper one observes, in the first place, that the specific rotation of the hydrated podophyllotoxin is given as $-94° 48'$, while that of the anhydrous compound is stated as $-78° 4'$. That may be correct, but possibly some other change than mere dehydration had taken place. The proof of isomerism is not so conclusive as it might be. While the combustion of podophyllotoxin gives numbers agreeing fairly well with the formula $C_{15}H_{14}O_6$, the figures found for picropodophyllin agree better with $C_{15}H_{16}O_6$. The methoxyl numbers, 20·66 and 21·56 respectively, agree only fairly well; whilst the bromine determinations, 20·9 and 18·85, are considerably different. As to the remark that even one methyl group makes a considerable difference, it does not seem at all likely that a change which is effected by the action of dilute ammonia in the cold would consist in the elimination of the methyl. The first thing that occurs as likely to result by the action of alkali is some form of hydrolysis, and if the molecule is complex, as it probably is, we have hardly yet sufficient evidence that no such change has occurred. If the compounds as analysed were both anhydrous, and are found to give the same percentages of carbon, oxygen, and hydrogen, the effect of ammonia must be a polymerising action. The evidence for the existence of podophyllic acid is by no means conclusive. It seems to be nothing more than picropodophyllin in solution or combination. I agree with the statement that "the nature of the isomerism of podophyllotoxin and picropodophyllin is at present obscure." As to the method adopted for estimating podophyllotoxin, by percolating the rhizome mixed with lime, etc., so as to obtain picropodophyllin, it can only be correct if it has been established that all the picropodophyllin finally obtained is the direct equivalent of a corresponding amount of podophyllotoxin; that is to say, that none of the picropodophyllin has previously existed as such, or has been derived from any other source than podophyllotoxin. This assumption seems more than is warranted by the published experimental data.

NOTE ON GLYCERINUM PEPSINI, B.P.*

BY PETER BOA, PH.C.

My experiences in making this preparation, and the varying results obtained, prompt me to offer some comments on the working of the process given in the Pharmacopœia.

The official direction for procedure is as follows:—"Mix the hydrochloric acid, glycerin, and 6 fl. oz. of the water; then add the pepsin; after one week pour off the clear liquid, or filter; add sufficient water to produce one pint." The direction to "add the pepsin" after the liquids have been mixed is brief and simple. It may, however, leave the operator in doubt as to whether he should stir the mixture, rub it up, shake it, or leave it alone. Perhaps the intention is to give him a free hand. A little adherence to the text leads to a result such as I show in specimen No. 2, in which the pepsin has formed into a tough, india-rubbery sort of mass, which shows little diminution after frequent shakings during a week. When the bottle is inverted the mass slowly drags in a snake-like fashion from one end to the other.

If the mixture be shaken promptly after the addition of the pepsin this lumping does not occur. Solution, however, takes almost a week to be complete, shaking having to be employed several times daily to hasten it.

As the pepsin will dissolve quickly and completely in the quantity of water ordered I have been tempted to deviate from the official direction to the extent of dissolving the pepsin in the water, adding the glycerin in three or four successive portions, shaking after each addition, and lastly adding the acid and well mixing the whole. In this way the pepsin can be dissolved in a few minutes, and the preparation made ready to set aside to clear or await filtration.

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*Communication to the Pharmaceutical Society of Great Britain, read at an Evening Meeting in Edinburgh, Wednesday, January 20, 1904.

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"After one week pour off the clear liquid, or filter" is the next thing to be done. Following the pharmacopœial direction, and adding the pepsin to the mixed liquids, and thereafter shaking from time to time, a week may be required to effect solution of the pepsin. It is only after a week that precipitation becomes sufficiently pronounced to be observable, and how long it would require to settle so as to permit of a serviceable quantity of clear liquid being poured off is more than I can say. I would guess three months as a minimum.

I show a pint of the preparation made six weeks ago, in which precipitation is very evident, but no sign as yet of a pourable quantity of clear liquid. I also show in another bottle some made three weeks ago, in which the precipitate is only beginning to appear in little cloud-like formations through the liquid. The light albuminous precipitate is in very small particles, and separates slowly in a thickish liquid, such as glycerin and water. The final direction to add sufficient water to produce one pint seems to me to offer a considerable opportunity for getting results other than uniform. Any quantity from 15 to 18 fl. oz. of clear liquid might be poured off and made up with water to a pint. Filtration would yield a still different strength of product.

Just one more comment I have to make. It is in regard to the strength. The preparation contains in each fluid drachm 5 grains of pepsin. The dose is 1 to 2 fl. drachms. Pepsin of pharmacopœial strength should dissolve 2,500 times its weight of coagulated albumen. A fluid drachm of glycerin of pepsin should therefore be sufficiently active to dissolve about 28 oz. of hard boiled white of egg. As it does not appear to me that the persons for whom pepsin is ordinarily prescribed are likely to consume even half so much food of this character, I incline to regard the quantity of pepsin in the Glycerinum as extravagant.

A reduction in the pepsin content would, moreover, make the preparation more easily manipulated, as it would be correspondingly thinner. I would suggest that the strength in pepsin be reduced by half, that the pepsin be directed to be dissolved in the water, sufficient being used to produce one pint right away. If the full measure be made up at once the preparation can in many cases be used as it is. Some newly-made specimens are shown to illustrate this.

LIQUOR FERRI PERCHLORIDI FORTIS.*

BY D. B. DOTT, PH.C., F.I.C., F.R.S.E.

It has been pointed out by Tyrer and others ('Year-Book of Pharmacy,' 1900) that the specific gravity and percentage of ferric oxide as stated in the official tests do not correspond. The usual custom seems to be to get the density right and allow the ferric oxide to be slightly deficient. The mistake will presumably be rectified in the next edition; but the tests appear to be otherwise deficient. Anyone who had a readily available source of chlorine would undoubtedly peroxidise with it, and not with nitric acid. It would therefore be advisable to have a test for free chlorine. Probably boiling in a flask, fitted with a tube dipping into water coloured with indigo or other bleachable colouring matter, would be a suitable test. A sample was recently brought under my notice which passed the B.P. tests, but made an unsatisfactorily sour-tasted tincture. On diluting 5 C.c. with 50 C.c. water and adding gradually to 5 C.c. of the solution N/10 sodium hydroxide, 29 C.c. were required to produce a permanent precipitate. Using a liquor which had been prepared in the official manner, and diluting in the same proportion, only 14 C.c. of the N/10 sodium hydroxide were required. It would be preferable to dilute 5 C.c. to 50 C.c. and titrate the whole quantity with normal sodium hydroxide. A test for excess of acid seems to be indicated.

NOTE ON LEAD ACETATE.*

BY THOMAS S. BARRIE, PH.C., F.C.S.

This salt is stated, in the B.P., to be slightly acid to litmus. My experience is that it is often slightly alkaline, and would suggest that the official description at this point should be "Its solution in water may be slightly acid or slightly alkaline to litmus." The milkier the solution the more alkaline it is likely to be.

NOTE ON SODIUM ARSENATE.*

BY THOMAS S. BARRIE, PH.C., F.C.S.

In Mr. Chattaway's 'Digest,' Messrs. White and Humphrey are reported as supporting the B.P. test for sodium arsenate, and, as a consequence, casting doubt upon the work done by the writer in connection therewith (see *Chemist and Druggist*, May, 1900, page 884). I have repeated my experiments and find them to be substantially correct, and now re-assert that the theoretical amount of official lead acetate required to wholly precipitate 1 Gm. of anhydrous sodium arsenate is 3·05 Gm.

In my experiments the use of acetic acid (2 per cent. or so) was found to dissolve a small quantity of the lead arsenate produced. On this account I used plain water as a solvent with success. I can only account for Messrs. White and Humphrey's contradiction by assuming that they did not know this fact, and, having applied the B.P. test and found in the filtrate a slight amount of lead—held in solution by the acetic acid—they immediately assumed the substantial accuracy of the test without examining for excess of arsenate by any of the well-known tests—for example, the magnesium reagent test.

When working with this salt I realised how suitable for the dispensing counter the official test is. The test, however, is too stringent. It demands what is very difficult to get—*i.e.*, a 100 per cent. salt. Moreover, the lead acetate may be below strength, so that to balance these difficulties the analyst must be experienced and liberal-minded, else every sample examined will be condemned.

A test of scientific value is wanted here. That of Messrs. Dudderidge and Hill ('Year-Book of Pharmacy,' 1902, page 504) I regard, from experience, as very good, and it will do till a better is brought forward. Such a test is to be had in the use of volumetric uranium nitrate solution, and also in the ordinary gravimetric process—viz., precipitation as magnesium ammonium arsenate. It would not be necessary to give directions in the B.P. as to how the test should be applied; simply state the minimum percentage of pure substance the salt should contain when tested by the selected test.

Stephanotis Bouquet.

Otto of rose, 30 minims; neroli oil, 30 minims; bergamot oil, 1 fl. oz.; cassie extract, 4 fl. oz.; tuberose extract, 4 fl. oz.; simple tincture of benzoin, 4 fl. oz.; tincture of storax, 4 fl oz.; tincture of Tonka bean, 3 fl. oz.; tincture of orris, 8 fl. oz.; alcohol (90 per cent.), 16 fl. oz.; essence of musk, 24 fl. oz.; jasmin extract, 24 fl. oz.—*Spatula*, **9**, 548.

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SEARL'S TEST FOR YEAST EXTRACT.

BY HERBERT E. DAVIES, M.A.(CANTAB), B.SC.(LONDON), F.I.C.

In the *Pharmaceutical Journal*, October 10, 1903, there was published a test for the detection and determination of yeast extract in meat extract. It is there stated that when a modified Fehling solution of a given composition is added to a olution of the extract and the mixture boiled for a few minutes, a bulky curdled precipitate of a bluish-white colour is thrown down if yeast extract be present, whereas with genuine meat extract no precipitate is given. It is further stated that the precipitation is quantitative, yeast extract giving approximately 10 per cent. by weight of this precipitate.

As no method has hitherto been known by which the presence of yeast extract could be detected, much less determined, this test has naturally attracted a good deal of attention, and samples of meat extract have been taken and prosecutions instituted under the Sale of Food and Drugs Acts without, so far as I know, any discussion or criticism of the process being published. During the past two months I have done a large amount of work on the test, and the results are so curious as to seem worthy of publication. It is at first sight obvious that the amount of tartrate of soda in the modified Fehling solution is very much less than is usually employed, and if the quantity of solution required for the test, namely ¾ oz., be boiled for two and a-half minutes with 1½ fl. ounces of distilled water a copious precipitate of oxide of copper is thrown down. It is well known that oxides precipitated in this way have a tendency to carry down with them organic matter of any kind which may be in solution, and I have found that if the proportion of tartrate of soda be increased to the amount usually employed in Fehling solution, no precipitate is obtained even with pure yeast extract. Some meat extracts have the power of keeping the copper in solution, because some samples I have examined gave no precipitate of any kind on boiling for even five minutes, but these samples are the exception.

I first worked with pure yeast extract using different samples of "marmite" to find if the method really gives quantitative results. The method as described was followed with the utmost care, the mixture being boiled for three minutes exactly. Four consecutive determinations made under identical conditions gave the following results:—

	Weight of Precipitate.
1.	7·5 per cent.
2.	14·3 per cent.
3.	13·7 per cent.
4.	5·2 per cent.

It could be seen that there was a large and varying amount of copper oxide mixed with the organic precipitate.

I also tried to obtain concordant results with a sample which I was informed was adulterated. This gave:—

	Weight of Precipitate.
1.	18·5 per cent.
2.	11·1 per cent.

Another sample said to be adulterated gave:—

	Weight of Precipitate.
1.	9·9 per cent.
2.	10·3 per cent.
3.	8·4 per cent.

these being the closest results which I have obtained with any one sample.

I next tried the method on pure extract of meat, and selected a brand of the best description and above suspicion. To my surprise this gave:—

	Weight of Precipitate.
1.	8·4 per cent.

and repeated tests have always given more or less precipitate, exactly answering the description given by Searl. On the other and, a well-known fluid meat extract gave practically no precipitate.

I also tried another solid extract as being a brand above suspicion. The results were:—

	Weight of Precipitate.
1.	3·1 per cent.
2.	4·0 per cent.

Since the first publication of the test, Searl has described a modification for use in doubtful cases. I have applied this modified test also to a pure meat extract, but as I still obtained a copious precipitate, it seemed useless to carry it further.

The only conclusion I can arrive at is that, in its present form, Searl's test is utterly misleading and requires much further investigation.

NOTE BY A. SEARL, F.C.S.

By the courtesy of Mr. Davies I have seen his remarks upon this subject. All my work was done on samples of yeast extract of known origin prior to the appearance of "Marmite," which, unfortunately, was mentioned in response to enquiries where yeast extract could be obtained, as it was the only one retailed as such in this country. I have since found that "Marmite" is misleading so far as this test is concerned as a standard of comparison, for it does not give anything like such striking and characteristic results, especially from a quantitative point of view, as the continental yeast extracts and such as were made earlier in this country. With this explanation I may say in the first place that though some genuine extracts of meat do give a light flocculent deposit under some conditions (in most cases almost invisible until filtered); it is altogether different from the "bulky curdled precipitate of a bluish-white colour" generally obtained from yeast extract, and the difference is so apparent to the eye that one can hardly mistake the one for the other. Mr. Davies refers to a *large* and varying amount of copper oxide mixed with the organic precipitate, and he says he boiled for three minutes, whereas I specifically stated one or two minutes; with longer boiling, oxide of copper is liable to be thrown down and most variable results obtained; but such a precipitate differs essentially from what I described. The whole point of the test is *not the weight*, but the physical characteristics of the precipitate. I have not claimed it as a reliable quantitative test, though with known weights of the older yeast extracts, used as a control, I have been able to deduce approximate results.

Of the test in question, James Campbell Brown, D.Sc., F.I.C., public analyst for Liverpool, who gave expert evidence in a recent case, in which Mr. Davies was the defendants' analyst, said:—

"The test is quite satisfactory in itself. If it is performed with skill and prudence it is not a fallacious test. Searl's test is quite satisfactory if you perform it in a proper way." Mr. Collingwood Williams, B.Sc., F.I.C., also public analyst for Liverpool, fully confirmed the opinion of Dr. Campbell Brown. The *Chemist and Druggist*, in an editorial (10/10/03), said: "Only this test was wanted to assure the exposure of the fraud. We find that the test works well."

Whatever the defects of this empirical test may be, the practical result of its publication has been to clear the market of the adulterated article, and it is now almost impossible to get hold of a sample. I shall, however, be pleased, as far as it is in my power, to obtain for any public analyst a small sample of the adulterated article for experimental purposes.

It has also been recently shown (*Journal of the Society of Chemical Industry*) that the yield of extract from yeast varies from 5·61 to 19·85 per cent., according to the method employed, so it is not surprising that different samples give divergent results; and I hope that the outcome of the discussion will be that a better test will eventually result therefrom. I need only add that the deposit from a solution of extracts of yeast, or meat extracts adulterated with same, will almost invariably show ruptured yeast cells when examined microscopically.

THE STUDENTS' COLUMNS.

MATERIA MEDICA (4).

Bearberry Leaves.

These are remarkable chiefly for their shape, very leathery texture, and bitterish astringent taste. Compare them with buchu leaves which, in addition to the difference in odour and taste, have a toothed margin. Examine the upper surface with a lens, and observe the depressed veins and veinlets.

Bearberry, *Arctostaphylos Uva-ursi* (N.O. Ericaceæ), is a small shrubby plant which is indigenous to Scotland, but our supplies of the leaves come chiefly from Germany. They contain tannin and gallic acid, to which astringent principles the taste is due; arbutin, a crystalline glucoside, to which the stimulant and antiseptic properties of the leaves are ascribed; ursone, a colourless crystalline substance; quercetin, a yellow crystalline body, and ellagic acid.

Witchhazel Leaves.

Witchhazel leaves are generally found in commerce in an indifferent state of preservation, and the student may have to search a little before finding entire leaves suitable for examination. Observe the sinuate-crenate margin, the rounded apex, and the unequal base. Examine the under surface. The midrib and lateral veins are conspicuous; the latter have the midribs at an acute angle, and pass straight to the crenations. In the angles of the midribs and lateral veins look for stellate hairs, but for this purpose select a young leaf, because the hairs fall off as the leaf approaches maturity. The drug has an astringent and bitterish taste.

These leaves are obtained from *Hamamelis virginana*, a shrub about 10 ft. in height, common in the United States and in Canada. They are used for arresting hæmorrhage from the lungs, nose, etc., properties that are due to the gallic acid and the tannin they contain. The fresh leaves distilled with water yield a slightly aromatic distillate. This, preserved by the addition of a little alcohol, is largely sold in America as a remedy for piles, etc.; it is practically identical with the liquor hamamelidis of the British Pharmacopœia, but as the tannin and gallic acid of the leaves do not distil over with the water, it is doubtful to what body the remedial properties of this preparation (if any) are due. Hamamelin is an extract prepared from the leaves or bark of the shrub by exhausting with alcohol, and evaporating the tincture thus obtained; it is a mixture of substances, and not a definite active principle.

Coca Leaves.

Two varieties of coca leaves are official, viz., Bolivian and Peruvian. Examine the Bolivian first, as they show the general characters of coca leaves better than the Peruvian. Observe that they are not much broken, entire leaves being easily found; they are brownish-green in colour, and on the upper surface the veinlets are prominent, just as they are in true jaborandi; at the apex there is a minute projecting point (apiculus), which, however, is often broken off. Examine the under surface of the leaf, and notice on each side of the midrib a slightly curved line running from the apex to the base; these lines are produced before the leaf expands, and although they are found on the Peruvian and other varieties of coca, they are sufficiently unusual to form an important diagnostic character. Observe also the slight but agreeable odour and bitterish, after a few moments, numbing taste.

These leaves are obtained from a shrub, *Erythroxylum coca* (N.O. Lineæ), which has been cultivated for many centuries on the lower slopes of the Andes. The leaves are used by the Indians as a nerve stimulant, just as we use tea or coffee; when chewed they allay hunger, and impart unusual powers of endurance. These properties are due to the alkaloids they contain, the most important of which is cocaine. By far the bulk of the leaves collected are used in South America for chewing, but a small quantity is exported, whilst much is worked up for alkaloid in Callao, this being exported instead of the leaves.

Erythroxylon coca is also cultivated in Ceylon, whence considerable quantities of leaves are sent to the London market; they agree in characters with the Bolivian variety.

Peruvian coca leaves may be distinguished from Bolivian by their green colour, fragile nature, smaller leaves, and less conspicuous lines on the under surface. The plant from which they are obtained is now considered to be a distinct species, and is termed *E. truxillense*. It is cultivated in Java, and to a small extent in India, the Java leaves finding their way chiefly to Germany.

In addition to cocaine, other alkaloids are present, viz., cinnamyl-cocaine and truxilline. Peruvian leaves contain more cinnamyl-cocaine and truxilline and less cocaine than Bolivian, whence it follows that they are inferior in quality. Coca leaves also contain coca-tannic acid, resin, and several yellow crystalline substances.

Literature.—Greenish's 'Materia Medica'; 'British Pharmacopœia'; the descriptions of the drugs dealt with.

PRACTICAL NOTES AND FORMULÆ.

Eucalyptus Formalin.

Formalin, 1; tincture of eucalyptus, 1; alcohol, 80 per cent., 8. Mix. This forms an active antiseptic, suitable both for disinfecting the sick chamber and for direct application in endometric catarrh, blennorrhagia, and vaginitis. For injections use two tablespoonfuls to 35 fl. oz. of water; as a disinfectant, one tablespoonful to a like quantity of water, which should be evaporated in the room.—*Bull. Comm.*, **31**, 374.

Victoria Bouquet.

Essential oil of almonds, 3 minims; neroli oil, 4 minims; cinnamon oil, 6 minims; otto of rose, 16 minims; clove oil, 1 drachm; lemon oil, 2 drachms; bergamot oil, 2 drachms; millefleurs, 2 drachms; violet extract, 2 drachms; jasmin extract, 2 drachms; musk essence, 3 drachms; ambergris essence, 3 drachms; alcohol (90 per cent.), 12 fl. oz.—*Spatula*, **9**, 548.

Mona Bouquet.

Benzoic acid, 6 grains; neroli oil, 20 minims; clove oil, 1½ drachms; otto of rose, 2 drachms; bergamot oil, 2 drachms; sandal oil, ½ fl. oz.; essence of musk, 3 fl. oz.; tincture of orris, 4 fl. oz.; rose water, 5 fl. oz.; alcohol (90 per cent.) to make up to two pints.—*Spatula*, **9**, 482.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN.

EDUCATIONAL MEETING IN LONDON.

WEDNESDAY, January 20, 1904, at 17, Bloomsbury Square, London, the PRESIDENT, Mr. S. R. Atkins, in the chair. There were some forty or fifty pharmacists present, many of whom came from the provinces.

Letters of Regret.

The PRESIDENT, in opening the proceedings, stated that he had received letters and telegrams expressing regret for absence from Dr. Symes, Mr. Cooper, Mr. Rymer Young (absent through indisposition), Mr. John Harrison, Mr. W. G. Cross, Mr. E. S. Peck, Professor Potter, Mr. Marsden, Mr. Gerrard, and Mr. Gulliver. Professor Smithells, of Leeds, had written to say that he was much interested in the subject of Dr. Wild's address as an examiner and university teacher. He thought it was incumbent on the universities to give increased attention to the claims of pharmacy, and hoped to do his share for pharmacists in the new University at Leeds. Professor J. Millar Thomson, whose official duties had prevented him from attending the meeting, said that Professor Jackson, of King's College, an examiner to the Pharmaceutical Society, would be present, and that gentleman was intimately acquainted with the present aspect of chemical professional education.

Continuing, the PRESIDENT said that the meeting was of great importance, and might well indicate the commencement of an important departure in pharmaceutical education. He had the great honour to introduce Professor Wild, a gentleman who had come from Manchester to speak on a question which he was able to discuss with unique authority. Professor Wild knew the working of a university, and knew also much of pharmacy and pharmaceutical students. It was unusual to find one who was so intimately acquainted with both sides of the equation. They in that room knew something—they ought to know much—of pharmacy and pharmaceutical students, and they had also some acquaintance with universities. There was one observation, which he (the President) would make as the result of long experience. It was this:—The goal at which they must aim as the ultimate result of the educational processes which they adopted, was to produce a highly-cultured pharmacist. On the question of *cui bono* he was prepared to meet objections, but it was too late to raise that question now. In the stress of modern conditions of business, he was sure that they should not aim to shield young pharmacists from competition, but to prepare them to meet it. That was his firm conviction, at which he arrived after many years of thoughtful study of the question. In addition to Professor Wild, they had with them that day Mr. Wippell Gadd, who had come from Exeter to communicate a paper. Possibly, Mr. Gadd would give a *résumé* of his paper if there were not time to read it in full. The discussion on Mr. Gadd's paper at the meeting of the British Pharmaceutical Conference, at Bristol, could not take place for want of time.

Professor R. B. WILD, M.D., then read a paper, the text of which is printed in full at page 78, *et seq.*, on the subject of

University Education for Pharmacists.

The PRESIDENT then said he thought it would be convenient if Mr. H. Wippell Gadd would read his paper, or as much as he thought fit, at that stage. He noticed that the title of the paper had been slightly altered since Mr. Gadd read his paper at the meeting of the British Pharmaceutical Conference, from "A Concurrent Curriculum" to "Concurrent Curricula."

Mr. GADD said the alteration mentioned by the President was not made by him. When he sent up the title of his paper it was "A Concurrent Curriculum," but on receiving the notice of the meeting he found it had been altered to "Concurrent Curricula," and, as he did not venture to question the wisdom of the Pharmaceutical Society, he let that title stand. Mr. Gadd then read his paper on

A Concurrent Curriculum,

which is printed at page 82.

The Discussion.

Professor JACKSON, of King's College, who was requested by the PRESIDENT to state his views on the subject, said he was in complete agreement with everything that Professor Wild had said. He did not believe anyone would deny the desirability of having some such scheme as was suggested, but, without wishing to depreciate in any way the remarks of Professor Wild, he thought his suggestions were rather a counsel of perfection. Still, the matter was of the highest importance to pharmacy, and it was clear that Professor Wild was of opinion that pharmacy was in a very unsatisfactory condition, and the question was: What is the remedy for that unsatisfactory condition? To his mind the present state of things in pharmacy meant a serious loss to the community—he would not say the health of the community. For the amount of knowledge and painstaking research work that had been done in the past by pharmacists was of extreme value. Their empirical knowledge could not be acquired from any scientific text-books, and it would be a serious loss, and a detriment to scientific knowledge at large, if practical pharmacists, owing to modern conditions affecting pharmacy, were unable to continue their researches. He had examined candidates for the Major Examination whose knowledge was so extensive and general as to entitle them to a degree in science, and it seemed to him a pity that such knowledge should be wasted. The question was not so much how to increase their scientific knowledge, but how best to apply the knowledge already possessed by pharmacists. Pharmacy was, perhaps, not in a worse position than it was—probably better—but it was not appreciated as it ought to be by two classes of the community—medical men and the public generally. He believed there was still a good opening for the pharmacist if the public could be taught to appreciate and recognise the importance of the art of pharmacy. Almost anyone could acquire a sufficient knowledge of science to obtain a university degree, but to practise properly the art of pharmacy that empirical knowledge of drugs was required which could only be obtained by the practical pharmacist, and many problems, still to be solved, in regard to the properties of drugs and medicines, could not be investigated by scientists for lack of that knowledge. Therefore, at the present time there was a chance for the pharmacist to show that there is something in pharmacy. He thought it would be a good means of educating the public to recognise the importance of pharmacy if public bodies would establish, in all large towns and in populous districts, public pharmacies where the poorer people might get physicians' prescriptions dispensed by fully-qualified pharmacists. He did not mean an "open shop" for the sale of drugs, but a pharmacy for the dispensing of prescriptions subsidised by the local body. If that were done, he believed the effect would be to bring back the nearly lost art of writing a prescription. At the present time the medical man was not taught and never learned what was meant by prescription-writing; it was a sealed book to him, and it was only the empirical knowledge of drugs gained by experience and the general health of the patient that produced the result required. He did not quite agree with the suggestion that pharmacists might become the public analysts of the future, because if an attempt was made in that direction it would bring upon them a storm of criticism from another body, and he did not think that was desirable. The public analyst required a special training.

Professor Greenish said the subject dealt with by Professor Wild and Mr. Gadd was one of extreme importance to pharmacists, and they would have to give it very serious consideration. The scheme which Professor Wild had sketched out was extremely concise and, put before the meeting in such a very intelligible manner, would, he felt sure, commend itself to the leaders of pharmaceutical education. There was a doubt in his mind, however, whether the proposal to take a lad straight from school to the pharmacy and after three years to place him in a college to receive a scientific training, would prove to be successful. His experience was that if a lad was taken from school and put into a business, he was apt to lose the habit or faculty of acquiring knowledge. That meant that when he took up his studies again he was a long time in regaining that desire, faculty, and habit of thought which were necessary in college training. Professor Wild's suggested college course was one which, he thought, it would be difficult to improve upon, and it would be of great advantage in the training of pharmacists. The system adopted in the School of Pharmacy was, unfortunately, unavoidable, and during the past few years it had been pitiable to see young men of twenty-two or twenty-three years of age taking up their preliminary school books again in order to pass the matriculation examination which would open the door for them to the degrees they were desirous of obtaining. He thought it would be much better if boys intending to go in for pharmacy and subsequently a university degree would take the matriculation examination of a university while at school, and if that examination was recognised in lieu of the Preliminary. As Dean of the School of Pharmacy he was frequently consulted by parents, and he was struck by the ignorance they displayed in regard to the desirability of their boys passing a matriculation examination. They seemed to think that if their boys passed the examinations which would admit them for the Minor Examination of the Pharmaceutical Society, that was sufficient. He did not quite gather from his paper whether Professor Wild advocated a definite course for those who intended to go in for a pharmaceutical qualification only and another for those who intended to take a university degree, but he thought it might be advisable.

Mr. F. W. Branson (Leeds) suggested that it would be a good thing if university professors would use their influence to get one examination for entrance to the various universities. He thought it would tend to simplify the problem, and would not be a loss to the universities. He believed that if it was possible for pharmaceutical and medical students to move along in the same direction up to a certain stage it would be an advantage. It was also desirable for the Minor Examination to be boldly struck into two parts—scientific and practical. The scientific portion of the examination might be relegated to the universities and the technical to the Pharmaceutical Society. If some such general principles could be grasped and drafted into a suitable scheme he thought it would narrow the solution of the difficulty. It had occurred to him since he came into the meeting that the B.Sc. degree might be accepted by the Pharmaceutical Society to take the place of the various subjects, provided botany, chemistry, and physics had been taken, and provided the candidate was examined in practical pharmacy. He agreed with Professor Jackson that public analysts needed a special training, but when public analysts came to examine drugs they were at a very serious disadvantage, because their knowledge of drugs was deficient. He thought there were two classes of pharmaceutical students to be catered for—the needs of one class could be met by the excellent facilities which now existed in various parts of the country, and the other could be met by the universities. There should be some amount of elasticity allowed in any scheme of university training for pharmacists.

Mr. Carteighe said Professor Wild was perhaps not aware that attempts had been made by members of the Council from time to time to try to get a special curriculum in association with the University of London, and that there was in the charter of the University the word "pharmacy," which had been put in for a specific object at the suggestion of some who were in that room, with the assistance of Sir Michael Foster. There were certain boards appointed by the University, and those boards laid down the conditions under which degrees should be given. It would be necessary—and the Council was in communication with the University at the present time about the matter—that a Board of Pharmacy should be established in London in connection with the University, not necessarily to compel every chemist and druggist to go through a university curriculum, but to enable those who were able and willing to get the degree of B.Sc. in pharmacy, just as a B Sc. in engineering or architecture was obtainable. It was very important that pharmacists, in applying for recognition of that kind, should make it quite clear to the medical boards of the old universities that they did not want to be "doctors"—Heaven save the mark; he did not know that doctors were not worse off than pharmacists. He knew that, except for a few young men who aspired to the better social position of a doctor, there were not many pharmacists who desired to be doctors, because they knew that medical men in various parts of the country had a tremendous fight to make a living. But it was perfectly practicable for the Society to arrange with universities that the men who passed an equivalent of the Major Examination should obtain degrees in science, and should not be further examined in any technical subject at that stage, but should be admitted as pharmaceutical chemists. As for the Minor men, they could not say anything further than this, that if the Minor men took a course such as suggested they would be greatly benefited. Such a scheme meant a curriculum, and Mr. Gadd's suggested scheme would not apply to the old universities, because they would insist on "whole time," and not "part time," students. The universities would pay more attention to the time involved in the training than to the results of that training. He saw no difficulty in framing such a scheme as that proposed in connection with the University of London, and in making it work with the Charter of the Society, if they could get their own body to realise the importance of training, and there was no reason why the scheme should not apply to other universities in various parts of the country. It was not necessary that every chemist and druggist should take a degree, but if there were fifty pharmacists, each holding a B.Sc. degree, spread over the country, it would leaven the whole of pharmacy, and advertise, as it were, to the public that the pharmacist deserves remuneration for his work.

Mr. T. Maben (Glasgow) expressed the pleasure it had given him to hear the papers read by Professor Wild and Mr. Gadd.

He pointed out that there were districts where the physician and the pharmacist could not subsist side by side, yet it was necessary that the public should be able to obtain carbolic acid and other drugs, for legitimate purposes, from persons trained and qualified to deal in them, though those persons could not make a living from pharmacy. Therefore, he did not quite agree with the idea of a compulsory curriculum. He thought Mr. Branson had indicated the better solution of the difficulty.

Mr. **Walter Hills** complimented the authors of the papers, and remarked that the position seemed to be something like that existing in politics at the present time. Professor Wild had put forward the ideal scheme, while Mr. Gadd's suggestions were perhaps the more practical, but he was inclined to favour the scheme of Professor Wild. He had often thought that there should be only one qualification—that of pharmaceutical chemist, and that there should be a division of the examination on the lines suggested by Professor Wild. The subject of pharmaceutical education was constantly before the Council of the Society, and he remembered when he first joined the Council, during the time of the late Mr. Schacht, they discussed the question of the relative examinations in the so-called scientific subjects; but when they brought out a scheme before the public there was no enthusiasm on the part of the chemist and druggist to support them in obtaining fresh power from the Legislature. And the difficulty now was to get enthusiasm behind them to enable the Council to get the necessary powers.

Dr. **Attfield** referred to the work of the past in the direction of better pharmaceutical education, and complimented the authors of the papers.

Professor **Wild** and Mr. **Gadd** having replied to the remarks of the various speakers, a cordial vote of thanks was accorded to them, on the motion of the **Vice-President**, seconded by Mr. **Carteighe**.

The meeting then adjourned to the Examination Hall, where refreshments were provided.

EVENING MEETING IN EDINBURGH.

Wednesday, January 20, 1904, in the Society's House, 36, York Place, Edinburgh, Mr. D. B. Dott in the chair.

The minutes of the last meeting were read and approved. Apologies for absence were intimated from Messrs. Barrie, Davidson, Doig, Glass, Lunan, and Maben.

The first communication was a

Note on Glycerinum Pepsini

by Mr. **Peter Boa**. The paper is printed at page 84.

Mr. **William Lyon** said he had made this preparation frequently in small quantities, and probably did not find it so difficult as in large quantities. The B.P. directions were unsatisfactory, but one was expected to use intelligence in carrying them out; he used powder pepsin, and not scale pepsin. His method was to put the pepsin in a dry mortar and rub smooth with the glycerin, then add the water and hydrochloric acid. Of course, pepsin preparations tended to precipitate, and they must stand seven or ten days before attempting to clarify. Pouring off was quite impracticable; he used a calico filter, and the remainder of the water required to make one pint was used to wash the filter. He had no difficulty in making it bright and clear by that method. The scale pepsin was more difficult to manipulate, because it was so soluble in water, and got agglutinated into small particles with undissolved pepsin in the centre.

Mr. **McDiarmid** said his experience agreed with that of Mr. Lyon; but he found it best to rub up the pepsin first with a little water, and then add the glycerin. He had a batch on at the present moment which had been standing for a week, and to-day it presented a muddy-looking appearance, but was now showing signs of separation. Mr. Boa mentioned three months as the time it would require to clear, but he would be inclined to say six months. He would like to ask if there was any means of hurrying the separation, and wondered if a calico filter would be of any use. He had observed that powdered pepsins containing milk sugar or other diluent separated clear quicker by the heavy powder subsiding. He asked if it would not be better for the Pharmacopœia to define some particular kind or brand of pepsin to be used for all official preparations.

Mr. **Innes Fraser** said he could corroborate Mr. McDiarmid. Pepsin should always be rubbed up with water. It is really necessary to dissolve in water and then there is no difficulty. Where there was difficulty it was the pepsin that was at fault. At the same time he thought adding all the water was unobjectionable so long as it was made up to the proper strength.

Mr. **Rutherford Hill** said he had received a note from Mr. Maben regretting his absence, and saying there was no foundation for the assertion that he had libelled Scottish pharmacists. What he said and repeated was that glycerin of pepsin was often made in Scotland by diluting a concentrated glycerol according to a formula much in use, but which gave too weak a product. The error, which he knew to be a common one, was entirely unintentional on the part of pharmacists, and so far from thinking he had libelled them, they would thank him for pointing it out.

Mr. **Dott** said he had made this preparation only once, and perhaps had not sufficient patience. He found it unsatisfactory and nothing like clear. He thought it would be much more satisfactory if it was not so thick. He had pleasure in thanking Mr. Boa for this practical communication.

Mr. **Boa**, in replying, said he had not used powder pepsin, but had tried several granular and scale varieties. The most notable point of difference was that some smelt very strongly and others had no smell. It was quite true that operators were expected to use discretion in carrying out B.P. directions, but he did not see why in this case they should be left in doubt, while in some other cases the directions were so detailed as to be embarrassing and tedious.

Mr. **Boa** having taken the chair, communications were read on

Liquor Ferri Perchloridi Fortis and Podophyllin

by Mr. D. B. **Dott**, Ph.C., F.I.C., F.R.S.E. The communications are printed at pages 84-85.

Mr. **Stephenson** said Indian podophyllin was not a commercial article when he was in India, and the fact that it appeared in the Indian and Colonial Addendum was, as he had previously pointed out, no proof that it was yet a commercial article. Most of the articles mentioned in the Addendum were not commercial at all. The conflicting statements made regarding it no doubt indicated need for investigation before they could adopt it as a substitute for the American resin.

Mr. **Lyon** said he had worked at the subject of podophyllin from a slightly different point of view. His object was to determine the relative value of acetone and alcohol in extracting the resin. The results made it difficult to account for the orange and greenish appearance of commercial samples of podophyllin. He had no difficulty, on following closely the B.P. directions, in obtaining a product of a nice yellowish-white colour. With acetone he got 3·8 per cent. and with alcohol 3·86 per cent., so that there was practically no difference in the yield. One thing he noticed was that when the acetone solution was added to the water and hydrochloric acid there was a tendency to assume an orange colour. The same thing happened if the alcohol solution was at all warm when added to the acidulated water. That seemed to support the contention that the colour of commercial podophyllins was due to lack of care in drying.

His sample, being small, was easily dried in the sun. The whole subject of podophyllin was obscure and the chemistry of it in confusion. It was a very fitting subject to be taken up, say, in the Society's Research Laboratory in London, if the staff had any time to spare. It meant an enormous amount of very elaborate work.

Mr. McDiarmid said he would like to ask if chlorine was likely to be developed in the Liquor Ferri Perchloridi, or any chlorinous body given off. He made a quantity, and half of it was sent out, but, shortly after, many complaints were received of shop bottles being burst. The other half had remained quiescent on the floor of his laboratory. On smelling the liquor it had always had a suggestion of chlorine, but, if properly made, it should contain only ferric chloride and a little hydrochloric acid.

Dr. Dobbin, on being appealed to, said if too much nitric acid was used, no doubt that would account for what had occurred. In this connection he would like to allude to a thought that had occurred to him regarding the pharmacopœial names of these iron salts, such as the perchloride, the persulphate, and the pernitrate. They had now the recently discovered salts, which were, strictly speaking, persulphates, and it would be a gain if the compilers of the B.P. could latinise such names as Ferri Persulphas so as to avoid confusion with the true persulphates, which were totally different.

Mr. Rutherford Hill said he had frequently observed the presence of an apparent excess of acid in Liquor Ferri Perchloridi, and also occasionally the acid seemed to be deficient, causing separation of a basic chloride on standing. On learning of Mr. Dott's method he had tried it, but found some difficulty in fixing the point at which a permanent precipitate appeared. What seemed a permanent precipitate would disappear on shaking, and, allowing to stand for a little. It occurred to him to add a definite volume of normal sodium hydroxide in excess of that required for complete precipitation of the iron, filter and wash till the washings cease to indicate chloride, and titrate back the filtrate with standard sulphuric acid. This gave concordant results and readily detected any abnormal proportion of acid either in excess or deficiency. It also occurred to him that the same object would be attained by determining the total chlorine. This can very conveniently be done by an extension of the process for determining the amount of iron given in the Pharmacopœia. All that is necessary is to collect the filtrate and washings obtained in the precipitation by ammonia, neutralise with sulphuric acid, and titrate with standard solution of nitrate of silver, using potassium chromate as indicator. He had tried the method of detecting free chlorine, which was very easily carried out, and, he thought, effective. One point, however, must be noted—the absence of nitric acid must be insured, as a trace of it decolorised the indigo. He had also found that by prolonged boiling some change seemed to take place in the liquor, which resulted in the evolution of some chorinated compound which decolorised the indigo. This was a danger to guard against, but did not vitiate the test, because the presence of even a minute trace of free chlorine decolorised the indigo almost at once.

Mr. Dott, in replying, said the test he suggested did not profess to be very accurate, but it was only intended as a ready means of determining whether an excessive quantity of hydrochloric acid was present in the liquor. Certainly the presence of nitric acid would vitiate the proposed test for free chlorine, and it must be proved absent. Possibly some colour not affected by nitric acid could be used. He thought it should be possible to adopt Dr. Dobbin's suggestion about persalts of iron; they might call the ferrous salts ferrozum and the ferric salts ferrirum. The investigation of podophyllin was difficult. Many investigators seemed to have formed conclusions beforehand. He agreed with Mr. Lyon's suggestion that it was a fitting subject for the Research Laboratory, because it involved a great amount of time.

On the motion of Mr. Boa, a vote of thanks was awarded to Mr. Dott, who again took the chair.

The next communications were a

Note on Sodium Arsenate,

and a

Note on Lead Acetate,

by Mr. Thomas S. Barrie, Ph.C., F.C.S. The papers are printed at page 85.

Mr. Rutherford Hill said he had dissolved seven different samples of lead acetate in pure boiled distilled water, and all of them gave a more or less milky solution and a slight and variable alkaline reaction with litmus.

Dr. Dobbin said his attention had been called to this very point regarding sodium arsenate some time ago. He had been struck by the great discrepancy between the figures as to the amount of lead acetate required for the precipitation of the arsenate, and had looked into the history of the matter. He had not examined the matter experimentally, but had only examined what the authorities had to say, and he was surprised to find that text-book after text-book stated that when sodium arsenate and lead acetate reacted the result was tribasic lead arsenate. At last he came across an authority who gave Mitscherlich as the origin of that view. On referring to what Mitscherlich actually said in 1821, he could find nothing to justify the statements in the text-books. What Mitscherlich said was that he found acid lead arsenate, but usually mixed with some tribasic lead arsenate. He then gave directions by which the tribasic arsenate alone would be obtained. One of the chemical dictionaries referred to an authority in 1868, who was surprised to find that, contrary to what the text-books said, only the acid lead arsenate was formed when solutions of sodium arsenate and lead acetate were mixed. He proved this by elaborate analysis. So far as he could find, no one had obtained the tribasic arsenate except by using alkali in conjunction with the sodium arsenate and lead arsenate. He was inclined to think, therefore, that the weight of authority was against Mr. Barrie, but the point could only be settled by practical experimental work as to lead acetate. With regard to lead acetate it was a platitude to say that Mr. Barrie's alkaline samples, and also Mr. Hill's were not B.P., but it did not follow that they were not once so, and stood the test. It was well known that lead acetate had a slight smell of acetic acid, and a sample which had lost acid by exposure would give an alkaline solution. The B.P. said nothing about the preservation of certain salts like this in carefully closed bottles, and in that respect differed from the German. All the samples shown might once have been B.P., but frequent opening of the bottles had caused them to become unsatisfactory. He had that day taken a clear crystal of lead acetate and dissolved it in water, and the solution was distinctly acid. By scraping one of the lumpy pieces on to moistened blue and red litmus paper, alkaline spots appeared on the red and acid spots on the blue, showing that the outer opaque particles were basic and the inner acid. It stood to reason that, as acetic acid was constantly being given off, the salt would become alkaline.

The Chairman said it was evident the ordinary lead acetate was a mixture of both basic and normal acetates. He had always observed a tendency in lead salts to form basic compounds. He proposed a vote of thanks to Mr. Barrie, which was cordially awarded.

Attention was then directed to recent additions to the Library and Museum. On the motion of the Chairman, votes of thanks were awarded to the donors of books and specimens, and the meeting then closed.

EDINBURGH DISTRICT CHEMISTS' TRADE ASSOCIATION.

COMPLIMENTARY DINNER AND PRESENTATION.

On Friday, January 15, 1904, Mr. C. F. Henry and Mrs. Henry were entertained at a complimentary dinner in the Balmoral Hotel, Prince's Street, Edinburgh, in connection with Mr. Henry's retiral from the office of Honorary Secretary. Mr. W. S. GLASS, President, occupied the chair.

After an excellent dinner, and the loyal toasts having been duly honoured,

Mr. J. P. GILMOUR (Glasgow) proposed

The Pharmaceutical Society and North British Branch.

He said he did not intend to follow the somewhat common practice of attacking the Society, nor did he see why anyone should have the slightest cause to be ashamed of it either in proposing or replying to this toast. Its first duty was the protection of the public, and that was made very clear in all the Acts relating to it and in all its proceedings. It was the duty of the Society also to preserve the legal rights of registered chemists. It was well in this connection to remember that it was only by persevering agitation that the Society succeeded in creating these legal rights. It might be that they had been damaged, but he could not blame the Society for that. They did their best. These rights could only be conserved by all joining and assisting in every way to maintain their just rights. He thought the Society had done good service in raising the educational standard of the entrance examination. The Library and Journal were also most valuable as educational agencies. He was inclined to the view that the Council would have done well to have left the medicine stamp business to the parties who originally took it up; and he thought the suggested 'Compendium of Medicines' should also be dropped, if it could be done gracefully.

Mr. W. L. CURRIE, in responding, said he was glad that his first public utterance as representing the Society since his co-optation to the Council should be in Edinburgh, and at so interesting a function as this well-deserved recognition of the excellent services rendered by his friend Mr. Henry. He agreed with much that Mr. Gilmour had said. As to the medicine stamp difficulty, it was to be noted that the deputation was to confer with rather than dictate to Somerset House, and he believed a better feeling had been produced though the Council was not informed as to what exactly had transpired. As to the Compendium, he would just say that it was a mistake to suppose there was any friction between the Council and the Formulary Committee of the B.P.C. There was not the slightest friction. It was understood, when the Compendium was first proposed, that it was to be a means of obviating difficulties about stamped medicines; but it was now going to be quite a different thing, more in the nature of a book of reference.

Mr. D. B. DOTT, in responding for the North British Branch, said he thought a preferable name would be "Scottish Branch," the phrase North British being an undesirable inheritance from the Stuart rebellion. The scheme of Mr. Tocher was now practically complete, and had been accepted by all the Scottish Universities, and he hoped they might soon see some of its fruits.

Presentation to Mr. Henry.

After a short interval the CHAIRMAN (Mr. W. S. Glass), in the name of the Association and several brother pharmacists throughout Scotland, presented to Mr. and Mrs. Henry a very handsome Queen Anne tea and coffee service in solid silver, and in doing so paid a high tribute to the public and private worth of Mr. Henry and the eleven years of devoted service which he had rendered as Secrtary of the Association, since its foundation in 1892. Mr. J. A. FORRET presented an illuminated address, bearing the names of 109 subscribers, and a massive silver tray to Mrs. Henry. Mr. GEORGE LUNAN, Convener of the Presentation Committee, handed to Mr. Henry a purse of sovereigns.

Mr. J. RUTHERFORD HILL then proposed the toast of

Our Guests.

He said Mr. Henry was a many-sided man, and had taken a prominent place and done distinguished service in religious, social, municipal, political, and mercantile association work, in addition to all that he had done in connection wth pharmacy. Mrs. Henry had endeared herself to all by her uniform brightness of disposition, and her deep interest in all the work her husband undertook for pharmacy.

Mr. HENRY, in responding, said he would have been content to do the work, which was a pleasure to him, without any other desire than to have their grateful recollection. One of his great pleasures in the secretaryship was the opportunity it gave him to form the acquaintance of the members and of other chemists throughout Scotland. He desired to thank them also for their kind recognition and appreciation of his wife. These beautiful gifts would be treasured by his family as a memorial of their generous appreciation.

Mr. W. LYON proposed the toast of

The Edinburgh District Chemists' Trade Association.

He believed that in the development of the scientific and professional element lay the true future of pharmacy; but he recognised that trade interests also demanded attention, and it was to these that the Association confined its attention. The Association had been animated by a broad and catholic spirit in the subjects it had taken up and had done good service. Mr. W. S. GLASS responded.

Mr. DONALD MCEWAN proposed the toast of

The Ladies,

to which Dr. GEORGE COULL humorously responded.

The evening's proceedings were pleasantly diversified by songs and duets, rendered by Mrs. Rowland, Miss Stewart Reid (Mrs. Bell), and Messrs. Bell, Currie, and Rowland. Mr. PETER BOA proposed "The Chairman and Croupiers," Mr. CHARLES KERR moved a vote of thanks to the Honorary Secretary for the excellent arrangements, and Mr. W. B. COWIE proposed a similar vote of thanks to the vocalists.

CHELTENHAM AND DISTRICT CHEMISTS' ASSOCIATION.

FIRST GENERAL MEETING.

Friday, January 15, 1904, at the Imperial Hotel, Cheltenham. There were present:—Messrs. Barron (President), J. A. Thomas (Secretary), Palmer (Treasurer), Councillor Stewart, Messrs. Jeffrey, A. Hill, W. H. Hill, Hawley, James, Chambers, Pattison, Saxby, Wilkins, Stroud (Tewkesbury), and Lee Hall (Winchcombe).

The HON. SECRETARY read the rules, and explained the objects and aims of the Association.

Old Cheltenham Pharmacists and Pharmacies.

The PRESIDENT heartily welcomed the members, and then proceeded to address them on "Old Cheltenham Pharmacists and their Pharmacies," tracing the rapid growth of the town and the trade during the first quarter of the last century, with personal reminiscences of the chemists in 1848. He alluded to his own experiences as apprentice and assistant from 1844 to 1848, with some topical allusions, amongst others claiming for the "Effervescing Cheltenham Salts"—the manufacture of which, artificially, formed so large an item in the Cheltenham laboratories of those days—that they were the progenitors of the "Lamplough's," "Eno's," and the legion of granular effervescing purgative salines of to-day. He also referred to the original introduction of chlorodyne, Dr. Collis Browne making his experiments and manipulations in the speaker's own establishment; also the establishment in Cheltenham of Paythiery and Savory at the end of the eighteenth century, the foundation of the historic Bond Street firm, Savory and Moore.

The President was listened to with attention and interest for upwards of an hour, and was awarded a hearty vote of thanks.

Music and song enlivened the social intercourse which took place after the formal business of the evening.

SOCIETY OF CHEMICAL INDUSTRY: NEWCASTLE-ON-TYNE SECTION.

SPECIAL MEETING.

Monday, January 18, 1904, at the Durham College of Science, Newcastle. The President of the Society (Sir William Ramsay, K.C.B., F.R.S.) delivered a lecture on

Radium and the Inactive Gases of the Atmosphere.

Dr. J. T. Dunn, Chairman of the Section, presided over a crowded audience, and was supported by Sir Andrew Noble, Bart., K.C.B., Sir G. H. Philipson, M.D., and others.

Sir William Ramsay, in the course of a lecture of absorbing interest, said it was possible that certain subjects which did not appear to have any bearing on the chemical industry might ultimately prove to be not merely "paying" in character, but lead to a very large increase in the world's happiness and wealth. Alluding to chemical discoveries in Germany, the lecturer said that in the German polytechnics, or industrial high schools, young men were given a knowledge of what had been already done, whereas in the German universities the professors were unfettered by any restraint of the kind, and could investigate, with their students, any problem which they considered was worth trying to solve. Most of the revolutionary discoveries which had in the long run aided tne chemical industry had come, not from the German polytechnics, but from the German universities. The lecturer proceeded to speak of the work which he and his assistants had been engaged in during the past nine years. He then spoke of the discoveries of Professor Becquerel, of Paris, and of Madame Curie. After speaking of the three kinds of rays emanating from radium, the speaker said that the object of the chemist was to find out what chemical changes—what transmutations matter went through when subjected to the bombardment of electrons? He thought a great revolution would be brought about in chemistry by experiments with radio-active substances, and he firmly believed they were getting now at what might be termed the answer to the problem of the transmutation of matter. He would be the last man to say that the expectations of the old alchemists were to be realised. The transmutation of gold into silver would cause a revolution, but the transmutation of other elements would be a paying concern, and would not disturb the world.

Mr. N. H. Martin proposed a vote of thanks to Sir William Ramsay, and alluded to his great ability and patient industry in the cause of science.

Mr. John Pattinson seconded the motion, which was carried very heartily.

Later in the evening Sir William Ramsay was entertained to dinner by the members of the Newcastle Section at Tilley's Restaurant.

LEEDS CHEMISTS' ASSOCIATION.

SPECIAL MEETING.

Thursday, January 14, 1904, at the Grand Central Hotel, Leeds, the President, Mr. G. Worfolk, in the chair.

Co-operation Among Chemists.

The meeting had been called for the purpose of hearing an address by Mr. W. R. Maud, of Pontefract, on the "Production and distribution of standard medicinal and other preparations by registered chemists only in co-operation." Mr. Maud said that every modern development seemed to tend to deprive the chemist more and more of the opportunity of exercising the calling for which he had been trained. "Patents" had undoubtedly fostered laziness in the chemist, and so the sour grapes which their fathers had eaten were setting on edge the teeth of the chemists of to-day. Whilst the chemists had the trade in "patents" pretty well in their own hands, they were fairly content, but a very different feeling prevailed now that capital had so largely turned its attention to distribution. He admitted that the P.A.T.A. had done something to minimise the evil in stopping the cutting, but, in regard to the Pharmaceutical Society, he was of opinion that expectations were built upon its work which its powers did not justify. He did not think that it was possible for the Pharmaceutical Society or any other body to induce Parliament to grant much further State aid to chemists. Parliament looked at the question from a totally different point of view to that of the chemist, and would tend to go even more in that direction in the future. State aid, therefore, being highly improbable, should they not rather look to some co-operative effort of their own for an improvement in present conditions. Ought it not be possible for 200 associated chemists to do for themselves what a distributing company with 200 shops could do? And if such possibilities were opened out before the view of chemists, would they not be likely to cause all chemists to flock to the membership of associations, and so make these bodies so strong that they would be able to do what he suggested? If something of the sort were not done, he ventured to predict even more serious difficulties for the chemist than those which were at present encountered. He had recently, for instance, noticed an advertisement of a certain nostrum, at the foot of which appeared the words: "To be obtained at all stores or grocers," the chemist being left out of consideration altogether. After giving detailed instances of the sort of action that might be taken, Mr. Maud suggested that a committee should be formed, consisting of two representatives of each of the associations interested, to prepare a scheme and eventually submit it to the consideration of the associations.

Mr. Broadhead, of Batley, spoke at some length in support of Mr. Maud's proposals.

Mr. Beacock suggested that there would be a difficulty in getting chemists to subscribe the necessary capital, and urged that, in case such a scheme were to be proceeded with, it would be of the utmost importance for them to take steps to get the medical men on their side. His own inclination, however, was strongly in favour of a committee being appointed, in the hope that a workable scheme might be prepared, and he moved a resolution to the effect that that Association should send two representatives to such a committee.

Mr. Mundell spoke strongly in support of the view that such a scheme was within the range of practical possibilities.

Mr. Pilkington Sargeant seconded the resolution, and in doing so said the present state of affairs was to a large extent due to the action of registered chemists themselves, who frequently put a proprietary article on the market, and sometimes, indeed, such action was taken by a prominent member of the Pharmaceutical Society.

The President described himself as an old-fashioned chemist, who had always been able to make and sell his own preparations, and he could not say that he felt favourably disposed towards such a project.

Mr. Yewdall and Mr. Hollingworth both raised objection to the proposal on the ground that it would involve enormous expenditure in advertising before any preparation upon which they might adventure could make its way.

Mr. Maud observed that he had not suggested any productive competition with "patent medicines," which, in his opinion, would be far too big a thing for the associations to undertake. What he did suggest was that chemists should combine to take advantage of the possibilities which undoubtedly lay before them in regard to certain classes of products, which could be produced for them in combination just as easily as they could be produced for any big distributing company.

A resolution was eventually passed approving of the principle of the scheme, and appointing Mr. Beacock and Mr. Mundell as the representatives of the Association on the committee which Mr. Maud advocated.

CHEMISTS' ASSISTANTS' ASSOCIATION.

ORDINARY MEETING.

Thursday, January 14, 1904, at 73, Newman Street, London, the President, Mr. A. B. Britton, in the chair. This was the first scientific meeting of the second half of the session, the subject for consideration being

Food and its Uses.

Mr. T. G. Joyce, B.Sc.(Lond.), F.I.C., F.C.S., introduced the subject by reading a very elaborate paper dealing with food necessaries, and showing what a large amount of time and energy may be wasted by eating and drinking. A man's ordinary and necessary food, he said, consisted of proteids, fats, carbohydrates, and minerals, and by means of tables Mr. Joyce showed the quantities of the different constituents necessary daily for the proper maintenance of a healthy man in ordinary work, thus :—

	oz. av.
Albuminoids (or proteids)	4·59
Fats	2·96
Carbohydrates	14·26
Salts	1·06
Total water-free foods	22·87

For an adult man in very laborious work the average daily diet must be increased to a total of 26·7 to 31·0 ounces of water-free food. To the foregoing must be added 50 to 60 per cent. of water—the amount usually contained in ordinary food (exclusive of liquids), so that the total amount of so-called dry food required is from 48 oz. to 60 oz., in addition to which 50 oz. to 80 oz. of water is necessary. Mr. Joyce then gave a long list of foodstuffs, together with the amounts of their respective constituents—water, albuminoids, fats, carbohydrates, and salts—and showed the proportion of the nitrogenous substances to the fats, carbohydrates, and salts in the standard diets. The average daily diet for a man in ordinary work, to secure the constituents necessary for his proper maintenance, was given as follows :—

	Proteids.	Carbohydrates.	Fats.
	oz.	oz.	oz.
10 oz. very lean meat	2·5	—	—
16·4 oz. bread	1·4	8·2	—
7 oz. potatoes	0·1	1·4	—
14 oz. milk	0·5	0·7	0·4
3 oz. fat (as fat of meat, butter, dripping, etc.)	—	—	3·0
Water	—	—	—
	4·5	10·3	3·4

Of course, it was not everyone who could afford such a diet each day, and those who could not managed to get along very well on a diet of bread, cheese, bacon, potatoes, and water. Referring to liquids, Mr. Joyce said he had not mentioned beer, wine, or spirits because those beverages were in no sense requisite. With regard to concentrated foods, the following table was given showing two analyses of beef extract made by Zellner :—

	Per cent.	Per cent.
Water	18·5	20·4
Proteids	7·0	8·4
Gelatin	2·2	4·1
Non-proteid organic matter	54·8	46·1
Mineral matter	17·5	21·0
	100·0	100·0

Two analyses of yeast extract made by Zellner showed very similar results, though, of course, there were certain differences, thus :—

	Per cent.	Per cent.
Water	25·4	24·0
Proteids	9·2	8·6
Gelatin	—	—
Non-proteid organic matter	43·6	44·8
Mineral matter	21·8	22·6
	100·0	100·0

Mr. Joyce then exhibited specimens of various concentrated foods and gave brief descriptions of each. He next dealt with digestion and indigestion.

An interesting discussion followed the reading of the paper, and a vote of thanks to Mr. Joyce terminated the proceedings.

BRIGHTON ASSOCIATION OF PHARMACY.

BUSINESS MEETING.

Thursday, January 14, 1904, at 58, King's Road, Brighton, the President, Mr. W. H. Gibson, F.C.S., in the chair.

Mr. W. R. Cooke reported on the progress of the Buying Club section, which is working satisfactorily, and promises to be of great benefit to the members. A further list of articles to be adopted was drawn up and left to the Sub-Committee to decide upon at their discretion.

The Pharmacy Bill and the Benevolent Fund.

Mr. A. J. Franklin then brought before the notice of members the letter of Mr. Jesse Boot to M.P.'s, and suggested that steps be taken to counteract the same, and proposed that the local members of Parliament be approached in due course respecting the new Pharmacy Bill, its clauses and objects explained, and requesting their support of the Bill.

Mr. C. G. Yates seconded, and it was put to the meeting and carried unanimously. Mr. Yates also made an eloquent and touching appeal to members and chemists generally on behalf of the Benevolent Fund, and asked those who were able to send up, this year at least, double their usual subscription, and as early as possible.

The President supported the appeal, and said he would send double his usual subscription, and hoped others would do the same.

It was decided to hold the next meeting on Thursday, February 11, 1904, at 9 p.m., the President kindly inviting the members to meet at his house, 122, King's Road, and hoped that all of them would be present.

A hearty vote of thanks was accorded to the President for his services in the chair and for his kind invitation.

EDINBURGH CHEMISTS', ASSISTANTS', AND APPRENTICES' ASSOCIATION.

ORDINARY MEETING.

Wednesday, January 13, 1904, in the Pharmaceutical Society's House, 36, York Place, Edinburgh, Mr. A. E. Kelly, Vice-President, in the chair.

The Chairman explained that it had fallen to him to arrange the programme for that evening, which was specially intended for the apprentice members.

Mr. D. Murray read a paper entitled

How to Make Materia Medica Interesting.

The great difficulty in the study of materia medica seems to be in the want of association and a proper classification, after the same style as found in other sciences. Of course, we have classification arranged under the titles of roots, leaves, barks, gums, resins, oils, etc., but in these terms we have only a popular description of organs and products of plants. It cannot be said that roots are composed of definite quantities of elements having a common formula, ROOT, as in the case of chemical classification, where compounds are linked to one another through their having a common formula such as the alkali hydroxides RHO. It lacks the interest of botany, to which it is most nearly related, in this respect that it is the study of the dry bones, instead of the living principle. The first requisite needful, in order that proper and profitable study may be pursued, is that specimens of the drug under consideration should be examined in conjunction with the learning of the descriptions from text-books. Knowledge is thus acquired with greater ease, and, although technical terms may be forgotten, an impression of the actual appearance of the drug is made upon the mind. Failing specimens, good illustrations or plates are absolutely essential if study is to be something more than a name. Whichever is employed, transverse sections should be specially examined, as also the outlines of leaves, paying great attention to individual characteristics and analogous appearances in different plants. Drawings of these should also be made.

This method, of course, depends on, and is supplementary to, a good knowledge of botany. At the same time, instead of being wholly dependent on botany, it may be made a valuable aid to botanical studies. Pharmacists are indoor rather than outdoor botanists. While studying the characters of the different organs of plants, as in materia medica, by allowing the mind to range over the circumstances of their formation, the whole process of cell division and tissue formation passes before the mental eye. Taking next the geographical source of drugs, a good and interesting method is to draw an outline of the various continents, not paying much attention to accuracy regarding coast, and then marking the names of the plants approximately near the usual habitat of the drug. The value of this can be increased by learning all about the climate, mode of collection, and preparation for the market before exportation. After a short time, by this method it will be found that not only has a good knowledge of the source of the article been obtained, but also a greater and as valuable a knowledge of the world, its climates, and its peoples. It is realised that a drug is not only an object separate and complete in itself, but is associated with the vegetable kingdom, is related to and associated with the human race, forming an infinitesimal unit in a universe which is whole and complete, but divided and classified into separate kingdoms to suit the finite intellect of man.

Related to this is what has been termed in articles appearing in the *Pharmaceutical Journal* "The Commerce of Drugs," and for stimulating interest in drug study this ranks second to none. Benefit as well as interest is, however, associated with these studies. While taking up the more abstract details, we find also concrete characteristics in the commerce of drugs which are of very much value. Interest, moreover, cannot fail to result from following a drug, from source to destination, through the different stages of its journey, while at the same time a knowledge of the markets is obtained which, in all probability, will be of the greatest benefit in later years. The conditions exercising an influence on the cultivation of plants are liable to vary, and it is very necessary to study both normal and abnormal conditions. On these points no better information can be had than the weekly reports and notices appearing in the Journal. These not only give the condition of the markets, but also what changes are occurring at the source from whence the drug comes.

There is associated with each drug also a historical record. In some cases the history furnishes a story or romance equal to anything in fiction, giving the gradual transition from the crude, empirical facts which led to the introduction of the drug into medicine to the accurate scientific explanation of its constituents and their actions. This brings another branch of the subject into consideration—namely, the therapeutic action of drugs, which, if followed out, will supply many interesting associations around a drug.

The methods which have been indicated offer great possibilities in the direction of generating interest around the study of drugs, and others may be added as greater knowledge in the sister sciences is acquired, such as the classification and relation of the active principles. These methods are not recommended as a means of lessening the labour of acquiring a proper and efficient knowledge of individual characteristics. These must always give trouble in proportion to their value. But they may cause materia medica to be studied with as much interest and assiduity as more popular but not more important sciences.

Mr. J. Hutcheon then read

A Note on Germination.

Mr. Hutcheon referred first to the history of seed-sowing, there being some diversity among authorities as to which was the first kind of grain that was planted. From the fact that many coins and sculptures of the Roman goddess of seedtime and harvest, Ceres, bore representations of *Hordeum hexastichum sanctum*, it was supposed by many that it was the first seed sown; and Pliny alleged that barley was the first nourishment of mankind. The researches of De Candolle, however, indicated Mesopotamia as the original home of wheat cultivation, from which it spread eastwards to China and westwards to the Canaries. The researches of Haekel also indicated that *Triticum monococcum* was cultivated by the aboriginal lake dwellers of Switzerland, and also at Hassarlik, in Mesopotamia, where Schliemann found evidences of a high state of civilisation having existed 9,000 years ago. The great advances made in palæontological botany enabled them to compare the structure of seeds in long-past ages with those of to-day, and they had now at command a temperature of almost absolute zero to test the effects of extreme cold on the vitality of seeds. The former showed the steps in the process by which the complicated vegetation of to-day had been evolved from simpler and now almost entirely extinct forms. The cycads were a surviving indication of many of the older forms. The latter showed that seeds might be subjected to the lowest known temperature without any more permanent effect than the temporary paralysis of the protoplasm of the seed, which, on heating, slowly regained its activity and germinated when placed under favourable conditions. In regard to the vitality of seeds there was considerable conflict of opinion. He mentioned one case which came under his own notice, in which some barley seeds germinated after lying for fifty-two years. Mr. Hutcheon then, by means of excellent diagrams of the seeds and various stages in the germination and development of the young plants of wallflower, bean, date, and maize, explained the process of germination. His remarks were also illustrated by sections under the microscope showing the embryo of wheat, the embryo and perisperm of *Ricinus*, and the embryo, hypocotyl, and epicotyl of spruce fir.

Mr. E. O. ROWLAND read a communication entitled

Bottles—From What and How are They Fashioned?

Mr. ROWLAND gave an interesting historical account of glass manufacture and the various materials and processes employed. He mentioned that the blue tint of the common poison bottle was got by the addition of black oxide of cobalt to the molten glass; the green tint of the actinic glass bottles was obtained in the same way by the addition of potassium bichromate, which was reduced to the basylous condition, and the amber tint now coming so much into vogue was produced by the addition of impure manganese dioxide, a superior tint being produced by sulphur in one form or another. From Mr. Spence, of the York Glass Company, he had obtained the formulæ for various kinds of bottle glass, which indicated the general composition of almost all glasses. These were:—

WHITE GLASS FOR ORDINARY MOULDED BOTTLES.

Sand	64
Lime	6
Carbonate of sodium	23
Nitrate of sodium	5

WHITE FLINT GLASS CONTAINING LEAD.

Sand	63
Lime	5
Carbonate of sodium	21
Nitrate of sodium	3
Red lead	8

ORDINARY GREEN GLASS FOR DISPENSING BOTTLES.

Sand	63
Carbonate of sodium	26
Lime	11

A mixture for producing a good green flint glass would be much the same as that for the ordinary white flint glass, except that the lime, instead of being the purest, would be ordinary slaked lime, and the sodium nitrate would be omitted. Sand, lime, and sodium carbonate were the ordinary bases of glass, while the sodium nitrate was the decolorising agent.

Mr. ROWLAND then gave an interesting explanation of the various steps from the starting of the "batch" to the production of the finished bottle, as carried out in the York Glass Company's works. The paper was illustrated by an extensive series of interesting photographs and drawings of ancient glass works and glass-blowing and the modern operations and works, and also by samples of (1) the "batch," or mixture of raw material ready for charging into the melting pot, (2) the half-melted or "pasty" condition in which decomposition of the materials has just begun to take place, (3) the state known as "boiling," in which the fused material, now known as "metal," has assumed the form of molten glass but not yet "fined"; and (4) a piece of "fined metal," which at a bright yellow heat is of consistency suitable for being worked into glass articles. All these had been kindly furnished by Mr. Spence, general manager of the York Glass Company, to whom he expressed his indebtedness. Mr. Rowland concluded by expressing a hope that his paper would assist in making the approaching visit of the Association to the glass works of Messrs. Ford and Sons, in Edinburgh, more interesting and profitable.

The reading of the papers was followed by discussion, taken part in by Messrs. Currie, Hill, Hutcheon, Kelly, Murray, Rowland, and Sclater.

On the motion of the CHAIRMAN, a cordial vote of thanks was awarded to the authors, and on the motion of Mr. SCLATER a similar vote of thanks was awarded to the Chairman. The meeting then closed.

SHEFFIELD PHARMACEUTICAL AND CHEMICAL SOCIETY.

ORDINARY MEETING.

Wednesday, January 20, 1904, at Montgomery Hall, Sheffield, Mr. G. T. W. NEWSHOLME, President, in the chair.

Vice-President Resigns.

Mr. C. F. Carr, who has left Sheffield for Nottingham, wrote resigning his position of Vice-President of the Society.

Mr. J. W. J. TURNER read a paper entitled

Notes on the Pharmacopœia.

He spoke of the aim of the Pharmacopœia, and said uniformity was its keynote. The preface stated that only the more important synonyms had been inserted. There were eighty-five Pharmacopœia substances with official synonyms, and 135 which had non-official synonyms, in use. He pleaded for the extension of the list of synonyms in preference to leaving it to the enterprise of private individuals to supply the deficiency. They wanted the non-official synonyms accredited with the official sanction for the sake of uniformity. He would like the General Medical Council to adopt the metric system only in the compounding of galenicals and the dispensing of medicines, and also to give the doses in terms of the metric system only. He suggested that instead of having two systems of registering temperatures the Pharmacopœia should have one only, and that the Centigrade system. The names of authors of tests should be inserted. In quantitative testing specified amounts should be those recommended to be actually taken, and not, as the Pharmacopœia gave, some artificial proportional weight, which was in most cases excessive, and disproportionate to the amount required. The subject of orthoepy should receive consideration. Technical Latin names should at least be accented, so as to ensure correct pronunciation.

Mr. Turner went on to give detailed notes on a large number of Pharmacopœia substances, among which were the following:—

Acetum Ipecacuanhæ.—The percentage of alkaloids in this preparation and in Vinum Ipecacuanhæ is not given. It had been suggested that detannated sherry only should be official.

Acidum Boricum.—The Pharmacopœia recognises the little-used synonym "hydrogen borate" when it should be stated "hydrogen ortho-borate," as is done with Acidum Phosphoricum, which is designated as "hydrogen ortho-phosphate."

Acidum Chromicum.—The method of manufacture is too general. It reads: "Interaction of sulphuric acid and potassium bichromate." The description would also apply to the manufacture of chrome alum and oxygen.

Acidum Citricum.—The Pharmacopœia should give Pusch's test, to prove the absence of tartaric acid.

Acidum Hydrocyanicum Dilutum.—The Pharmacopœia allows a trace of hydrochloric or sulphuric acids added to preserve it; some definite amount should be sanctioned.

Acidum Lacticum.—Milk sugar is given as a source. In commerce invert sugar is used.

Ammoniacum and Galbanum.—A purified form of such should only be official. This could be done by making an emulsion with water, straining and evaporating. The Pharmacopœia already directs ammoniacum to be so purified in the preparation of the plaster, and this is a precedent for adopting it in all the galenical preparations in which these gum resins enter.

Amylum.—In addition to the three official starches for galenical preparations, arrowroot is a pure variety, suitable for pharmaceutical purposes, and might be made official.

Benzol.—The official title ought to be Benzene. As this is a hydrocarbon body only, it should not have the ending "ol," as this termination is strictly applied to alcohols, and is, therefore, inappropriate. The same remarks apply to salol, which is another breach of rules in chemical terminology, as salol is an ester, and not an alcohol. An alternative title for salol would be Phensal.

Calx Sulphurata.—The B.P. says it may be prepared by reducing the sulphate with carbon. Another method of reduction would be by means of hydrogen, which could be mentioned.

Cantharis.—Why should the synonym Spanish or blister fly be omitted? Cantharides ought to be standardised in terms of crystalline cantharidin.

Carbo Ligni.—Why not have a purer form of charcoal official under the name of Carbo, or Carbo Vegetabile, using sugar or starch as a source.

Cocæ Folia.—Should be standardised, and method of storage given, as the leaves undergo change when exposed to air and moisture.

Copaiba.—When Canada turpentine has the synonym Canada balsam, then copaiba should have the synonym copaiba balsam, as they are both oleo-resins.

Creosotum should be standardised for Guaiacol.

Elaterinum and Elaterium are names too much alike to retain the latter in the Pharmacopœia. The former would be sufficient. The Pharmacopœia states that elaterium is pale green or yellowish grey, which only applies to Maltese, or an old sample of English. It should say bright green.

Extracta.—The extracts occupy twenty-two pages, which could be reduced by two pages if the repetition of identical processes were avoided by mentioning the process once and referring those prepared in the same manner to the one given in full. For instance, in the two green extracts, the same process is given in full twice, and in the case of five liquid extracts the same applies. Why should not the consistency of all solid extracts be given, or, better, to do away with all pilular extracts and have dry extracts instead. The colour of the extracts should be stated. In fact, the colour of all galenical preparations has been entirely ignored.

Extractum Aloës Barbadensis.—Suggestion that this not being an extract in the ordinary sense of the term should be called simply Aloe Purificata, and all galenicals made from this only.

Extractum Belladonnæ Viride.—Why not make this from dried leaves? It could then be made any part of the year, and yield a brighter green extract. (Martindale.)

Ext. Euonymi Siccum.—The colour should be mentioned. As it was first introduced as a green extract, some prescribers still order this under the impression that it is official.

Ext. Filicis Liq.—The Pharmacopœia should state that it becomes solid on keeping, and directions should be given for rendering it fluid for dispensing, namely, immersing the bottle in warm water or on a warm bath. The old synonym, Oleum Filicis Manis, should be officially recognised, as it is an oleo-resin.

Gelatinum.—The Pharmacopœia says prepared by the action of boiling water. In practice superheated steam is used.

Glycerinum Belladonnæ.—It is a matter of surprise that this popular preparation is not official. It is largely replacing Emplastrum Belladonnæ in suppressing lactation. In the absence of an official formula it varies in consistency and strength, a matter of great importance with such a powerful drug.

Liq. Sodii Ethylatus.—Suggestion to have the synonym "caustic alcohol," which indicates its property better than the official name. Another synonym, "sodium ethoxide," is known.

Mist. Ferri Co.—Why not include the synonym "Griffith's Mixture"? An idea may prevail that the Pharmacopœia authorities will not associate personal names with synonyms, but they have created a precedent in having "Fowler's Solution" official as a synonym.

Paraffinum Durum.—The synonym "Paraffin Wax" would not be out of place. Of course, true waxes are esters of monhydric alcohols. "Paraffin wax" does not fulfil this requirement, yet it is in popular use. Why not give chemical formulæ for the paraffins?

Prunus.—The pulp being the only part required in Conf. Sennæ, why not have this official, in place of prunes?

Sodii Bromidum.—The method of preparing this from iron bromide and sodium hydroxide or carbonate ought to be mentioned.

Tamarindus.—Suggestion to have the strained pulp only official. There is no virtue in the seeds and fibres.

Tincturæ.—The colour of each tincture should be specified, and those liable to decolorise by exposure to light should have directions for storage of same.

Trochisci.—Shape, size and weight of the lozenges should be specified.

Discussion.

Mr. NEWSHOLME, in opening the discussion, said the sole responsibility for the production of the Pharmacopœia rested with the General Medical Council, according to the Act of Parliament. In recent years that Council had had associated with it certain prominent pharmacists in a sort of conference along with the various medical bodies, and at present Mr. Walter Hills, a member of the Council of the Pharmaceutical Society, occupied that position with Dr. Inglis-Clark, of Edinburgh. As pharmacists they were not at all satisfied with that arrangement, but no other arrangement could be made until there was an alteration in the Act of Parliament itself. Pharmacists for a great number of years had thought they ought to have, at any rate, a very large, if not the whole, share in the production of the Pharmacopœia, and if that were so, there was no doubt that a much better Pharmacopœia could be produced than had been the case in the past. As to the use of synonyms, there was a good deal of difference of opinion in view of magisterial proceedings. Some people held that it was unwise to have synonyms at all, while others thought there should be a synonym for everything. If that were done it would make the Pharmacopœia very largely a standard of reference for the guidance of magistrates. He believed the great majority of scientific men would say that the metric system of weights was the proper one, but there was a good deal of prejudice in the minds of Englishmen against departing from the old system.

As to temperature, if one system only was to be used, that practically meant the Centigrade system.

Mr. G. SQUIRE, in proposing a vote of thanks to Mr. Turner, said the Pharmacopœia was not at all perfect, and never would be until pharmacists had control of it. As practical men, they knew more about it and its working than the members of the Medical Council.

Mr. P. CARR, who seconded, expressed the opinion that the fewer the synonyms they had the better. He also suggested that the Pharmacopœia should be printed entirely in Latin.

The resolution was carried with heartiness.

WEST HAM AND DISTRICT CHEMISTS' ASSOCIATION.

SMOKING CONCERT.

Thursday, January 14, at the Earlham Hall, Forest Gate, Mr. HAROLD MITCHELL, President, in the chair. A very successful smoking concert was held in connection with this Association. Both the attendance and the programme were alike good. From seven to eight a display of lantern slides was given, the slides being lent by Messrs. Mitchell, J. Webster, Barnes, and Johnson. The lantern was lent by Mr. Mitchell, and worked by Mr. J. Webster.

Before the close of the concert the CHAIRMAN made an eloquent appeal for the Benevolent Fund of the Pharmaceutical Society of Great Britain, and a collection resulted in the sum of £2 0s. 6d., which was forwarded to the Treasurer of the Fund. Refreshments were provided during the evening, the cost of which was defrayed by the Committee, assisted by a contribution from Mr. W. W. Blades.

TORQUAY CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Thursday, January 14, 1904, at the Pavilion Hotel, Torquay, the PRESIDENT, Mr. Newlyn, in the chair.

Medicine Stamp Duty.

A letter was read from the Secretary of the Inland Revenue Department, Somerset House, in which it was stated "That when a medicine such as a cough mixture was prepared from a formula contained in some well-known and recognised book, the reference to the formula must be such as will enable the formula to be absolutely identified, if it is desired to claim the benefit of the exemption in favour of known, admitted, and approved remedies."

Cutting Protected Articles.

The SECRETARY reported the case of a grocer cutting Kepler's Malt Extract below fixed rate, and that Burroughs, Wellcome and Co. had promised to set the matter right.

Pharmaceutical Society's Benevolent Fund.

A special appeal was made on behalf of the Fund, and all members present who had not already subscribed consented to do so.

Mr. SLOMAN remarked that it was a splendidly managed fund, as nothing was charged for expenses of administering the Fund, and every penny subscribed was devoted to the object for which it was founded.

Mr. HORNER (Local Hon. Secretary to the Pharmaceutical Society) consented to act as collector for the district.

Among other business, a short discussion on co-operative buying took place, and it was also decided to hold a dinner on February 4 at the Central Hotel.

A vote of thanks to the Chairman terminated the proceedings.

HALIFAX AND DISTRICT CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Tuesday, January 19, 1904, at the Old Cock Hotel, Halifax, Mr. J. BRIGGS, President, in the chair. Mr. H. K. Woodward was eleced a member.

A circular was read from the Secretary to the Benevolent Institution of the Pharmaceutical Society, appealing for subscriptions, which the circular pointed out were specially needed. The President and Mr. H. C. Brierley each contributed 5s., and the former appealed to the members to become subscribers to the Institution.

Election of Officers.

Mr. H. HEBDEN proposed the election of Mr. Clement Fielding as President. The CHAIRMAN seconded the motion. The resolution was carried with acclamation.

The PRESIDENT-ELECT, in responding, thanked the members for their mark of confidence and their kind remarks. He appealed to the members to work in combination; let them look upon the Association as one for scientific business and social purposes.

The Treasurer, Mr. Swire, was unanimously re-elected.

Mr. H. C. BRIERLEY moved the election of Mr. Harry Hebden as Secretary. Mr. BLACK seconded, and the motion was carried unanimously.

A cordial vote of thanks was passed to the retiring Secretary, Mr. Black. The retiring President, Mr. J. Briggs, was elected Vice-President.

It was decided to hold the annual dinner on February 4, and Messrs. Black and Thompson were appointed, with the Secretary, a sub-committee, to make the arrangements.

PHARMACEUTICAL SOCIETY OF IRELAND.

The following are the results of recent examinations:—

Preliminary Examination.—J. Reidy, T. J. Orr, T. J. May, R. S. White, G. H. Dixon, and J. McCann passed. Five candidates were rejected.

Pharmaceutical Assistant Examination.—W. B. Stewart and S. Fleming passed. One candidate was rejected.

Registered Druggist Examination.—C. J. Farren, G. Faulkner, and J. F. Grimes passed. Three candidates were rejected.

Pharmaceutical Licence Examination.—R. Hamilton, J. M. Smyth, H. Ramage, S. Kelly, J. Hunter, A. S. Scott, C. Doorly, J. Wilson, H. E. Young, and T. J. Carroll passed. Ten candidates were rejected.

HULL CHEMISTS' TRADE ASSOCIATION.

ORDINARY MEETING.

Tuesday, January 19, 1904, on the premises of the Secretary, Mr. Walton, 143, Spring Bank, Hull.

An order for fifty gross of toilet soap for the year was decided upon. The question of ordering perfumes conjointly was, through lack of time, unavoidably deferred to the next meeting. A number of articles were bought for immediate requirements.

It was decided, in order to facilitate the despatch of business, to form a committee to carry out details, and submit recommendations for buying to the fortnightly meetings. The committee appointed consisted of the two Secretaries, the Treasurer, and Mr. Earle.

GLASGOW OPTICAL SOCIETY.

ANNUAL DINNER.

Monday, January 18, 1904, at White and Smith's Restaurant, Glasgow, Mr. R. Tocher, Ph.C., F.S.M.C., in the chair. Amongst the chemists present were Messrs. W. L. Currie, Thomas Barrie, J. J. Forbes, Walter Stanert, J. Crombie, Thomson, Mitchell, Abbott, and Fraser.

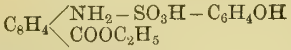
Mr. Tocher, in the course of his presidential address, which followed the dinner, referred to suggestions which have been made from time to time that neither the medical practitioner, the chemist, the optician, the jeweller, nor any other person should test the sight till he had proved himself to be a competent refractionist. It was, he said, a disgrace to the country to find how many quacks there were who, not knowing anything about optics, imposed upon the public by making them believe they could test sight, which they attempted by some useless optometer or by simply trying on different pairs of glasses. Refraction was a branch of physics—not of medicine—and on no account should it be thought that sight-testing by opticians can be opposed to the interests of medical men. The optician was not in competition with the ophthalmic surgeon, and it must not be thought that medicine men generally were opposed to non-medical men testing sight.

THE CHEMISTS' BALL.

Wednesday, January 20, 1904, at the Whitehall Rooms, Hôtel Métropole, London. This was the thirty-eighth annual ball, and was one of the most successful of those held during recent years, more than two hundred and sixty persons being present. The President of the Pharmaceutical Society, Mr. S. R. Atkins, who was supported by Mr. J. F. Harrington, member of Council, and many well-known London pharmacists, presided at the supper, and proposed the toast of "Success to the Chemists' Ball" and "The Ladies." He expressed the pleasure which it gave him to be present, and reminded his hearers that a sum of about £1,000 had been given to the Benevolent Fund of the Pharmaceutical Society from the funds of the Ball during the past thirty-seven years. Owing to the persistent chatter of some of those present, the President's remarks were only audible to a portion of the guests—a very unfortunate and regrettable circumstance. Mr. Richard A. Robinson, jun., Hon. Secretary to the Ball Committee, responded to the toasts, and expressed his thanks to the Committee and Stewards for their help. Mr. J. W. Bowen and Mr. E. W. Hill acted as M.C.'s, Mr. J. C. Umney and Mr. W. Warren as supper stewards, and Colonel Preston as wine steward. It is hoped that, as a result of the Ball, a substantial sum may be handed to the Secretary of the Pharmaceutical Society for the Benevolent Fund.

NEW REMEDIES.

Subcutine.—Under this name the para-phenol sulphonate of anæsthesine, or para-amido-benzoic-ethyl-ester para-phenol-sulphonate—



$$C_6H_4\genfrac{}{}{0pt}{}{\diagup NH_2-SO_3H-C_6H_4OH}{\diagdown COOC_2H_5}$$

has been introduced into medicine. It has the advantage over anæsthesine of greater solubility, so that it is more suitable for anæsthetic use. It occurs in small white needles, melting at 195·6° C., soluble in the proportion of 1 : 100 in cold water and 2·5 : 100 at the temperature of the body. Its solutions are unaffected by boiling, so that they may be sterilised by heat. Like anæsthesine it is a powerful anæsthetic and is quite devoid of any toxic action. It is employed for hypodermic use in aqueous solution, and combined with sodium chloride, for the infiltration method of Schleich, as follows:—Subcutine, 1 or 0·8; sodium chloride, 0·7; distilled water, 100. It has given, according to Becker, highly satisfactory results in a large number of operations, and its use has been wholly devoid of any undesirable secondary reactions.—*Muench. Med. Woch.*, **50**, 859.

Cuprocitrol is the fancy name given to copper citrate $Cu_2C_6H_4O_7 2\frac{1}{2}H_2O$, the use of which in the treatment of opthalmic affections, and particularly trachoma, has already (*P.J.* [4], **11**, 741) been noticed.—*Journ. Pharm. Chim.* [6], **18**, 609.

POISONING CASES AND INQUESTS.

The deaths from poisoning reported during the seven days ended Wednesday, January 20, 1904, numbered thirteen:—

Poison.	Accident.	Suicide.
Acetic Acid	1	—
Atropine Liniment	1	—
Carbolic Acid	—	2
Chloroform	2	—
Ether	1	—
Lead	2	—
Morphine	2	—
Opium	1	—
Oxalic Acid	—	1
Total	10	3

Acetic Acid.—A man at Cleckheaton died from the effects of swallowing a quantity of glacial acetic acid in mistake for medicine.

Atropine Liniment.—A harbour agent at Troon accidentally took a quantity of a preparation for external use containing atropine, and died from the effects.

Carbolic Acid.—A domestic servant at York poisoned herself by taking carbolic acid. A labourer at West Hartlepool committed suicide with the same acid.

Chloroform.—A Hampstead lady died under chloroform, and a man at Liverpool drank a quantity of chloroform by mistake, with fatal effects.

Ether.—A woman died at Shipley while under ether, administered for the purposes of an operation.

Lead.—A patient died in the London Hospital from lead poisoning. According to an evening newspaper, "the present instance was a case of lead and alcohol not mixing!" A woman died at Handsworth from lead poisoning, possibly caused by some pills which she had been taking.

Morphine.—Dr. John Baker, Camberwell, died from an overdose of the alkaloid, accidentally taken. Dr. J. Lewis Brown died at Newcastle-on-Tyne in similar circumstances.

Opium.—A woman at Manchester, who was in the habit of taking opium pills, died from "opium poisoning, accelerated by kidney disease."

Oxalic Acid.—A lady at Norwich committed suicide by taking oxalic acid.

Inquest.—At an inquest in Whitechapel a herbalist who had prescribed for a woman was cautioned by the coroner as to his future conduct.

Attempts at Suicide.—Several cases of attempted suicide are reported, but present no features of exceptional interest.

LEGAL INTELLIGENCE.

Sale of Food and Drugs Acts.

Cod-Liver Oil.

At the Thames Police Court, Charles C. Reece, 45, Newman Street, Oxford Street, W., trading as Henry Squire, 217, East India Road, E., recently appeared to answer an adjourned summons for selling fish oil as cod-liver oil. The case, a report of the first hearing of which appeared in the *Pharmaceutical Journal*, December 12, at page 894, was adjourned to allow a portion of the sample to be analysed at Somerset House.

Mr. Young, representing the Poplar Borough Council, stated the certificate proved the sample did not conform to the test described in the British Pharmacopœia.

Mr. Bonsey, who defended, said a separate analysis had been made, and he was prepared to prove it was cod-liver oil.

Mr. W. C. Young, public analyst for Poplar, was called, and stated in his opinion the sample was fish oil. It was a liver oil, but it was not cod-liver oil in accordance with the requirements of the British Pharmacopœia. The oil contained liver oil, but he was convinced it contained oil other than from a codfish. One thing which proved that was the colour test.

By Mr. Bonsey: The only reason he said it was not cod-liver oil was it did not answer the freezing test. The sample, even in that Court, partly congealed, and the British Pharmacopœia said cod-liver oil must not congeal.

For the defence, Mr. Bonsey said there could be no doubt as to defendant's *bona fides*. He purchased the oil from a well-known firm of exporters in 1902, and the price of oil had increased about four times since then. With regard to the British Pharmacopœia, he was afraid that at times undue weight was given to standards. The British Pharmacopœia suggested modes for tests, but it was not infallible.

Defendant, in the witness-box, stated in 1902 he purchased five barrels of cod-liver oil, and it was sold as received. He bought it at £6 12s. 6d. a cask, which was then the market price.

By Mr. Young: The last consignment under the contract was in April last. He was a chemist in a large way of business, and was a qualified chemist, although not a member of the Pharmaceutical Society. He sold thirty-six casks of oil in the previous six months. He had heard of the cooling test, but it was not a test for pure cod-liver oil. It could be pure cod-liver oil if it solidified at 32° F.

Mr. W. C. Caspari, F.I.C., assistant at the National Laboratory, Teddington, deposed he had made an analysis of the oil, and his opinion was that the chemical tests were in favour of it being cod-liver oil, and not fish oil. The figures in Mr. Young's certificate were consistent with the sample being pure cod-liver oil. He did not think the cooling test was a necessary test, and during recent years a considerable advance had been made in the analysis of oil. All oils got congealed at times, when at a certain temperature. He applied the most modern and up-to-date tests, and there was nothing to show it was not cod-liver oil.

Cross-examined: The colour test, on the whole, showed it was not fish liver oil. His tests pointed rather to cod-liver oil than hake or skate-liver oil. It was quite possible for the specific gravity to be the same in the two oils, and that also referred to the sulphuric acid test. He did not think it would be in favour of other oil than cod-liver oil when there was only a slight precipitate. He did not apply the cooling test because he did not consider the British Pharmacopœia an authority. The present was the first sample of cod-liver oil he had analysed.

Mr. E. J. Parry, consulting chemist, said he had considerable experience in the analysis of oils, having from twenty to forty samples a week. He had analysed a portion of the sample, and came to a definite conclusion it was pure cod-liver oil. He relied on the nitric acid test with regard to the colouring of oil.

After a further discussion, Mr. Dickinson said he was quite satisfied the chemist at the Government laboratories gave an independent opinion. Practically the sample was cod-liver oil, and he would exercise his powers under a section of the Summary Jurisdiction Act by dismissing the summons and ordering defendant to pay £3 3s. costs.

Sweet Spirit of Nitre.

On Tuesday, January 19, 1904, at the Kensington Petty Sessions (London), before Mr. H. B. Halswell (in the chair) and other magistrates, Mr. G. R. Stephenson, 15, Elgin Crescent, Notting Hill, W., was summoned for selling sweet spirit of nitre alleged to be not of the nature, etc., demanded, by reason of the spirit being deficient in the active principle of the preparation to the extent of 36·6 per cent. Mr. W. Chambers Leete, the Town Clerk, appeared in support of the summons.

Inspector Friend stated that on December 8 last he went to the defendant's shop and asked for 3 oz. of sweet spirit of nitre. He was served by the defendant, and paid 9d.

Inspector Wales gave formal evidence as to dividing the sample and otherwise complying with the Act.

Defendant put no questions to the witnesses, but stated that he dealt with only one firm—a highly respectable and well-known firm of wholesale chemists—who undertook to supply him with the best and purest drugs and chemicals, guaranteed to be up to the British Pharmacopœia standard. On previous occasions inspectors had taken samples at his shop, and these had always been found satisfactory. He had communicated with the wholesale firm, who replied that probably the article had deteriorated through being kept. Every time the bottle was unstoppered—explained defendant—some of the spirit was liable to escape, and his wholesale people had advised him to stock in future only small quantities of the spirit. He did not sell the article in large quantities.

Dr. Forman (magistrate): If chemists keep these articles in proper glass-stoppered bottles, very little spirit can escape.

Dr. Bennett (another magistrate): It is a good plan to put only a little of the spirit in the bottle at a time (*sic*).

The Defendant remarked that he had no intention whatever to defraud the public.

The Chairman: There must be a conviction in this case. Here is a deficiency, and such deficiencies are likely to be most serious in their results. There will be a fine of £1, with 10s. 6d. costs.

Cream of Tartar.

On Saturday, January 16, 1904, at Stratford Police Court, before Mr. B. Tabrum and other magistrates, Messrs. Picken Brothers, Limited, of Forest Gate, were summoned under Section 6 of the Food and Drugs Act, 1875, for selling cream of tartar containing lead. Mr. Ricketts prosecuted for the Essex County Council, and Mr. J. Harvey Murphy, barrister, defended; while Mr. Beck represented Messrs. Pantin, who had been served by the defendants with a notice under Section 20 of the Food and Drugs Act, 1899.

When the case was called on Mr. Murphy intimated that he did not propose to rely under Section 25 of the Act of

1875 on the warranty given by Messrs. Pantin, inasmuch as that warranty was not given at the time of the sale, but since the analyst's certificate had been given.

Evidence of purchase having been given, Dr. Bernard Dyer, public analyst, stated that the quantity of lead present was at least 4 grains to the pound. Lead was a cumulative poison, and remained in the system. Lead might be introduced into cream of tartar by the use of leaden vessels, from which lead might be evaporated or crystallised. He thought the probability was that this article was manufactured abroad.

Mr. Murphy did not dispute the accuracy of the analysis, but submitted that the certificate did not disclose any offence, owing to its vagueness, as it did not state the constituent parts of the sample (⅜ oz.) analysed, but merely certified that it contained lead in the proportion of 4 grains to the pound, and was injurious to health. He submitted that, according to the British Pharmacopœia, the standard for cream of tartar allowed 2½ per cent. for impurities, a far higher proportion than 4 grains per pound. Further, he submitted that by Section 6, Subsection 4, of the Act of 1875, if the drug was "unavoidably" mixed with extraneous matter in process of collection or preparation, that was a sufficient defence. In the present case it was not suggested that the lead had been "added" for any purpose, but it probably came from the leaden vessels, in which the wine lees used for making the drug were collected. The mere presence of deleterious matter did not in itself constitute an offence. With regard to the conduct of the defendants, he was prepared to call a number of witnesses to show that the sample sold was in the same condition as when the bulk was purchased by them, and to state the circumstances under which the warranty came to be given by Messrs. Pantin, from whom they had bought. The general drug manager of the company had given instructions as to the purchase of drugs with a guarantee, but, in this instance, by an oversight, his instructions had not been carried out.

The Chairman said there was no suggestion against the defendants' honesty or good faith in the matter. The Bench, however, held that the certificate was sufficient to support the summons, and imposed a fine of £10, with £7 odd costs.

Olive Oil.

On Friday, January 15, 1904, at Westminster Police Court, Messrs. Perks, Gunston, and Tee were summoned by the Westminster City Council for selling at their branch store, 4, Lower Belgrave Street, olive oil alleged to be adulterated.

Mr. Strutt, for the Council, said the oil in question was certified by Mr. Cassal, public analyst, to contain 33 per cent. of areca nut oil.

Mr. Beck, for the defendants, said the oil was bought as pure, and on analysis it was certified to be so.

The summons was adjourned for independent analysis of the third portion of the sample at the Government Laboratory.

Quinine Wine.

On Tuesday, January 19, 1904, at the Stockport Borough Police Court, Messrs. George Dutton and Son, chemical manufacturers, of Bolton, were summoned for selling to the Stockport Co-operative Society quinine wine deficient in one case of 10 grains of quinine hydrochloride to the pint, and in the second 3·3 grains. The firm was also summoned for giving a false warranty by means of the label on the bottle, which stated that the wine was "Genuine B.P.," prepared according to the British Pharmacopœia, which stipulated that there should be 20 grains of quinine hydrochloride to every pint of quinine wine. On December 22 the Stockport Co-operative Society was summoned for the first offence, but on their producing the label as a warranty the case was dismissed. Mr. Dobson prosecuted, and Mr. Risque defended.

Mr. Thompson, the borough analyst, gave evidence of his analysis and of the deficiency of quinine hydrochloride. He admitted, in cross-examination, that some deficiency might be caused by precipitation.

For the defence Mr. Risque said there was nothing in the British Pharmacopœia or the Act to the effect that when analysed for the purposes of a prosecution the wine must be up to the standard set down by the British Pharmacopœia. It was sufficient if at the time of preparation it conformed with the B.P. There were changes for which the chemical manufacturer was not responsible. He was prepared to call evidence to show that the deficiency of 3·3 grains might be accounted for by precipitation. The orange wine in this case was prepared from the very best wine that could be obtained. In regard to the alleged false warranty, guilty knowledge had to be proved, and it had to be shown that it was given wilfully to mislead. That had not been done.

Francis Dutton, head of the firm of Dutton and Son, stated that the wine was supplied to them as pure wine, and they trusted to the firm supplying it for its genuineness.

The magistrates considered the first case proved, and fined the defendant 40s. and costs, and allowed the advocates' and analysts' fees.

The charge of alleged false warranty was withdrawn.

Cambridge Assizes.

An Unauthorised Testimonial.

On Friday, January 15, 1904, before Mr. Justice Channell and a jury, a Cambridge bootmaker named Samuel Blacktop sued Messrs. Foster, McClellan, and Co., proprietors of Doan's Backache Pills and Ointment, for damages for libel.

The case arose out of the publication in the local press of an alleged fraudulent testimonial, purporting to have been given by the plaintiff in connection with the use of defendants' ointment.

Plaintiff stated that in May, 1900, a testimonial canvasser named Bourne, employed by the defendants, called upon him and handed him a small box of Doan's Ointment. He also asked him to sign a piece of paper, which Bourne said he was required to send to his firm to show that he was making genuine distributions of the samples. Plaintiff heard nothing more of the matter until July last, when there appeared in a local newspaper an advertisement giving an account of a supposed interview with plaintiff. This contained a statement to the effect that he had suffered from severe itching on the face and neck, and that he went to a doctor, who gave him medicine and lotion, which did him no good. The article went on to say that he obtained a box of Doan's Ointment from a cash chemist's and soon obtained relief, and it concluded by saying: "This is a splendid ointment, and I can recommend it." Plaintiff said the paper he signed was blank, and he denied that he had ever suffered from any skin disease.

Mr. McClellan stated that the copy for the advertisement (which was produced in Court) was sent to their advertising agents, Messrs. Clark, Son, and Platt, on July 26, 1900, and it was published in the Cambridge Press on December 27, 1900.

Mr. Justice Channell said the main point which the jury had to decide was whether the advertisement was published by the authority of the plaintiff, and if, when he signed the paper, he was aware for what purpose it was intended.

The jury found that the publication was unauthorised, and gave a verdict for the plaintiff for £20 and costs.

High Court of Justice—King's Bench Division.

Arsenic in Beer.

On Thursday, January 14, 1904, before Mr. Justice Bruce, the hearing was resumed of the action in which Messrs. Bostock and Co., Limited, of Liverpool, sought to recover damages from Messrs. John Nicholson and Sons, Limited, Hunslet, Leeds, for wrongfully supplying to the plaintiffs sulphuric acid not made from brimstone, but contaminated with arsenic

Evidence having been given by directors and liquidators of the plaintiff company,

Mr. F. R. Stone, F.C.S., chief brewer to Messrs. Groves and Whitnall, Limited, Salford, said he had found that glucose and invert supplied by Bostocks contained arsenic. All beer brewed from their sugar was destroyed and recalled.

Cross-examined: Invert sugar was used merely for the purpose of brewing a more palatable beer, and one which came into condition sooner.

Expert and scientific evidence was then called with regard to the details of the manufacture of sulphuric acid and brewing sugars. It appeared from the evidence that sulphuric acid made from brimstone is practically free from arsenic, but if made from pyrites it is always liable to contain arsenic in substantial quantities.

Dr. Campbell Brown, public analyst for Liverpool, said that as much as 2·6 per cent. of arsenic was found in one sample of sulphuric acid supplied to the plaintiffs by the defendants. The amount of arsenic in the sulphuric acid which was supplied would, he calculated, be enough to kill one million people every week.

On Friday, January 15, Dr. A. Gordon Salamon, a member of the commission appointed by the Manchester brewers to inquire into the causes of the outbreak of arsenical poisoning in that city, said that he analysed a great number of samples of beer, and found that the arsenic was, practically, entirely due to the use of Bostock's sugar. The reason why brewing sugars were used instead of malt was that they produced a more uniform result; the difference in price was small.

Cross-examined: He had never tested beer for arsenic before 1900. Although he did not know the source from which the sulphuric acid which might have been used had been obtained, he should assume that the sulphuric acid supplied by the makers would be free from arsenic.

Sir E. Clarke, K.C., on behalf of the defendants, submitted that there was no case of fraud to be considered at all, the only questions being (1) whether the defendants were liable for a breach of contract in not supplying what they had contracted to supply, and (2) whether the defendants were liable for a breach of warranty in not supplying sulphuric acid of the specified quality.

Mr. Russell, K.C., said that plaintiffs suggested that the fraud consisted in defendants saying that they were going to supply acid made from brimstone, knowing that they were going to make it from other substances.

Mr. John Nicholson, director of the defendant company, said they manufactured 20,000 to 25,000 tons of sulphuric acid a year. They had never known that Bostocks used sulphuric acid for making anything that was to be put into beer or any article of human food. During the last thirty years the use of brimstone in making sulphuric acid had been practically superseded by the use of pyrites. Brimstone acid meant, in the trade, acid free from arsenic—that is, purified acid. "B.O.V." meant unpurified acid. He never considered that Nicholsons were under any obligation to supply purified acid to Bostocks, and in March, 1900, when they began supplying unpurified acid, he considered that they were fully entitled to do so.

On Monday, January 18, the hearing of the action was resumed, when Mr. J. C. Nicholson was cross-examined by Mr. Russell. He said that the "B.O.V." supplied to customers who asked merely for "B.O.V.," was an unpurified acid, made from pyrites. Purified acid made from pyrites was the same thing as acid made from brimstone. He never heard till November, 1900, that sulphuric acid was used in making glucose. He always associated the term "brewing sugar" with domestic sugar sold in a shop. It was not meant to convey to the plaintiffs that the acid the defendants were making was made from brimstone; nor did the defendants think that the plaintiffs were under that belief. Up to March, 1900, they supplied to the plaintiffs the purest acid on the face of the earth, commercially speaking. Having regard to the correspondence, he thought if he had personally written out the contract he should have put in the words "best B.O.V." He could honestly say that the "B.O.V." supplied to the plaintiffs, which caused all the trouble, was commercially strictly of the kind and quality they were under contract to supply. The plaintiffs had no right to suppose that they were to get acid made only from brimstone. In the trade, purified acid was spoken of as "stone acid." Until 1900, they thought Bostocks were using the acid for the treatment of their by-products.

Mr. Joseph Nicholson, another director of the defendants' firm, and brother to the last witness, corroborated his evidence on all material points. "B.O.V.," without any distinction, meant acid containing arsenic. Their purified acid was purer than that made from Sicilian brimstone. The result of de-arsenication was that the purest acid sold was produced.

On Tuesday, January 19, 1904, the hearing of the case was resumed.

Mr. Joseph Nicholson was further examined. He said that his firm took every precaution to prevent any arsenic getting into purified acid sold as such. At the present time they refused to supply anyone with sulphuric acid which was to be used for putting into human food. They first began to use pyrites in manufacturing sulphuric acid about 1880, and since they had begun to supply Bostocks they had used nothing but pyrites, which they obtained partly from Spain and partly from Norway. There was more arsenic in that obtained from Spain than in that obtained from Norway.

Mr. Otto Hehner, Past-President of the Association of Public Analysts, said he thought if a sulphuric acid manufacturer were asked to supply a sugar refiner with sulphuric acid, and if he had any knowledge of the refining process at all, he might fairly conclude that the acid, not being an ingredient of a food material, need not be supplied in a state of purity. The only two instances in which the presence of arsenic in sulphuric acid was a danger were brewing sugars and glycerin. For the last twenty-five or thirty years sulphuric acid had been almost entirely manufactured from pyrites, to the exclusion of brimstone, and any man using sulphuric acid to put into human food would be acting most imprudently if he failed to test it for arsenic. The use of a name for a substance frequently lasted long after it had ceased to be a proper description of the substance, and at the present day brimstone-acid was understood to mean acid free from arsenic, and not necessarily acid made from brimstone; in the same way grape-sugar had nothing at all to do with grapes at the present day, or nitric acid with nitre, but there was no other name for it. Oxalic acid and benzoic acid are other instances of the same thing.

Mr. Schuck-Sommer, a chemical engineer, who had had experience both in sugar-refining and in the making of brewing-sugars, said that the expression sugar works meant either sugar-refining works or works where brewing-sugars were manufactured. Anyone who used sulphuric acid for the purpose of making brewing-sugars would act most imprudently if he failed to test for arsenic.

Mr. John Heron also gave evidence to the same effect as that given by the last two witnesses.

On Wednesday, January 20, Mr. Thomas Harris, of the Union Acid Company of Manchester and Runcorn, was called as a witness, and stated that the bulk of sulphuric acid was made from pyrites. His firm in 1892 had supplied Bostocks with acid made from pyrites without any treatment whatever.

Cross-examined by Mr. Russell: He supposed they required an acid suitable for the manufacture of manure from residual products. "B.O.V." was the cheapest form of sulphuric acid. There was no question that, in the trade, "B.O.V." meant unpurified acid, made from pyrites.

Similar evidence was given by other witnesses as to what "B.O.V." was recognised to be in the trade.

Mr. Arthur Shearer, consulting chemist, Burton-on-Trent, said sulphuric acid was commercially known as brimstone acid. The name was the survival of the original term, and was now commonly applied to acid made from pyrites. Such sulphuric acid, when properly purified, was the same as the sulphuric acid formerly made from brimstone. Sulphuric acid made from pyrites contained lead and arsenic, and he always tested for both if the acid was to be used for the making of an article of food. Several gentlemen connected with the sugar industry in various ways were examined. They all said that the business of a sugar refiner and that of a manufacturer of invert sugar and glucose were separate and distinct. Sulphuric acid was not used in the process of refining raw sugar. The trial was again adjourned.

SCHOOL AND COLLEGE NEWS.

Central School of Pharmacy.—The students of this school invited their Principal, Mr. C. E. Sage, F.C.S., to a dinner at the Horseshoe Restaurant on the evening of January 14. Dr. T. Ashcroft Ellwood took the chair, and there was present a good muster of past and present students. In responding to the toast, "The School," Mr. Sage thanked all the students participating in the arrangements of the dinner, and expressed his great appreciation of the present which they had recently made him. The past year, he said, had been a successful one, and he hoped that the present one would prove equally so for the new students.

London College of Chemistry and Pharmacy.—The annual dinner and distribution of prizes took place at the Holborn Restaurant on Friday, January 15, Mr. Percy M. Thornton, LL.B., M.P., in the chair. Over 160 past and present students accepted the hospitality of the principal, and the meeting was one of the most successful and enthusiastic in the annals of the college. After the toast of "The King" had been loyally received, the Chairman proposed "The London College," and said that as member of Parliament for Clapham he was proud to preside at their meeting, as from personal observation, and direct evidence from the students, he considered the London College one of the best institutions in that district. Mr. Wootton was doing a great and good work, and he congratulated him upon the success he had already attained. Mr. H. Wootton, B.Sc., in his reply, after heartily thanking the Chairman for the great interest he took in educational matters, said that nearly all present had been through courses at the London College, and could bear him out that the method of work there adopted ensured sound, practical education for pharmaceutical students, and that there was an entire absence of cram. During the last session they had surpassed all previous records by passing ten Majors and seventy-nine Minors, the large relative proportion, over one in eight, who took the higher examination, being a satisfactory feature. Dealing with the Major Examination, Mr. Wootton said that it had been suggested to remove physics from the Major syllabus; this, he believed, would prove a great disaster. It was of the utmost importance that the student of chemistry should have a sound grasp of the general principles of physics. Mr. P. Gale proposed the toast of "The Staff," and Mr. A. Kirkland responded. Mr. T. Skewes Cox, M.P., proposed "The Students," and said he congratulated the students for choosing the London College for their studies. He had known Mr. Wootton for many years, he was familiar with the arrangements at the college, he had seen the official plants growing in their botanic garden, and he was not surprised at the students' success. Mr. G. G. Watt responded. The Chairman next presented the medals and certificates which had been awarded at the college examinations. A vote of thanks to the Chairman, and the singing of "Auld Lang Syne," brought the proceedings to a close.

PERSONALITIES, BUSINESS CHANGES, ETC.

Mr. T. F. Spivey, chemist and druggist, of Market Place, Howden, and Mrs. Spivey, celebrated their golden wedding last week.

Mr. A. C. Marrow, chemist and druggist, has taken over the business of the late Mr. C. H. F. Menhinich, at 6, Millbay Road, Plymouth.

Messrs. Arblaster and Churchill, chemists and druggists, are vacating their premises at 117, New Street, Birmingham, owing to the expiration of lease.

Mr. W. H. Aukland, chemist, 96, Camden Road, London, N.W., has disposed of his business at 243, West End Lane, West Hampstead, to Mr. Alban Atkin.

Mr. Lesslie Newbigin, pharmaceutical chemist, Alnwick, has passed the Dioptric Examination of the British Optical Association, held in London in December, and been admitted a member of the Association.

Mr. O. I. Jones, chemist and druggist, of the Apothecary's Hall, Llanrwst, has taken into partnership Mr. E. Evans, of Wrexham, from January 1 this year, and the firm will be known as Isgoed Jones and Evans.

Mr. C. E. Pickering writes to say that the announcement, made at a recent meeting of the London Chemists' Association (see page 62), that he was absent through illness was based on a misapprehension. He is in good health.

Mr. A. H. Waddington, chemist, has been elected a Vice-President of the Bradford Chamber of Trades, and Mr. B. Rogerson, chemist, who had retired from the position of Hon. Secretary, has been elected to fill one of the vacancies on the Council.

Mr. J. W. W. Allison has taken over the old-established business of Messrs. Wm. and J. Robinson, chemists, Cockermouth. Mr. Wm. Robinson, who retired at the end of last year, carried on the above business personally for fifty-one and a-half years.

Mr. George Goldfinch, pharmaceutical chemist, Brent Street, Hendon, who has been in business for more than forty years, has retired, and the business will be carried on in future by Mr. S. P. Sayers. For twenty-three years Mr. Goldfinch held the office of registrar of births and deaths and vaccination officer for Hendon.

MISCELLANEOUS NEWS.

DIVISIONAL SECRETARIES and other Members of the Pharmaceutical Society are requested to assist the Editor by sending local newspapers containing items of interest to chemists and druggists.

Chemist's Will.—The will of the late Mr. Geo. Peacock, chemist and druggist, of Kirbymoorside, has been proved at £11,453 gross, the net personalty amounting to £2,544.

A Professor Poisoned.—Professor Rodella, a well-known scientist in Rome, has been accidently killed while carrying out some experiments. He was distilling prussic acid when he seems to have leaned over the mixture, and was choked by the fumes. Some attendants found him lying dead on the floor of the laboratory.

Lecture by a Chemist.—Mr. G. C. Druce, M.A., on Monday last delivered a lecture to children, in the University Museum, Oxford, when there was a record attendance. The subject was "Turkey: Neither Roast nor Boiled," and was a description of Mr. Druce's holiday tour through Greece and Turkey last year. Mr. Druce's lecture was illustrated by a number of lantern slides, and was enthusiastically received.

Fire at a York Chemist's.—On Thursday, January 14, a fire broke out on the premises of Messrs. Coverdale, chemists, of Parliament Street, York. It was found that some shelves and other things were burning in the cellar. Once located the fire was soon got under, but not until considerable damage had been done. About £25 worth of stock was completely spoilt, and the lower part of the building damaged to the extent of a further £25.

The Shah's Medicine.—It is reported from Vienna that the Shah of Persia, immediately after taking a dose of medicine prescribed by his Persian physician was seized with symptoms of poisoning. Sir Hugh Adcock, the Shah's European medical attendant, and the physician to the French Legation were called in and diagnosed an overdose of atropine. An inquiry was instituted, and it was found that the prescription was correct, so that either the French chemist made a slip or else the medicine was altered before it reached the royal patient.

Cutting Down Trees by Electricity.—According to *Le Jardin*, the plan has been tried in various forests of cutting down trees by electricity, a platinum wire, heated white hot by electricity, being used instead of a saw. The trunk is thus severed more easily and rapidly than by older methods, no sawdust is produced, and the slight charring preserves the wood. The process is about eight times as rapid as when a saw is used. This process should be particularly useful in cutting off branches of growing trees, which is often an awkward operation.

Marriage of a Lady Chemist.—At Lowvalley House, Blackness by Linlithgow, N.B., on Tuesday, January 19, 1904, Miss Annie Young Wilson Spence, chemist and druggist, was married to Mr. Archibald Wood. The bride is the eldest daughter of the late Dr. Robert Spence, J.P., of Linlithgow, N.B. The bride was given away by her brother, Bailie Alexander Spence, chemist. Miss Spence passed the Pharmaceutical Society's qualifying examination at Edinburgh in April, 1892, and had the distinction of being the first lady to present herself before the Scotch Board of Examiners under the two days' examination system.

A Workhouse Drug Bill.—At the meeting of the Sculcoates Board of Guardians on Tuesday, Dr. Lilley drew attention to the quarterly drug bill, which amounted to £102 3s. 8d. He compared it with the cost of drugs for the quarters ending December, 1901 and 1902, when the accounts amounted to £23 8s. 7d. and £31 7s. 10d. respectively. Whilst he did not for one moment infer that the drugs were unnecessary, he would like to find out whether there had been any undue use or extravagance. The amount of £20 for cod-liver oil was a huge item. It was decided that the drug bill should be gone through by the Finance Committee.

Radium Lectures in Newcastle.—Remarkable interest has been shown during the past few weeks in Newcastle-on-Tyne in the subject of radium. Professor Stroud, of the Durham College of Science, has been obliged, owing to the hundreds of persons who were unable to obtain admission to his first lecture on "Radium," to repeat it on three occasions. On Saturday evening, the 16th inst., when he delivered his lecture for the fourth time within a few weeks, there was again a crowded attendance. Professor Sir George Hare Philipson, M.D., presided. There is said to be no case on record at the College where so extraordinary an interest has been manifested in regard to a lecture.

Amending the Law at His Own Expense.—A Manchester "dentist" recently made an application for his discharge from bankruptcy. Debtor's liabilities amounted to £509, and the following are the reasons to which he attributed his insolvency at his examination. (1) Money paid, and for which he became liable in respect of the formation of a limited company. (2) Unprofitable investments in British and Foreign Patents. (3) Loss through building society charges and law costs in connection therewith. (4) Moneys paid in attempting to amend the Dentists Act. (5) Moneys paid in attempting to amend Patent Laws. (6) Cost of opposing Bill for making it illegal to practise dentistry under the Companies Acts. (7) The payment of high rates of interest on borrowed money.

Illegible Prescriptions.—The Austrian Minister of the Interior has recently called the attention of medical practitioners to the serious evils caused by illegible prescriptions. He insists that every prescription "must be clearly and legibly written in all its parts." The *British Medical Journal* observes that prescribers in this country do not, as a rule, appear to cultivate the art of hieroglyphic writing with such success as many of their foreign brethren. But not a few seem to act on the popular theory that illegible handwriting is a proof of genius. The fact that serious accidents are so rare is noted as a gratifying proof of the efficiency with which, on the whole, dispensing is carried out. "An illegible prescription," says our contemporary, "is a danger to the patient, a hindrance and perhaps a temptation to the pharmacist, and a disgrace to the physician."

Nature-Study in Preparatory Schools.—At the annual meeting of the Public Schools Science Masters' Association on Saturday last, a paper was read advocating that nature-study should be encouraged in preparatory schools and in the lower forms of public schools. Mr. W. A. Shenstone, F.R.S., of Clifton, was one of those who took part in the discussion which followed the reading of the paper. He cited an unfortunate instance of "nature-study" in a school of some 200 pupils, where certain bulbs of crocus, snowdrop, and daffodil, which in nature flowered at different periods, were more or less artificially cultivated by the boys with the intention that they should all flower on the same day—in April. Eventually it was resolved that a sub-committee of the Association be appointed to confer with the Preparatory Schools Association with a view of determining the form of science teaching best suited to preparatory schools.

To Prevent the Refilling of Empty Bottles.—It is announced that an Adelaide inventor has found a method of preventing the refilling of empty bottles. The invention consists of two holes in a glass stopper. In each hole is a valve, regulated by a small glass weight. The stopper is placed in the neck of the bottle, after the latter has been filled, and cemented with molten glass, so that neck and stopper virtually become one. When the bottle is standing upright, the weights keep the valves taut, but when it is inverted they are released, and while one hole allows the air to rush into the bottle, the other permits the fluid to escape. The bottles cannot be refilled without removing the stoppers, and this can be done only by breaking the necks. The sealing process sounds rather complicated, but it is claimed that it is not likely to prove expensive in practice.

Leeds and District Chemists' Association.—Social Evening and Dance.—Wednesday, January 20, at the Masonic Rooms, Carlton Hill, the annual social evening and dance in connection with this Association took place. The company, which numbered over a hundred ladies and gentlemen, included Mr. G. W. Worfolk (the President) and Mr. W. D. Pollitt (the Vice-President). To the music of Mr. H. W. Sedgwick's string band an excellent dance programme was gone through, among the dances being a leap-year dance (quadrille). At intervals songs were contributed by Miss L. Grayshon, W. Crawford, Mr. F. W. Hollingworth, and Mr. S. R. Mundell; and an exhibition of the phonograph was given by Mr. R. S. Calvert. Mr. Hollingworth and Mr. Mundell officiated as M.C.'s at what proved to be an exceedingly pleasant evening. It is intended to hold a "smoker," in aid of the Benevolent Fund of the Pharmaceutical Society, on March 21.

Milk as the Cause of Tuberculosis.—A lecture on this important subject has been delivered in Berlin by Professor von Behrings, who adheres to his opinion that in cow's milk, as nourishment for babies, is found the principal, if not the only, source of tuberculosis. The germ, he thinks, first attacks the intestines, then the lymphatic glands, and then the lungs. Professor von Behrings regards infection as the result of respirapiration as impossible. Predisposition towards consumption he regards as only being acquired in babyhood. Effort must, therefore, in the opinion of Professor von Behrings, be concentrated on preventing the bacteria of consumption from entering the baby's mouth. New milk, he considers, ought to be treated with a small admixture of formalin, this being better than boiling the milk, especially during the first week of a child's life. Several eminent professors present at the lecture disputed Professor von Behrings' theory.

Hertford Hospitals and Drug Supplies.—At the meeting of the Hertford and Ware Joint Hospital Board on January 12, Dr. Boucher submitted a list of drugs which he said might be obtained from local chemists by contract. He pointed out that there were some articles which they could not expect to obtain at wholesale price. Dr. Shelley, a member of the Board, pointed out the difficulty of obtaining drugs in small quantities at low prices, and said the Board would probably get inferior articles i they pursued this policy. As an instance he pointed out that eucalyptus oil could be obtained at prices varying from 10s. to £45. Besides, pure eucalyptus was scarcely known in this country. There was as much difference between the real article and that generally supplied as there was between German made whisky and the best Scotch. He moved that as far as possible the articles named in Dr. Boucher's final list, other than drugs and medical comforts, be obtained from local chemists by tender, and this was carried.

The Latest Phase.—From the *Lancet*:—"The modern cheap magazine or periodical is distinguished by the amount of shady advertisements out of which it makes its profit. In a recent number of a periodical, entitled *Home Chat*, appears the following:—'Medicine at half-price.—For 6d. and stamped addressed envelope I will give you, in English, a copy of your doctor's prescription; whereby you will save half the cost of dispensing same, and know what you are taking. Faithful copies guaranteed. Templeton, 13, Cobden Road, Brighton.' We do not know who Templeton may be, but we presume that he is a pharmaceutical chemist. How the mere fact of a prescription being in English will save half the cost of dispensing we do not understand, but we think it gross impertinence of Templeton to try to interfere between a medical man and his patient, neither should we have the slightest confidence in his guarantee." The *Lancet* appears to presume too much. Templeton is very possibly a disregistered medical practitioner. He is certainly not a pharmaceutical chemist nor a chemist and druggist.

AMERICAN PHARMACEUTICAL NOTES.

(By Our Special Correspondent.)

Taking Samples.

The City of Greater New York has developed quite a sensation during the last few weeks. The local Board of Pharmacy has been making an investigation concerning the character of the medicaments sold in the drug stores of the city, and a somewhat alarming condition of things has been disclosed. English readers, of course, understand that in the United States the Board of Pharmacy is the State examining body, and that, in addition, it has other duties to perform as well. In New York State it is charged with a certain supervision over the conduct of the retail business, and is really compelled to see that the medicines which pharmacists sell are up to pharmacopœial requirements. Now, it happens that on the "East Side" of Greater New York is a large number of druggists of low professional and business standards. Most of them are foreign-born—natives of Southern Europe. When the findings of the Board of Pharmacy were first announced, it was thought that most of the sinners were among these East Side druggists, and it was afterwards discovered that this was really the fact. However, the situation was made somewhat sensational by the discovery that a number of the best-known pharmacists of the city were likewise involved. Men who are conspicuous in the affairs of the local pharmaceutical associations, and who talk eloquently about ethical and professional standards, were declared to have sold drugs to the Board's inspector which proved to be sadly apart from the pharmaceutical standard! No names have yet been published, but it is darkly hinted that all shall be known ere long. Meanwhile a lot of people are wondering where the lightning will strike!

The Campaign of the Proprietors.

The subject which seems to be arousing the greatest attention over here just at present is the campaign of the fourteen patent medicine proprietors to abolish, or at least to alleviate, the cut-rate situation. In my previous letter I explained how it happened that these fourteen men had gathered together and undertaken the work. The patent medicine men declared they were unable to accept the plan of correction demanded of them by the National Association of Retail Druggists, and offered in lieu of this to take matters in their own hands and work towards success in their own way. They are now striving to make their promise good. The eyes of the drug trade of the country are upon them. The National Association of Retail Druggists is holding aloof, not desiring to be involved if failure should result. Whether or not failure will result is merely conjectural. This much, however, is certain—the proprietors have tackled the hardest problem in the entire country. They have begun operations in Greater New York, and the difficulties are here so great that complete success is well-nigh impossible. The city has 3,000 druggists, of all grades of honesty, character, and business ability, and to make these men work in unison will require the organising capacities of a Napoleon. The proprietors would have done much better to start it elsewhere. No one seems to feel any great degree of hope in their effort, and as the weeks go by there is less of sanguine expectation than there was at the outset. Operations were postponed about the middle of December because of the holiday season and the confusion and hurry incident to this period of the year. It is announced now that the work will be taken up shortly and pushed with vigour.

The Ownership of the Prescription.

I am not well enough informed concerning British pharmacy to know whether or not the ownership of the prescription is a moot point with you over sea. On this side of the ocean it is one of the classic subjects of debate. Rather a remarkable decision was rendered by a New York judge a few weeks ago. It seems that a drug clerk had refused to hand over to a patient a prescription which had been filled for that patient several years before. The case was brought into the police-court, and the judge promptly told the clerk that he would either have to give up the prescription or go to the Tombs for larceny! He gave it up! Naturally enough, this has aroused the ire of American druggists. The learned judge of the New York Police Court has certainly expounded new law in declaring guilty of robbery the pharmacist who believes himself the owner of a prescription, and who retains the prescription under that belief. It has sometimes been held by the courts that the patient owns the prescription, but it has never been held before that any question of robbery or larceny was involved. The preponderance of court opinion has been that the ownership of the prescription rests in the pharmacist, on the ground that the prescription is simply an order which the physician makes on the druggist for goods. Having filled that order, it belongs to the druggist himself, as any order would. It is very often unfortunate in this country that our system of State jurisdiction renders possible so many conflicting decisions and legal entanglements generally. About the only way to settle a legal question beyond peradventure is to carry it to the United States Courts, which are supreme above all; not every suit, however, is of a nature rendering it appealable to the national courts.

The Scarcity of Assistants.

The scarcity of drug clerks has aroused considerable concern during the last year or two, and the condition seems to be getting worse instead of better. It has got to the point where in many cities it is almost impossible to secure good clerks, and druggists have to put up with poor material, which is a trial to the flesh. One very natural result has been an increase in salaries. The average stipend in the larger cities has risen from about 12dols. or 15dols. a week to perhaps 18dols. or 20dols. Managers, of course, get a good deal more. I am speaking of average clerks. A number of reasons have been assigned for the stringency of the market, but it seems probable that the explanation must be looked for in the arduous conditions of labour in the drug business. Clerks are compelled to work very long hours, and they do not get large enough pay to recompense them for the sacrifice. Other lines of business present a more attractive outlook, and the young man in search of an occupation naturally chooses a field which seems to afford the largest modicum of satisfaction. The great manufacturing pharmaceutical and chemical houses are absorbing a good many graduates from the colleges of pharmacy, and large mercantile establishments in general are doing this also. The situation will apparently not be relieved until the conditions of labour in the drug business are made more satisfactory—that is, until either the hours are lessened or the pay is increased, or both results ensue. Salaries have already advanced somewhat, and this may gradually bring correction as a natural result. As for "shorter hours," this largely rests for adjustment in the hands of the individual pharmacist under the present condition of things.

American Schools of Pharmacy.

In view of the fact that the pharmacists of New York State are preparing to have a Bill introduced which will provide for a compulsory curriculum, it may be interesting to British chemists to know something about the number and character of the colleges of pharmacy in this country. From recent statistics it would appear that there are eighty institutions in the United States and Canada, besides eight or more correspondence schools doing in some instances a considerable business. The increase in the number of colleges has been very rapid during the last decade, and at the present time there seems to be a general movement towards securing even more schools. Of the eighty at present existing, only twelve were organised previous to 1870, only eighteen previous to 1880, and only thirty-four—less than half the present number—previous to 1890. It is rather a significant fact that only twenty-one of the eighty institutions are independent schools. Thirty-two are departments of universities, sixteen are departments of medical schools, while twelve are affiliated with agricultural colleges and the like. Concerning their geographical distribution, the State of Ohio leads with seven schools, New York and Tennessee have five each; Georgia, Illinois, Indiana, Iowa and Pennsylvania four each; and so on down the list. Another significant fact is this: the curricula of the pharmaceutical colleges are broadening as time goes on. Physiology, bacteriology, languages, toxicology, jurisprudence, therapeutics, physics, and anatomy have a place in a number of the schools, in addition to the old subjects which, of course, constitute the basic educational structure. Laboratory exercises have also become increasingly important during recent years.

Spring Fowers Bouquet.

Verbena oil, 40 minims; geranium rose oil, 35 minims; sandal oil, 25 minims; lavender oil, 20 minims; bergamot oil, 2 drachms; otto of rose, 5 minims; neroli oil, 5 minims; tincture of Tonka beans, 1 fl. oz.; essence of millefleurs, 1½ fl. oz.; essence of vanilla, ½ fl. oz.; orange-flower extract, 1½ fl. oz.; musk essence, ½ fl. oz.; rose water, 2 fl. oz.; alcohol (90 per cent.), 16 fl. oz.—*Spatula*, 9, 548.

MARKET REPORT.

The quotations given below are the lowest prompt cash prices for bulk quantities, to which other charges have to be added. It is important that this should be borne in mind in making any comparison between the prices quoted and those of the wholesale drug trade.

The Drug Sales.

London, Thursday, January 21, 1904.

A decidedly better feeling prevailed at to-day's drug auctions; at any rate, there was more disposition to buy, and bids came more frequently than usual. The offerings comprised fourteen catalogues, none of which were heavy. Generally speaking, the sales passed off without marked incident, and concluded at an earlier hour than usual. Aloes were in fair supply, and the bulk of the offerings were disposed of. Prices varying up to 43s. were paid for Zanzibar, and for fair, hard, bright Cape 42s. 6d. to 43s. 6d. were bids accepted, being rather lower than late rates. Gum Guaiacum was sold for 9½d. for glassy block. Turmeric was, if anything, rather easier, 7s. 3d. to 7s. 6d. being accepted for fair bright Madras finger, and 7s. to 7s. 9d. for bulbs. Gum Benjamin was not in large supply; a small quantity of Sumatra was disposed of at £7 10s. for good, fair seconds, and £6 10s. for fair medium ditto. Siam was not represented, and this is the quality wanted. The small offerings of Crown and Grey Bark were disposed of at old prices, 1s. 1d. being accepted for Huanoco. Some cases of "Kobayashi" menthol, catalogued without reserve, were knocked down at 16s. 6d. to 16s. 9d., being lower. Ipecacuanha sold at 5s. for sound Mattogrosso; one bale Rio offered without reserve was disposed of at 4s. 7d. for "damaged with disinfectants"; one bale Johore, offered without reserve, realised 4s. 11d.; Cartagena was held. For broken green Huanoco Coca leaves 9½d. was paid. A large quantity of Asafetida was offered, much of it being of fine quality, selling with good competition. Fine almondy Gum, mostly free, fetched 90s. to 102s. 6d.; good even ditto blocky, 75s. to 80s.; fair medium stuff, partly adulterated, 65s.; and very soft, 52s. Most of these transactions were made subject to confirmation by cable. For Ergot of Rye, 1s. 4d. and 1s. 5d. were the prices accepted for fair Spanish. Eucalyptus Oil was held for 1s. 3d. Cantharides sold at 1s. 4d. for Chinese. Wax sold as follows: Zanzibar at £6 7s. 6d.; Jamaica, £7 5s.; and Madagascar, £6 15s. West Indian Lime Juice sold at 10½d., and Lime Oil at 1s. 3d. Four cases Wayne County Peppermint Oil were disposed of at 11s. 3d. Only a few bales of Senna were offered, and these sold at about last rates as far as the Tinnevelly were concerned; a small quantity of Alexandrian sold at rather lower prices. The prices of the finer qualities of Cardamoms were full up, but commoner qualities were rather difficult of sale and a little easier; Seeds were about steady. Jalap sold at 5d. for small root and partly wormy These were the principal transactions made.

General Markets.

There seems some slight indication of improvement on the markets in Drugs and Chemicals, although things are by no means bright. There have been more fluctuations than usual during the week. Combined makers have reduced the price of Quinine 1d. per ounce, so that German brands are now quoted at 1s. for the sulphate for 1,000-oz. lots in 100-oz. tins. The reason of this cannot be attributed to any reduction in the price of bark, and must therefore be sought elsewhere. The Camphor market is in a very excited condition, and no definite quotation can be given; perhaps 3s. might still be accepted, however. It can hardly be expected that any Camphor will be exported from Japan until all thought of war is over. Apart from the fact that the article is exceedingly scarce at the present time, Japan will, in the event of war, require an enormous quantity for smokeless gunpowder. It is said that the United States consumes about 200,000 lb. of Camphor a month, a large proportion of which is used in the manufacture of patent medicines and celluloid. A continuance of the scarcity for any lengthy period cannot fail to have a disastrous effect on some manufacturers. Santonin is about 1s. dearer, the rise being attributed to the poorness of the last wormseed harvests. Chloroform is 2d. per lb. cheaper for the quality known as "Pure B.P." Cod-liver Oil has been of late very dull; there have been no buyers, and quotations have only been nominal. This afternoon the first offer of this season's Oil arrived from Lofoten, and is reported to be 265s. f.o.b. This shows a tangible reduction on the prices which have been prevalent so long, but the value is still abnormal.

ALUM.—Lump, £5 12s. 6d.; Ground, £6 2s. 6d.

ARROWROOT.—Of 720 barrels offered at Wednesday's sales, 270 were disposed of at 1¾d. to 1⅞d. for fair manufacturing St. Vincent.

BICARBONATE OF SODA.—£7 5s. per ton, landed.

BISMUTH.—Carbonate, 8s. 1d.; Subnitrate, 7s. 4d.

BLEACHING POWDER.—English, £4 15s. to £4 17s. 6d.

BORACIC ACID.—Powder, £1 4s. 6d.

BORAX.—In powder, 14s. 6d.; crystals, 13s. 6d.

BROMIDES, IODIDES, and **MERCURIALS** remain unchanged.

CAMPHOR.—The market is in a very excited condition, manufacturers are only selling small quantities from stock at very considerably advanced prices. English refiners are unable to fix a definite price for this article at present. Sales are reported at 3s. per lb. for bells.

CARBOLIC ACID.—Crystals, 39° to 40°, 5d.; crude, 60°, 1s. 6½d.

CASCARA SAGRADA.—85s. was the last price paid for old bark, but no more can be had at this price; a little might be got at 90s. to 95s., but the bulk is offered for 100s.

CASTOR OIL.—Belgian 1sts, £20 2s. 6d.

CHLOROFORM.—The price for "pure B.P." has been reduced 2d. per lb. The quality known as "Ex Ethylic Alcohol" remains unchanged.

CINCHONA BARK.—At the Auctions held in London, on Tuesday, the offerings were small, comprising only 836 packages. About 600 packages sold. Manufacturing bark realised good prices. The average unit was 1⅜d. as against 1½d. at the December sale.

CITRIC ACID.—1s. to 1s. 0½d. per lb.

CLOVES—Are steady. None were offered at the Spice sales.

COCAINE.—11s. 9d. to 12s. 3d. per oz. for the hydrochloride, according to quantity.

COCOANUT OIL.—Cochin, £30 spot; Ceylon, spot £26.

CODEINE.—8s. 11d. per oz. for the pure alkaloid.

COD-LIVER OIL.—It is reported that a quotation of 265s., f.o.b., for this season's Norwegian oil has been made.

CREAM OF TARTAR.—98 per cent. foreign powder, 87s.

GINGER.—All the offerings were bought in at old rates on Wednesday.

GLYCERIN.—£68 per ton.

ISINGLASS.—The first Auctions of the year were held on Tuesday; the total of all descriptions amounted to 918 packages, against 665 packages at the November sale. There was a steady demand, and rather less than one-half sold. Brazil imports sold readily at steady rates for the better piles of Para lump, while ordinary dark was 1d. dearer. Maranham sold at very full rates. West Indian lump brought rather firmer prices, purse being steady. Bombay was mostly firmly held above valuations, and only a small part sold at very full rates for all descriptions. Penang sold at rather dearer rates for leaf; Saigon long leaf sold rather irregularly, good being steady, while common showed an advance; round leaf sold well, and 2d. to 3d. dearer. Japan and Russian were brought in.

MORPHINE—Is unchanged at 4s. 6d. per oz. for the hydrochloride.

NUTMEGS—Are rather easier if anything.

OXALIC ACID.—$2\frac{5}{8}$d., delivered free London.

PEPPER.—None was sold at the Spice sales. Privately the market is firm.

PEPPERMINT OIL.—Sales of H.G.H. have been made at 14s. 6d.; for American oil, in tins, 11s. 9d. to 12s. is quoted; and for outside brands of Japan 5s. 6d., "spot."

PIMENTO—Is dull in the private market. None was offered at the Spice sales.

QUICKSILVER.—£8 5s.

QUININE.—German makers have reduced the price 1d. per oz., and for the Sulphate, in 1,000-oz. lots, 1s. per oz. is now quoted. The second-hand market is steady at $11\frac{3}{4}$d. spot. Messrs. Howards and Sons, Limited, have reduced their price for Quinine Sulphate 1d., making the present price 1s. 3d. to 1s 4d. per oz., according to quantity.

SANTONIN.—The price has been advanced, and the quotations are now from 24s. to 25s., according to quantity for B.P. Crystals. This advance was not altogether unexpected.

SHELLAC—Is quiet and easier.

PHOTOGRAPHIC NOTES.

Silver Printing.

At a recent meeting of the Royal Photographic Society, Mr. Henry W. Bennett gave a lecture, with practical demonstration, on silver printing. Mr. J. T. Ashby occupied the chair, and in the course of a few introductory remarks explained that this was the first of a series of practical demonstrations to be given dealing with the various photographic printing processes. With regard to ordinary silver printing there were certain special advantages to be found in the familiar P.O.P., and had it not been for P.O.P. many of them, he thought, would never have become photographers. A considerable portion of the lecture was of comparatively elementary character; but some valuable hints were also given. For a vigorous silver print a vigorous negative was required, but it should be thinner—less dense—than generally used in carbon printing. A simple, easily made, easily used, and highly satisfactory toning bath was as follows:—

Phosphate of soda	24 gr.
Gold chloride	1 gr.
Distilled water	20 oz.

This bath might be made up as required from two stock solutions, viz.: 15 grains of the gold chloride dissolved in $7\frac{1}{2}$ oz. of distilled water—each $\frac{1}{2}$ oz. of solution containing 1 grain of gold chloride; the other stock solution being about a 5 per cent. solution of the phosphate. It was desirable that the bath should not be made up too strong, as it worked somewhat rapidly. When working with this bath it was easy to judge as to the final colour of the print from its appearance in the solution. A good reliable fixing bath, greatly assisting in regard to the permanence of the print, was made up as under:—

Hyposulphite of soda	3 oz.
Strong ammonia	1 dr.
Distilled water	20 oz.

The following formula would be found very serviceable when a formate bath was required:—

Sodium formate	15 gr.
Sodium carbonate	2 gr.
Gold chloride	1 gr.
Distilled water	15 to 20 oz.

Photography in Colour: The Worel Direct Process.

A method of producing photographs in colour directly in the camera has caused some interest of late, especially in German photographic circles. It consists in the preparation of a black sensitive mixture of anilin colours, which is susceptible to the bleaching action of light. By prolonged exposure in the camera a coloured image of the object photographed is thus produced by the action of the light reflected from the different colours contained in the subject, the white light entirely bleaching the film, while that reflected from, say, a green object, will bleach out all but the green, and so on. The *Photographische Mitteilungen* gives the following as the composition of a suitable black film:—

Alcohol, 95 per cent.	300 C.c.
Primrose	45 centigrammes.
Victoria blue	12 to 13 centigrammes.
Curcumin (crystallised)	50 centigrammes.
Auramine	10 centigrammes.
When dissolved, add	
Concentrated cyanin solution	30 drops.

After well shaking the mixture is allowed to stand for some hours, then is added to each 100 C.c. of the mixture 15 Gm. of "Harzleimlösung," which, from its name, would appear to be a solution of resinous size, doubtless intended to form the vehicle for the colour after evaporation of the solvents. A final addition of anethol, in the proportion of 1 drop to each C.c. may be made, the object of this being to increase the sensitiveness to light. Although there appears to be certain possibilities in this process, there are great difficulties to be removed before it can be capable of general application, two of the chief being the very protracted exposure necessary and the failure at present to devise any efficient means of fixing the image when obtained, or the protection of it from the further action of light.

Sulphide Toning of Bromide Prints.

A means of obtaining sepia tones on bromide prints which appears to possess some advantages over the well-known "hypo-alum" method, is communicated to the *Amateur Photographer* by Mr. C. Winthrope Somerville. A finished print (dried) is first treated with a bromising solution in order to convert the silver deposit forming the image into a silver bromide, which in its turn is, by the application of a solution of sodium sulphide converted into a silver sulphide. The formula is as follows—

Cupric sulphate	200 grains
Potassium bromide	200 grains
Water	10 fl. ounces

Immerse the print and allow to bleach as far as it will go, the time necessary being about three minutes. Wash till free from a green tint, then immerse for five minutes in a 2 per cent. solution of nitric acid. Wash for five minutes and apply the following solution—

Sodium sulphide	1 ounce
Water	9 fl. ounces

Dissolve and boil for five minutes to remove any iron impurities, which will be deposited as insoluble black ferrous sulphide, and filter. This forms a stock solution. The toning solution consists of—

Stock solution	1 fl. ounce
Water	5 fl. ounces

Allow the prints to remain in this solution for one minute after toning appears to be complete, then wash in running water for ten minutes.

BOOK REVIEW.

'Drugs: Their Production, Preparation, and Properties.' By H. Wippell Gadd, F.C.S. Pp. 180. Price, 5s. net. London: Baillière, Tindall, and Cox, 8, Henrietta Street, Covent Garden. 1904.

Examinations, writes Mr. Wippell Gadd, in a paper communicated to the Pharmaceutical Society, on Wednesday (see page 82), are the curse of education. The knowledge acquired solely for the purpose of an examination is not, as a rule, of the kind which benefits or endures. It would be unkind, and perhaps, not strictly just, to say that Mr. Gadd's latest book is itself a striking example of the evil effects of the examination system. But the work undoubtedly partakes of the nature of a "cram-book," to be hastily read in the days immediately preceding an examination. The author disarms criticism, however, by stating in the preface that the work is intended to supplement and summarise, not to supplant personal teaching. It is, therefore, hardly necessary to warn students that the wide field—in chemistry, botany, materia medica, and pharmacy—into which Mr. Gadd invites them to roam, will remain but "plough-land" if they trust solely to the guidance of this book while treading the paths which lead to that awkward stile, the Minor Examination. If, however, the book be used "concurrently" with a well-ordered curriculum of instruction, no great harm will result, as the author's facts are concisely and for the most part accurately stated, except in certain instances where precision of expression has been sacrificed in order to present a difficult explanation in language intelligible to the elementary student. The first section of the book is devoted to brief descriptions of all official and some non-official crude drugs, their products and pharmaceutical preparations. Roots, rhizomes, leaves, flowers and other parts of plants are dealt with in separate chapters the author giving the botanical source, mode of collection or preparation, principal physical characters, chemical constituents, adulterants, and pharmacopœial preparations successively. In the second section, of seven pages, the official animal products are described, and, in the third, some brief particulars are given of the various chemical substances of the Pharmacopœia. Tables of weights and measures, official alcoholic solutions, and an index complete a useful little book which is readable throughout, and nowhere too profound.

TRADE NOTES.

Messrs. W. Butcher and Sons have taken over the business of Messrs. Bessus and Co., of 84, Hatton Garden, E.C., including goodwill, patents, stock, workshop and plant. The whole of the wholesale business, including the stock from 84, Hatton Garden, will be transferred to Camera House, but for the present the firm intends to carry on the workshop at Hatton Garden. All orders and correspondence for Messrs. Bessus and Co. should be addressed to Camera House instead of Hatton Garden.

The "Ideal" Portrait Lamp provides an entirely new form of artificial light for portraiture. The apparatus consists of a light aluminium framework constructed in pieces, which can quickly be fitted together, and a brass standard which can be easily fixed to any ordinary stool or chair available. Over this framework is fitted a chemically prepared cloth cover, white inside, with white front which diffuses the light, and opaque top, sides, and back. The lamp itself consists of a shallow tray with a simple arrangement for igniting the powder. This is done by a percussion cap, the exposure being made by means of a pneumatic ball and tube which simultaneously opens the shutter and ignites the powder. When the exposure is made the smoke is held in the cabin, which can easily be lifted off and carried outside. The arrangement of the lighting is entirely under the control of the operator, any style from ordinary full lighting to back lighting being possible, and the cost of working is said to be much less than any other form of light. The whole apparatus packs into a compact black flexible case, measuring 3½ ft. long × 6 in. × 2 in., and weighs 9 lb. Particulars as to price, etc., may be had of Messrs. Geo. Houghton and Son, Limited, 88 and 89, High Holborn, W.C.

BANKRUPTCY INTELLIGENCE.

Re **Arthur McDonald**, described as a Chemist.

At the Salford County Court, on Friday, January 15, Arthur McDonald, who formerly carried on business in Eccles New Road, Salford, applied for his discharge from bankruptcy. A first and final dividend of 2s. 7d. in the £ had been paid on proofs for £212. His Honour Judge Parry granted the application, and said it was a case in which he could suspend the charge for the minimum period allowed by the law—viz., two years.

Re **Charles Tyrell**, Drug Dealer, 14, Bevois Valley Road, Southampton.

At the Southampton County Court last week this bankrupt applied for his discharge, which was granted.

Re **John Thomas Beynon**, 12, Church Street, Monmouth, Chemist and Druggist, trading as "Benyon and Co."

In this matter the debtor underwent his public examination at Newport Bankruptcy Court on Thursday, the 14th inst., before the Registrar (Mr Hornby), and was represented by Mr. Williams, solicitor. The liabilities were returned at £323 1s. 3d., of which £310 11s. 10d. was expected to rank for dividend, whilst the assets were estimated to produce £264 13s. 9d. in the aggregate, and £251 14s. 4d. net, leaving a deficiency of only £58 17s. 6d., as estimated by debtor. In reply to the Official Receiver, debtor stated that he had at his disposal £400 when he commenced business in March, 1900, at St. Clears. He used £120 of this money to purchase the business at that place, which he carried on for two years, and which he gave up, as it did not pay him. After paying all his liabilities on this concern, he had a capital of £200 left. Subsequent to this he had acted as an assistant in different places, until last May, when he bought the business at Monmouth for £300. This was for stock, fixtures, etc., as well as for an unexpired lease of twelve years on the premises.

The Official Receiver: Do you know that that is now sold for £100? Debtor said he could not say. The business now was about the same in every respect as when he bought it.

Continuing, Debtor said that he had taken the ordinary precautions in ascertaining the value of the concern before he had taken it over. He had examined the books to see what the turnover was, but there was no doubt that the book shown him was a false one. After further questions, the examination of the debtor was closed by the Registrar, subject to the usual conditions.

COMPANY INTELLIGENCE.

Frederick Fenner and Co., Limited.—Capital, £3,000, in £1 shares. Object, to adopt an agreement with F. Fenner for the acquisition of the business carried on by him at Fleming's Wharf, Millwall, as Frederick Fenner and Co., and to carry on the business of chemists, druggists, drysalters, etc.

PATENTS AND TRADE MARKS.*

New Patent Applications.

IMPROVED PROCESS FOR PRODUCING ORGANIC ACIDS (No. 27,899 of 1902). — Dr. N. Zelinsky, Professor of the Moscow University, Russia. Consists in the substitution of chlorine for bromine and iodine, and of fractions of natural petroleum or earth oil (which, as is known, contains a mixture of cyclic and open chain hydrocarbons) for the hydrocarbons of synthetic nature, usually employed in the manufacture of the said acids. The production of organic acids and their derivatives from petroleum is thus reduced to the following process: One or other fraction of petroleum is transformed into chloride, which is dissolved in ether, and into the product of the reaction resulting from the solution carbonic acid and magnesium are introduced after cooling. The complex magnesium organic compounds that are formed are successively decomposed by water and muriatic or sulphuric acid, the eliminated organic acids, according to their nature, are subjected to further refining or to distillation in vacuum, this being sufficient for the purpose of combining them with glycerin (producing fats) or converting them into corresponding salts or other derivatives which are characterised for the given acids.

EAR TRUMPETS (No. 23,077 of 1903).—F. Hubbes, M.D., 18, Waisenhausgasse, Kronstadt, Hungary. Consists of an ear trumpet chiefly for persons with defective hearing and the deaf, constructed on the principle of the telephone characterised by the provision of a vibrating tongue piece which transmits its vibrations to a hammer to be placed against the hard places of the head—*i.e.*, those having the least covering of flesh—for the purpose of exciting the auditory nerves by the sound waves produced at the places of the head in question. For the purpose of increasing the action of the waves by resonance, the hammer may be provided with a hollow space. The transmitter is connected to the receiver by means of a handle. In order to enable the apparatus to be folded easily, it is advisable that the source of the current and the induction coil should be of such a shape as to enable both to be conveniently carried in the pocket.

Note.—Opposition to the grant of either of the above-mentioned Patent applications must be filed at the Patent Office on or before February 23, 1904.

New Trade Mark Applications.

"**QUETA**," for chemical substances used in manufactures, photography, or philosophical research, and anti-corrosives, by H. Dawson, 34, Norfolk Street, Strand, Middlesex. 259,245.

"**THOROUGH**," and device of a man digging ("Thorough" disclaimed), for chemical substances used in manufactures, photography, or philosophical research, and anti-corrosives, by T. Gardner and Sons, Limited, 44, Dean Street, Newcastle-on-Tyne. 259,102.

"**BOSKOMA**," for chemical substances used for agricultural, horticultural, veterinary, and sanitary purposes, by W. T. Wilson, Harper-Adams Agricultural College, Newport, Salop. 258,189.

"**THORAXINE**" ("Thorax" disclaimed), for a medicine for horses and other animals, by W. E. G. Johnson, 63, Lupus Street, Pimlico, S.W. 258,742.

"**CYLLIN**," and device of sun rising on the sea, for chemical substances used for agricultural, horticultural, veterinary, and sanitary purposes, by Jeyes' Sanitary Compounds Company, Limited, 64, Cannon Street, London, E.C. 258,990.

"**RESTORICUS**" ("Restore" disclaimed), for a curative (medicated) ointment for ringworm and disordered hair follicles, by W. B. Norris, 10, Aliwal Road, Clapham Junction, S.W. 259,153.

"**EUMYDRIN**" ("Eu" disclaimed), for a pharmaceutical product (for human use), by the Farbenfabriken vormals F. Bayer and Company, Koenigstrasse 27, Elberfeld, Germany. 259,162.

"**IDOTHEA**," for perfumery, etc., by H. T. Hatt, 9 and 10, The Corridor, Bath. 259,000.

Note.—Opposition to the registration of any of the above-mentioned trade marks must be filed at the Patent Office cn or before Febuary 13, 1904.

LETTERS TO THE EDITOR.

All Communications for the *Pharmaceutical Journal* must be addressed to the Editor, 17, Bloomsbury Square, London, W.C., and, if intended for publication in the current week's issue, should reach the Office not later than Wednesday, unless specially arranged for in advance. The matter should be written clearly and concisely on one side of the paper only and must be authenticated by the names and addresses of the writers, as no notice can be taken of anonymous letters. Articles submitted for the Editor's approval should be accompanied by stamped addressed envelopes, otherwise no guarantee can be given that they will be returned if not found suitable. Reprints of articles cannot be supplied unless the authors communicate with the Editor before publication. The right to reproduce all original matter and illustrations published in the Journal is strictly reserved.

The Albumen Test for Cod-liver Oil.

Every chemist who has a reputation to lose is keenly interested in the tests for cod-liver oil, and most of all during this season, when the temptation to sophistication is so overwhelming. I happen to have an additional reason for ascertaining the significance of various tests for adulteration, because as a member of both the Dublin Boards of Guardians I am generally asked to direct my colleagues as regards the reports of the analysts on foods and drugs. Now, that the specific gravity test is not only inadequate, but misleading, is fairly well known. The matter is put tersely in 'Southall's Laboratory Report,' just published, where it states that "specific gravity is practically no guide." It states further that "the albumen test cannot be considered of any real value." This is the point on which I should like your readers' experience, for I am of opinion that, carefully interpreted, it is of real value, especially when carefully collated with other tests. At the same time I have examined oils of unquestionable purity which showed it but slowly and faintly; whilst other oils, almost certainly sophisticated, responded to it nearly equally well. So far as I can judge, the albumen test of the B.P. is more readily elicited with an ordinary pure oil from the liver of the cod than from the livers of such fish as shark, haddock, ling, seal, etc.; but that the very finest samples—those which are thinnest and most tasteless—do not show it rapidly or markedly, possibly because the albuminous constituents have been to some degree removed in the process of clarification.

Dublin, January 14, 1904. J. C. McWalter.

Normal Saline Solution.

Mr. T. H. Francis seems to be a little bit hard on chemists in general in the matter of normal saline solution. Its composition is surely a matter of every-day knowledge? It has been employed for years. Long before the use of the suprarenal gland or its active principle was thought of—*e.g.*, in military surgery—a handful of salt was thrown into a quart or two of water and injected intravenously to save the life of a soldier in the collapse following excessive bleeding. From the aseptic point of view it is desirable to place the contents of a tube of concentrated saline solution in a couple of pints of boiled water and inject this intravenously. I cannot understand why Mr. Francis dubs the average chemist's library as "scanty and miserable." Page 429 of the 'Extra Pharmacopœia,' Edition 10, gives all the information necessary.

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* These abridgments of new patent applications and particulars of new applications for trade marks have been specially compiled from official sources, for the *Pharmaceutical Journal*, by Mr. Reginald W. Barker, agent for procuring patents and registering trade marks and designs, 56, Ludgate Hill, London, E.C., from whom any information on the subjects may be obtained. Mr. Barker will also send copies of his 'Trade Mark Notes' and 'Patent Notes for Inventors' free on application.

London, January 18, 1904. W. H. Martindale.

Referring to the letter under this heading in your current issue, we are much obliged to Mr. Francis for directing attention to what might easily lead to a serious error in dispensing. As our solution of adrenalin chloride is referred to, you may, perhaps, allow us to state that on the label attached to the bottles containing this solution we print the following: "Normal solution sodium chloride may conveniently be prepared from our compressed tablets of sodium chloride." The label accompanying these tablets bears: "One tablet dissolved in 4 fluid ounces of distilled water will form normal solution sodium chloride." Each tablet weighs 11 grains, so that the percentage strength of the normal solution so prepared will be 0·628, which is practically the same strength as that given by Mr. Francis. This method of preparing normal saline solution has frequently been referred to in our published literature, but doubtless it has in some cases escaped attention. Mr. Francis has done a useful service in showing the difference between normal saline solution for physiological purposes and that used in chemical investigation, and on that account he deserves hearty thanks.

London, E.C., January 18, 1904. Parke, Davis and Co

The Benevolent Fund

The remarks of "A Willing Helper" in the current issue of the Journal are very pertinent to the question at a time like this, when the Benevolent Fund is in so critical a condition. I should like to emphasise especially the valuable aid that Divisional Secretaries can render, and the ignorance existing among chemists as to the work done by those who administer the Fund beyond the granting of annuities. With regard to the latter question, the observations of the President and Vice-President at the recent Council meeting cannot be too widely known among chemists. It seems to me that it would materially benefit the Fund to revert to the former arrangement, whereby the local secretaries used to undertake the collection of subscriptions. The result would be a personal canvass of all registered chemists once a year. The letter issued last week by the Secretary of the Society to the Divisional Secretaries meets with the warm approval of several chemists with whom I have discussed the subject, and will, it is to be hoped, result in the Divisional Secretaries being again asked to undertake the duty of collecting subscriptions for the Fund. I would suggest that a leaflet be drawn up and printed for distribution through the medium of Divisional Secretaries, setting forth a summary of the relief work done by the Fund, say for the past year or two, and drawing attention to the large number of cases in which the Fund is unable to assist, owing to insufficient financial support from chemists. The raising of money for this purpose through bazaars, concerts, and the like is, in my opinion, unwarrantable and undignified. Chemists, as a body, are well able to support such of their brethren as are in want, and it is chiefly lack of interest that causes the Fund to be in its present position.

Chesterfield, January 18, 1904. F. A. Upsher Smith.

The P.J. Students' Competition.

Permit me to express my gratitude to you for your generous consideration of the requirements of numbers of students, who, like myself, have derived considerable benefit by the recent publication of your exceedingly helpful papers. I also tender you my thanks for the award.

Withernsea, January 18, 1904. Norman S. Goodyer.

A Question of Temperature.

In last week's issue, in the review of Mr. Herring's book, 'The Sterilisation of Urethral Instruments,' your reviewer states to the effect—"One cannot, however, take Mr. Herring seriously when he, on three separate occasions, advises the drinking of tea at 130°." I should like to point out to your reviewer that tea at 160°-170° is not only easily tolerated, but appears to be a temperature considered the optimum temperature by many people who like things hot; while 130° is considered on the "cool side." Let your reviewer verify this, as may easily be done.

London, January 19, 1904. P. L. Daniel.

⁂ Our reviewer points out that myosinogen, the principal proteid constituent of muscle, and fibrinogen, an important proteid constituent of blood, both coagulate at a temperature of 132° F. Further, paramyosinogen, another important proteid constituent of muscle, coagulates about 124°-125° F. Moreover, personal experiments conducted by the *P.J.* staff show that tea at temperatures above 130° F. cannot be drunk with comfort and safety.—[Ed. *P.J.*]

A Sign of the Times.

Being on the look-out at present for a girl to be something more than a mere message-girl—viz., to put up stock, etc., etc., I advertised in a local paper as follows:—"Girl Wanted; neat and respectable.—Apply Chemist, etc." Sooner than I could have thought it possible I began to have interviews with maidens, all more or less respectable, and in a few hours I had no less than ten applications! Is this a sign of the times and the solution of the apprentice difficulty?

January 13, 1904. "J. L." (269/42).

Curious Official Interpretations of Medicine Stamp Acts: Breaking Bulk.

(1) Licensed vendors may not break bulk of liquid preparations (except under medical prescription and mixed with other medicaments) unless a fresh stamp is affixed = double duty. (2) They may break bulk of anybody's pills (except their own), but the pills so sold must not be put into a box or bear a label of any kind; but may be screwed up in a morsel of paper. (Eheu! Pharmacy!) (3) They may break bulk of So-and-So's powders and sell them singly, notwithstanding the fact that each powder is actually contained in an "enclosure," bearing (*a*) an advertisement; (*b*) a claim to sole proprietorship; (*c*) instructions for administration; yet (*d*) no single powder bears a stamp!

January 18, 1904. "Introspect" (270/34).

BIRTH.

Austen.—On January 13, at 20, Dover Road, Sheffield, the wife of John Austen, pharmaceutical chemist, of a son.

MARRIAGE.

Wood—Spence.—On January 19, at Lowvalley House, Blackness, Linlithgow, by the Rev. J. C. Buchanan, M.A., assisted by the Rev. Alexander Mitchell, M.A., Archibald Wood, s.s. "Hawkes Bay," to Annie Young Wilson, eldest daughter of the late Robert Spence, M.D., J.P., Linlithgow, and of Mrs. Spence, Lowvalley House, Blackness.

DEATHS.

Atkins.—On January 17, William Sanders Atkins, Chemist and Druggist, Birmingham. Aged 78. Mr. Atkins had been a member of the Pharmaceutical Society since 1899.

Beckett.—On January 18, Robert James Beckett, Chemist and Druggist, Hornsea, Hull. Aged 69.

Cowap.—On January 19, John William Cowap, Chemist and Druggist, Winsford. Mr. Cowap, who was a member of the Pharmaceutical Society, went to reside at Winsford from Warrington about thirty years ago. On the evening before his death, which was due to heart failure, Mr. Cowap attended a meeting of the Over School managers when he appeared to be in his usual health.

Place.—On January 15, William Byron Place, Chemist and Druggist, Harrogate, formerly of Betley. Aged 81.

Smith.—On January 15, William Blackwell Smith, Chemist and Druggist, Gosport. Aged 56. Mr. Smith was born at Goole, Yorkshire, in 1847, and was apprenticed to a chemist in that town. In the year 1869 he entered the employ of the late Colonel Mumby at Gosport, and served him for fifteen years. Afterwards he started in Stoke Road, and four years later bought the chemist's business in Forton Road and High Street from Messrs. Mumby and Co., which he has since held with success for nearly twenty years. He did not take a very active part in local politics, but for five years was a member of the old Gosport and Alverstoke Local Board. He held the position of Chairman of Flux's Laundries, a company which he inaugurated, and was also a director of the Gosport Building Society and other organisations. He was a member of the "Prince of Wales" Lodge of Freemasons.

Taylor.—On January 20, John Taylor, Chemist and Druggist, Bolton. Aged 47. Mr. Taylor was well known in pharmaceutical circles as a member of the Council (see p. 76).

Waddington.—On January 17, John William Waddington, Chemist and Druggist, Bradford. Aged 79. Mr. Waddington was the oldest chemist in the city. He carried on business in Westgate, until about ten years ago, when he retired. Returning to his home in Green Lane, Manningham, on Sunday afternoon, from a visit to a son-in-law, he sat down and immediately expired. Owing to the suddenness of the death an inquest was considered necessary, and a verdict of "Death from natural causes" was returned.

REPLIES TO CORRESPONDENTS.

Information required by readers will be published in this column as early as possible, but the Editor cannot undertake to reply by post, even though stamped addressed envelopes accompany the queries. Replies will, in all cases, be referred to the sender's initials, and the registered number added in each instance should be quoted in any subsequent communication on the same subject. When formulæ are given without definite weights and measures, it should be understood that the solids are to be weighed and liquids measured. Plants for recognition should be addressed to the "Curator, 17, Bloomsbury Square, London, W.C.," accompanied by a stamped, directed envelope for reply. No notice can be taken of anonymous communications.

Labels (E. W.—104/33).—The labels you send will not incur liability to duty.

Numbers of Recipes (D. L. L.—105/11).—The numbers already published in the 'Formulary' will not be altered, except in the case of duplicates.

Veronal (J. C.—105/3).—It is given for sleeplessness. You will find particulars in the *P.J.* of June 27 and July 18 last.

Manchester Scholarship (C. L.—105/1).—The questions on Latin include parsing and the translation of "unseen" Latin. Refer to the Calendar of the Pharmaceutical Society.

Infants' Powders (E. W. B.—104/32).—Thanks for the information you send. It is distinctly interesting to learn that the wording on your wrappers is not held to incur liability.

First Aid (W. C.—105/4).—(1) It requires 25 parts of cold water to effect solution. (2) One ounce in the pint. (3) Ten grains in the ounce. (4) The addition of water will render it useless.

Duplicate Recipes (H. L.—105/35).—We have detected duplicates in several instances. As far as possible such duplicates have been cancelled and the numbers given to them are being used for other recipes.

Label (J. G. H. — 105/10).—Veterinary medicines are not liable to medicine stamp duty unless recommended for human ailments. The label you send (only one was enclosed with your letter) does not, therefore, incur liability.

Cereus Gummosus (W. N.—105/9).—Your inquiry should have been addressed to the Editor of the 'Year-Book,' to whom we have passed it on. We can only suggest that you refer to the original articles in the *Archiv der Pharmacie.*

Labels (J. A. T.—105/8).—The label for "Hamilton Pills" belongs to the class held to incur liability unless the formula is given. See *P.J.* for January 9, page 27. The other labels you send will be exempt if the words in ink are added.

Sluggish Horse (J. S.—104/28).—It is a matter of temperament, and no drugging will alter it. There are some horses possessed of thick skins and lymphatic natures which no punishment will rouse to anything but temporary effort, and after a time they will submit to the whip without any more response than a movement of the ears. They are known as "slugs," and one might as well try to impart agility to an oyster, or poetry to a pig, as to make them anything different.

Calendar for the Week (January 24-30, 1904).

Days of M	W	Events of the Week.	Sun Rises	Sun Sets.
24	**S**	**Third Sunday after Epiphany.**	7.53	4.31
25	M	☽ First Quarter, 8.41 p.m. Society of Chemical Industry (Yorkshire Section), Midland Hotel, Bradford, at 7.45 p.m.—"The Estimation of Lactose and Sucrose in Milks," by F. W. Richardson and A. Jaffé.	7.51	4.33
26	Tu	Bradford Chemists' Association, at 9 p.m. London Chemists' Association, Hotel Cecil, at 7.30 p.m.—First Annual Dinner.	7.50	4.34
27	W	Cardiff and District Pharmaceutical Association, Park Hotel, at 4 p.m.—Annual Meeting and Dinner. Edinburgh Chemists', Assistants', and Apprentices' Association, at 9.15 p.m. Public Dispensers' Association, St. Bride's Institute, E.C., at 8 p.m.—Annual General Meeting. Tees-Side Chemists' Association, Royal Hotel, Stockton, at 8 p.m.—Annual Dinner. Western Chemists' Association (of London), Norfolk Square Hotel, Paddington, at 9 p.m.—Smoking Concert.	7.49	4.36
28	Th	Barnsley and District Chemists' Association, at 7 p.m. Chemists' Assistants' Association, at 8.30 p.m.	7.48	4.38
29	F		7.46	4.40
30	S	Football.—Metros *v.* Square.	7.45	4.41

LETTERS, NEWSPAPERS, QUERIES, and other COMMUNICATIONS have been received from Messrs. Atkinson, Aukland, Austen, Barron, Battle, Bennett, Betty, Blamey, Campkin, Cavanagh, Clayton, Clowes, Cox, Cullurry, Cummings, Curnow, Dalton, Daniel, Dewhurst, Dolbear, Dowzard, Eyres, Fairley, Fairweather, Ferrall, Gadd, Gibson, Goodyer, Handford, Hill, Hole, Jones, Leadbeater, Lennox, Levi, Lownsbrough, Martindale, Newbigin, Nicholls, Orton, Palmer, Pickering, Priestley, Rigby, Riley, Sampson, Savage, Scholes, Searl, Self, Smith, Tilsley, Timmins, Tocher, Tod, Town, Wakelin, Walker, Webb, Williams, Wilson.

Telegrams "PHARMACEUTICAL JOURNAL LONDON"
ESTABLISHED 1841
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The Oldest Organ of the Drug Trade in Great Britain.
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The Journal circulates widely in the United Kingdom, France, Germany, Austria, Italy, Russia, Switzerland, Canada, the United States, South America, India, Australasia, South Africa, etc. It is supplied regularly to the majority of the Chemists and Druggists in business in England, Scotland, and Wales, and to the whole of the members of the Pharmaceutical Society of Great Britain. Orders for Advertisements or for Copies of the Journal should be addressed to the Publishers, 8, Serle Street, London, W.C.

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Annual Subscription, 20s. Post Free; Single Copies, 4d. each, by Post, 4½d.

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CHANGES OF ADDRESS.

Instructions from Members of the Pharmaceutical Society, with reference to the transmission of the Journal, should be sent to the SECRETARY, 17, Bloomsbury Square, London, W.C.

The Pharmaceutical Journal Office.

Thursday, January 28, 1904.

Japanese Pharmacy is described in an article by Mr. Frédéric S. Mason, which appears in this issue.

A New Clause which, it is suggested, shall form part of the Medical Act Amendment Bill, forbids the dispensing or sale of drugs by medical men. The *Lancet* considers the clause to be impractical and unworkable.

The Difficulties which the duty on alcohol and various import duties cause to chemical manufacturers were referred to by several speakers at a meeting of the Chemical Section of the London Chamber of Commerce on Tuesday.

The Examinations of the Pharmaceutical Society held in Edinburgh during 1903 have been commented on by Dr. Balfour Marshall, the Government Visitor, who again states his belief that a "compulsory curriculum is of the first necessity."

Mr. Idris' Able Exposition at the dinner of the London Chemists' Association, of the anomalies of Pharmacy Law in this country and of the aims of the Pharmacy Bill, should be studied by all who wish to have a thorough understanding of the matter.

Mr. Herbert E. Davies, B.Sc., replies to the note by Mr. Searl, in last week's *Pharmaceutical Journal*, on the subject of the test for yeast extract recently devised by the latter. Mr. Ernest J. Parry also enters the lists, supporting Mr. Searl's contention.

Annual Dinners of local associations have been held at Blackpool, Cardiff, Middlesbrough, and Nottingham. Numerous other associations have held meetings, and the annual ball of the Midland Pharmaceutical Association, on the 21st inst., was a successful function.

The Roll of Members of the Pharmaceutical Society at the end of 1903 was longer than at any previous time, the number of members being 6,058. At the time of writing there are 6,868 subscribers to the Society. That number includes student-associates as well as members.

Several Collections have been taken on behalf of the Benevolent Fund at meetings of local associations of chemists during the past few weeks. At a smoking concert of the Western Chemists' Association (of London) yesterday, the sum of eight guineas was collected for the Fund.

The Legal Cases of the week include two actions in the Chancery Division, in which Messrs. Schweppes, Limited, and Messrs. T. Christy and Co. were the respective plaintiffs. The "arsenical beer" case has occupied the attention of Mr. Justice Bruce for the greater part of the week.

Bad Writing on a Prescription was the cause of the death of a child at Bloxwich. Sixty-one minims of solution of morphine hydrochloride was dispensed instead of the six minims which the doctor had intended to order. The chemist who dispensed the prescription was exonerated from all blame in the matter.

The Funeral of the late Mr. John Taylor, whose death was announced in last week's issue, took place on Saturday, the 23rd inst., at Bolton. Several members of the Council of the Pharmaceutical Society attended to do honour to the memory of their late colleague. In this week's issue is published an appreciation of Mr. Taylor, from the pen of Mr. J. Rymer Young.

Eight Members of Parliament attended the first annual dinner of the London Chemists' Association on Tuesday evening. The speeches were for the most part on the subject of the Pharmacy Bill, to which several M.P.'s promised their support. Mr. T. Lough, M.P., strongly dissented from the statement that the Bill had no chance of becoming law. Arrangements are well advanced for the introduction of the Bill in the coming Session.

Specialisation for pharmacists has received the attention of Mr. J. P. Gilmour. At a meeting of the Glasgow and West of Scotland Pharmaceutical Association on January 21, that gentleman suggested that good opportunities for specialisation by pharmacists were offered by infants' foods. At the same meeting Mr. Thomas Maben read an interesting paper on the valuation of drugs, the subject being treated with reference to therapeutic or medicinal value.

The Position of Camphor remains unaltered. A slightly better tone prevails on the Drug and Chemical Markets.

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THE REGISTRAR'S REPORT FOR 1903.

The Registrar's report on the membership of the Pharmaceutical Society and the registers of pharmaceutical chemists and chemists and druggists for the year 1903 will be presented to the Council at its meeting on Wednesday next. The report shows an increase of 324 in the membership of the Society, and a decrease of 30 in the number of student-associates. The following table shows the number of members and students during the past five years:—

Subscribers.	1899	1900	1901	1902	1903
Registered Chemists......	5,820	5,832	5,850	5,734	6,058
Students	884	796	742	619	589
Total....................	6,704	6,628	6,592	6,353	6,647

There was an increase of 115 in the number of persons elected and restored to membership as compared with 1902, but whereas the deaths and secessions in that year numbered 530, in 1903 the Society lost 205 members only from those causes.

The number of additional members and students elected at the January meeting of the Council this year was considerably larger than in 1902. On adding them to those included in the Registrar's report, the actual membership of the Society in the first month of the present year is seen to be greater by 413 individuals than it was twelve months earlier. This is shown by the following table, which, like the previous one, covers a period of five years:—

Subscribers.	1900	1901	1902	1903	1904
Registered Chemists	5,906	5,930	5,937	5,812	6,225
Students	941	917	785	657	643
Total	6,847	6,847	6,722	6,469	6,868

These figures certainly do not seem to indicate that the Society is on the road to ruin, or that chemists and druggists are becoming more and more dissatisfied with the Society and its institutions. Even if it be admitted that some subscribers to the Society would like to see changes in the system of electing the Council, or in the procedure of that body, it would seem, as the President remarked at a recent Council meeting, that the great body of the members have increased confidence and interest in the actions of the executive body. There have been various developments and "new departures" in several branches of the Society's work, but that work has had the approval and authority of the Council, the members of which will be glad to know that their efforts have been appreciated.

The number of names on the lists of registered persons has increased during the year by 51, the erasures in 1903 being fewer, and the numbers of successful candidates at the Minor Examination greater than in the previous year. The proportion of registered persons who at the end of 1903 were members of the Society is shown by the following table:—

Registered Chemists.	1899	1900	1901	1902	1903
Members	5,820	5,832	5,850	5,734	6,058
Non-Members	9,775	10,031	9,750	9,792	9,519
Total	15,595	15,763	15,600	15,526	15,577

It will thus be seen that the Pharmaceutical Society now numbers among its members nearly two-fifths of the registered chemists of Great Britain, and its influence in political and public matters has been correspondingly enhanced. Its membership is larger than at any previous period of its history, and there is every reason to believe that it will continue to increase. To the activity of its Divisional Secretaries and many other members it owes much, and those gentlemen's efforts are highly appreciated at headquarters. May we, without ungraciousness, appeal to them not to relax their efforts on behalf of the Benevolent Fund, and all the institutions of the Society? May we in particular urge the less active members to emulate the splendid example of the workers?

THE USE OF OXALIC ACID.

For some years oxalic acid has been used by the operatives in the textile trades of Lancashire and Yorkshire to an extent which chemists in other parts would probably find it difficult to realise. The sale of fifty-six pounds of the acid in one week at a single shop is no uncommon thing in some towns, and the greater portion of the poison, in fact, nearly all, is sold to young girls under sixteen years of age. Oxalic acid is chiefly used by those engaged in calico weaving for removing the stains caused by the oil from the machinery. Until quite recently the custom in Preston and elsewhere was for soiled calico to be cut off, and for the weaver to be charged for it. The pieces of calico then would become the weaver's property, would be taken home, cleaned with oxalic acid, and sold among the neighbours. That system of "fines" has lately been altered. Operatives, in many mills, are not now allowed to take pieces home for sale, as the practice was found to be too remunerative to the weavers for encouragement by the mill-owners. The workers are now fined, not for the stains caused by the "black oils," but for using oxalic acid. Many mills employ persons specially to take out stains from calico—soap and water alone being used. It still happens, however, that oxalic acid is used secretly by operatives. At one of the "yards," a short time ago, a heap of two hundred jam pots, secreted under a loom, and containing solution of the acid, was found by an overseer in a calico manufactory. It was found that each girl had a short stick with a small pad at the end, and when a spot appeared the spot would be touched with the acid solution before the overseer came round. When fabric treated in this way is unrolled after exportation, it is found to be rotten where the acid has touched it. The practice differs somewhat in different towns, but the above facts may be said to represent fairly the custom at Preston, where the officials of the mills are thoroughly alive to the necessity of keeping the sale and use of oxalic acid within as narrow limits as possible.

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THE SINS OF THE SOCIETY.

For some reason which can only be vaguely surmised the *Dundee Evening Telegraph* has been moved to print a leading article devoted to what it would doubtless term an exposure of the misdeeds of the Pharmaceutical Society, as exemplified recently at Glasgow in the endeavours of that body to discharge the duties imposed upon it by the Pharmacy Act of 1868. In his exordium, the writer of the article describes the conditions of medical and pharmaceutical practice in Glasgow, remarking that "competition among the Glasgow medicos is pretty keen, and with a natural desire to keep down all expense to the lowest figure, it is but seldom that the dispensers they employ are qualified in the legal acceptance of the term. Indeed two-thirds of these dispensers are ladies or young girls, whose knowledge and experience of their work are limited to what they have been able to pick up." It is, indeed, ungallant of the Society to attempt to suppress the sale of poisons by such! The old misstatements as to the "methods adopted by the Society in its efforts to work up a case"—statements that have already been refuted in the Glasgow press—are then repeated with the usual melodramatic accompaniments.

Chemists and Druggists will learn with surprise that every unqualified dispenser employed by the Glasgow doctors in their surgeries means one less vacancy for some member of the Pharmaceutical Society. But one deduction which the *Dundee Evening Telegraph* makes from that quaint hypothesis is, strange to say, sound. It is that if the poisons at Glasgow had been sold by qualified persons, no action would have been taken by the Pharmaceutical Society! In its anxiety to prove that the Society winks at offences committed by its own members, our humorous contemporary again finds itself somewhat "at sea." For, with a pretended desire to protect the public, which is strangely inconsistent with his wish that unqualified persons should sell poisons, the leader writer suggests that the Pharmaceutical Society should "hasten to make it a penal offence for any of its members to sell a poison, no matter in how small a quantity, without a prescription from a duly qualified practitioner. Let it make it an offence no less severe to repeat such a prescription without a doctor's line. Let it make it compulsory for every chemist to retain every prescription he makes up, and thus prevent the possibility of any drug-slave going the round of the chemists' shops in the town, and so obtaining a repetition of the mixture or the drug *ad libitum*." Why does not our contemporary go one step further, and suggest that unqualified assistants to doctors should be allowed to sell poisons without any restriction, and that members of the wicked Pharmaceutical Society should be forbidden to sell poisons or dispense prescriptions at all?

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MEDICAL DISPENSING.

It is announced in the *Lancet* that a general meeting of the Metropolitan Counties Branch of the British Medical Association is shortly to be summoned to consider certain new clauses which, it has been suggested, shall form part of the Medical Act Amendment Bill to be introduced on behalf of the British Medical Association during the coming session of Parliament. One of those clauses reads as follows:—

> No person registered under this Act, excepting only as hereinafter indicated, shall dispense or supply drugs or other medicaments to anyone.

Then follow certain exceptions:—

> 1. Medical officers of H.M.'s Navy or Army not engaged in private practice.
>
> 2. Registered practitioners while in attendance on cases of emergency requiring in the opinion of the practitioner the immediate use of a drug or other medicament.
>
> 3. Registered persons practising their profession in country districts in which the inhabitants are so few that they cannot support at the same time both a medical practitioner and a pharmaceutical chemist. It shall nevertheless be incumbent upon any medical practitioner so practising in such a country district to satisfy the General Medical Council, when called upon by that body so to do, that the people of the country district in which the practitioner is engaged in medical practice and in the dispensing of drugs or of other medicaments are, in fact, too few in numbers to support both a medical practitioner and a pharmaceutical chemist.
>
> 4. Medical practitioners employed on board of vessels other than H.M.'s ships.
>
> 5. Any other person registered under this Act, the peculiar circumstances of whose professional work require, in the opinion of the General Council, before which the facts must be brought, special consideration with a view to the exemption of such person from the action of this clause.

A penalty of £100 is suggested for a first offence, and removal from the Medical Register for a second. The *Lancet* considers the clause to be impractical and unworkable, thinking that it shows a lack of appreciation on the part of its authors of the conditions of medical practice in country districts and the poorer quarters of large towns. Also, remarks our contemporary, "while the clause appears to be directed solely towards the extinction of the dispensing medical man, it would operate by fostering the growth of the prescribing druggist."

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THE FOUNDATION-STONE OF PHARMACEUTICAL PROFICIENCY.

In the excellent papers on pharmaceutical education communicated by Professor Wild and Mr. H. Wippell Gadd to the Pharmaceutical Society, and printed in full in last week's issue, apprenticeship seemed to be the one thing regarded by both the authors, as well as by those who took part in the subsequent discussion, as absolutely essential. Mr. Gadd, indeed, said that a wilder idea than the abolition of apprenticeship in pharmacy never emanated from the brains of reasonable men. The great difficulty which has to be faced, and the chief point of difference between the different schemes for educational reform, is the question whether apprenticeship should precede, follow, or be concurrent with, the necessary course of instruction at a school or college. One of the evils of the present system, under which apprenticeship precedes the school course, is that much time is wasted during apprenticeship owing to lack of scientific or technical knowledge. An objection in the minds of some to Professor Wild's scheme lies in the fact that no provision is made for the young man entering pharmacy to earn money before he is twenty-two years of age. That condition does already hold in many professions, and, it may be argued, might with benefit hold in pharmacy also. On the other hand it may be regarded as certain that not more than a small proportion of pharmacutical students would be willing to sacrifice any portion of their money-earning time, however bright the prospect of higher remuneration and social standing in the future. Mr. Wippell Gadd's scheme is free from the objections which have been mentioned, but not even Mr. Gadd can ensure the realisation of what is, after all, the real *desideratum*—that the apprentice should be thoroughly initiated into the art and mystery of pharmacy, instead of being suffered to perform merely mechanical operations. If thorough training during apprenticeship could be secured by any method of supervision not as yet suggested, the period of apprenticeship might, perhaps, be reduced with advantage. It seems to be generally agreed that apprenticeship must not be abolished, and it behoves pharmacists to consider which of the schemes already suggested or what scheme not yet suggested, whereby provision may be made both for apprenticeship and for a collegiate course, is likely to prove of the greatest benefit to the pharmacist of the future.

CANCER INVESTIGATION.

Much interest has been aroused by a paper read before the Royal Society last week by Dr. E. F. Bashford and Mr. J. A. Murray. These gentlemen are two of the investigators to whose work the Cancer Research Fund is being applied, and they have a number of interesting and important observations to make on the subject of cancer in animals. They confirm previous observations that while cancer can be transferred experimentally from one animal to another of the same species, no case of transmission to animals of other species has yet been proved. The widespread prevalence of the disease in the animal kingdom, no less than the similarity of the microscopic processes among malignant tumours of man and lower animals, should go far to dispel the ever-recurring theories that champagne, tobacco, corsets, or any particular article of diet or modern usage have anything whatever to do with the causation of the disease. The essential factors, as Dr. Bashford and Mr. Murray remark, must be sought in the potentialities which reside in the cells constituting the living body, not in the environment nor in the conditions of life. It has long been taught that cancerous cells do not multiply by mitosis, as do the normal cells of the body, but in a paper communicated some two months ago by Professor Farmer and his associates that teaching is strongly controverted, and this is considered a highly important discovery by the authors of the later paper. For the Cancer Research Fund workers are rightly endeavouring to obtain a full comprehension of the nature of the scourge as an absolutely necessary preliminary to any attempt at scientific treatment. Meanwhile there appeared in last week's issue of the *British Medical Journal* an abstract of a research by Mr. Monsarrat on what he believes to be a parasite, which he has found in various cases of cancer. Cancer parasites have been described before, but because they have not gained general scientific acceptance, that is no reason why the latest recruit to their ranks should be passed over without the most searching examination of its merits. While, therefore, to the anxious public the work may seem to drag, there is in reality a great deal of honest spade work being done at the foundations of what may soon turn out to be one of Science's most brilliant and enduring superstructures.

THE PHARMACY BILL.

The Session of Parliament, which opens on Tuesday next, gives promise of stirring times in imperial politics and of no less interesting developments in pharmaceutical tactics. It is understood that the preliminaries for the introduction of the Pharmacy Bill are now practically complete, and that most of the names which figured on the back of last Session's measure will appear in support of its 1904 successor. In addition, a valuable and appropriate advocate has been found in Mr. James Reid, M.P., who represents Greenock, and is Deputy Lieutenant for Renfrewshire. Mr. Reid is cordially in sympathy with the objects of the Bill, and expresses himself on the subject of its chances with an optimism that should prove a useful stimulus to members of the Pharmaceutical body who have hitherto been half-hearted in their support of the Parliamentary policy of the Council. Without entertaining too sanguine a hope for progress in a Session which must necessarily be deeply stirred with fiscal considerations, there is something to be expected of a Bill which is introduced by a metropolitan member, seconded by another member, representing what may be deemed a part of the second City of the Empire, and supported by representatives of both sides of the House. Reference must be made in this connection to the very successful dinner of the London Chemists' Association at the Hotel Cecil on Tuesday evening. Eight Members of Parliament, all of some prominence in the House, attended, and listened to a very able exposition from Mr. T. H. W. Idris of the objects of the Pharmacy Bill. For the attitude taken on the subject by the various Members of Parliament, reference must be made to the report at page 123 *et seq.* It will be seen that several members expressed themselves as absolutely in favour of the Bill, and of the principle that limited companies should be placed as far as possible on the same footing as individuals. Not only so, but it was evident that all the members of Parliament present were keenly interested in the subject. Sir M. Bhownaggree stated that he had heard much of the Bill both from its supporters and opponents. He was, however, convinced that in principle it was right and just. Sir Albert Rollit, Mr. W. O'Malley, and, of course, that old friend of chemists, Mr. Thomas Lough, were no less enthusiastic. In fact, the dinner served a most useful purpose, and the London Chemists' Association is to be congratulated and thanked on the successful performance of a great service to pharmacy.

THE FEBRUARY EVENING MEETING.

An evening meeting of the Pharmaceutical Society will be held at 17, Bloomsbury Square, London, on Tuesday, February 9, 1904. Two communications by Messrs. E. H. Farr, F.C.S., and R. Wright, F.C.S., will be read, the one on "The Alleged Presence of a Mydriatic Alkaloid in *Lactuca virosa*," and the other on "The Distribution of the Alkaloids in *Conium maculatum*." After the meeting the books and specimens recently presented to the Library and Museum of the Pharmaceutical Society will be shown in the Examination Hall, where there will also be a special exhibition of the eucalyptus oils, described by Messrs. R. T. Baker and H. G. Smith in their recently published book, together with herbarium specimens of the young plants and specimens of the wood and bark of the eucalyptus trees from which the oils are obtained. The chair at the meeting will be taken at 8 p.m. In order to afford ample opportunity for the inspection of the above-mentioned unique collection of specimens, which the Curator will display and explain, the actual proceedings in the Lecture Theatre will be arranged to terminate as soon after 9 o'clock as practicable.

JUNIOR PHARMACY BALL.

The annual Junior Pharmacy Ball, always a popular function, will take place at the Portman Rooms, Baker Street, London, on Wednesday, February 24, 1904. The Honorary Secretary of the Ball, to whom applications for tickets may be addressed, is Mr. Percival Trick, Salisbury House, London Wall.

ABSTRACTS—SCIENTIFIC AND TECHNICAL

A REVIEW OF CURRENT WORK IN PHARMACOPEDICS AND ALLIED SCIENCES

Non-Toxicity of Acetylene.

Panisset states that the long-established presumption that acetylene is a poisonous gas, and that it forms an oxycarbonated hæmoglobin with the blood of mammals is erroneous. Although this statement was first made in 1868 by Liebreich and Bristow, and was afterwards supported by others, he has kept animals for various periods in an atmosphere containing as much as 50 per cent. of acetylene, without being able to detect any alteration in the hæmoglobin of the blood; but the blood plasma dissolves some of the gas.—*Bull. de Therap.*, through *Répertoire* [3], **15**, 537.

Iboga.

A Congo plant bearing this name has been examined by Landrin and Dybowsky. It is stated to possess properties similar to those of coca and kola. It is a woody plant of low growth, with a large root. The natives use all parts of the plant, but prefer the root, as being more active. Its physiological properties are due to an alkaloid named ibogaine, which in the pure state is insoluble in water, but is soluble in alcohol, especially when warmed, also in ether, chloroform, and benzene. It has the formula $C_{26}H_{33}N_3O$. It oxidises easily in the air, and becomes of a yellow brown colour and uncrystallisable. It forms neutral salts with acids, but they are nearly all uncrystallisable except the hydrochloride, which crystallises well, especially from an acid solution. It is obtained from the powdered root by treating with milk of lime, exhausting with ether, and taking up the alkaloid from the ether by sulphuric acid. A kilogramme of the root yields from 6 to 10 Gm. of the alkaloid. Ibogaine causes local anæsthesia, like cocaine, but it has not been found possible, as yet, to obtain salts without caustic action. In its action on the medulla oblongata it resembles kola. The dose hitherto given is 5 centigrammes in the form of a pill, of which three or four a day may be given. Its use in neurasthenia has been found to give good results.—*Schweiz. Woch.*, **42**, 819.

Separation of Iodide in Presence of Bromides and Chlorides.

Pure boric acid, according to H. Baubigny and P. Rivals, liberates iodine from its combinations in the cold, forming hydriodic acid, but it only sets free bromine or chlorine from hot saturated solutions. If a feeble oxidising agent be present, the iodine is liberated as such, and may be titrated in the usual manner. Such a weak oxidising agent is furnished by manganese dioxide, obtained by treating potassium permanganate with alcohol, collecting the precipitate, and using it either in the pasty condition or dried at a low temperature between 30 to 40° C. A solution containing iodine, bromine, and chlorine, as salts is introduced with an excess of this manganese dioxide and boric acid into a flask, and attached to a receiver containing an alkaline solution of sodium sulphide, the latter salt being added to reduce any hypo-iodides formed. On warming the flask the iodine is liberated, and is drawn over in a current of air. The amount of iodide in the receiver may then be determined by titration. The authors have devised a special apparatus for conducting this method. The bromine may be then liberated in the residual liquid by means of cupric sulphate and potassium permanganate. After distilling off this, and determining the amount in the distillate, the chlorine in the residue may be estimated volumetrically in the usual manner.—*Comp. rend.*, **137**, 650.

Soldering Aluminium.

The following process is said to be successful:—Clean the aluminium with hydrochloric acid, cover with potassium chloride, and heat so that the upper surface is at about 900° C., and the lower at 600° C. Allow to cool, then overlay with tin, and on re-heating at a temperature of a little over 300° C. the tin will solder or fuse with the aluminium.—*Danish Patent*, 5,869.

A Reaction of Cryogenine.

When 1 Gm. cryogenine is dissolved in the smallest possible quantity of alcohol (90 per cent.), G. Patein finds that it is quantitatively precipitated by the addition of 1 C.c. of formalin, diluted with water and two or three drops of hydrochloric acid. The precipitation is complete, and the method may be employed for the determination of cryogenine in aqueous solution. It is found, however, that, in the case of urine, the results obtained are not wholly satisfactory. The composition of the precipitate, which is a white powder, practically insoluble in alcohol, ether, chloroform, and carbon disulphide, melting at about 205° C., is being investigated.—*Journ. Pharm. Chim.* [6], **18**, 593.

New Reactions for Antipyrine and Salophene.

G. M. Bérenger finds that when a little antipyrine is shaken with a small quantity of solution of sodium hypochlorite that the mixture loses its odour of chlorine, and evolves in a few minutes a smell of bitter almonds. If a solution of antipyrine be treated with chlorine water, the odour of chlorine disappears in a similar manner, while an abundant white precipitate is formed. Salophene may be readily identified by the following reaction:—1 Gm. is boiled with a dilute solution of caustic soda; after cooling 5 C.c. of solution of sodium hypochlorite is added, when an immediate fine green colour is obtained, turning ultimately to a mahogany brown. This change of tint takes place slowly in the cold, but rapidly if the mixture be boiled. If excess of acid be added to the green or brown solution a scarlet colour turning to orange red is produced.—*Amer. Journ. Pharm.*, **75**, 435.

Spurious Belladonna Root.

The root of *Phytolacca decandra* has again appeared in this country, the smaller pieces, which in colour and size resemble belladonna, having been selected and offered to wholesale houses as belladonna root. As pointed out in this Journal ([4], **12**, 592), it is easily distinguished in transverse section by its concentrically-ringed structure, and in powder by the presence of acicular raphides, which do not occur in belladonna root. The root comes from a firm at Buda Pesth. In connection with this subject, it may be mentioned that at the University of Buda Pesth the leaves of a commercial sample of belladonna were found mixed with 50 per cent. of the leaves and flowers of a *Phytolacca*, which is referred to the Violaceæ, a species of which no record is to be found in the 'Index Kewensis.' The leaves are stated to have come from Bosnia.—*Schweiz. Woch.*, **42**, 33.

Germination of Seeds.

M. E. Heckel has ascertained that the germination of seeds may be hastened by the action of chlorine, bromine, or iodine. Camphor seeds which, when softened with water only, germinated in eight days, when heated with iodine water required only five days, with bromine water only three days, and with bromine water in which a little camphor had been dissolved only thirty-six hours.—*Rev. des Cult. Colon.*, **13**, 285.

JOHN TAYLOR: AN APPRECIATION.

BY J. RYMER YOUNG.

> I pray thee then
> Write me down as one that loves his fellow men.
> —LEIGH HUNT.

An attractive specimen of a manly man was John Taylor, the like of whom one seldom meets in many a long day's march.

The startling news of his serious illness came upon us with all the shock of a cutting chill—so soon to be followed by the direful tidings that our friend had passed away into the Great Unknown. Dismayed, we try to realise that we have indeed for the last time seen his familiar face and form, and half-heartedly, with faltering faith, try to understand, with meagre success, that which he maintained and strenuously believed to the very end of his career, "That all is for the best."

About the middle of December last he wrote me, "Can you possibly spare two or three hours to come and see me. I shall be so grateful if you can, for I am seriously ill, and long to see one of my colleagues—you are the nearest, and we have always been good friends; do come."

I went that afternoon, and found him considerably changed; but I was hardly prepared for the statement he so bravely made, that "he would never be up at the Square again." He freely discussed the "inevitable" with rare composure and resignation, not untinged with a shadow of sadness, for it *was* a little hard, he remarked, "to be removed from his home and friends, and from a possible sphere of usefulness, at so early an age (forty-seven)," yet "he was thankful it had not come sooner, when things might have been worse."

The "mystery," as he termed it, had no terrors for him, and he should "try to be patient to the last"—and he was! To the very end he quitted himself like a man. He spoke of his election on the Council of the Pharmaceutical Society with much pride, regarding it as the greatest honour which had ever been accorded to him, and particularly desired me to tell his fellow-members all about the disaster which had overtaken him, and to thank every one of them for their uniform kindness and friendly forbearance. With singular, but characteristic modesty it was difficult to make him realise that he had earned for himself the admiration and respect of his colleagues, rather than forbearance, which was never needed.

A sterling type of virility was John Taylor: calm, restful, and hopeful, even in times of stress; an honourable colleague, a good parent, a sound citizen, and conscientious always, well read and well informed, logical and moderate, a close reasoner, endowed with much natural ability and shrewd common sense, an eloquent speaker, with the courage of his opinions, which he never failed to express with lucidity and force. Always himself, never unduly influenced by the weight of opposition, or its source; though ever with an open mind, his speeches candidly and accurately reflected his own mature views and thoughts. He was a man of strong religious convictions, and consistently and rigidly lived up to them. There was never any discord between his profession and his practice. He was a life-long abstainer, explaining that he regarded total abstinence as "the safer course," but without a suspicion of intolerance or bigotry in his composition, either in that or any other particular. Rather was he full of abounding charity for the foibles and follies that mark us as "desperately human," mentally clear-sighted, transparently sincere and honest, of unswerving rectitude, genial, companionable, and capable. Judged by the standards which men use in judging each other the record comes out "all right."

Such was John Taylor. "Nothing extenuate, nor set down aught in malice"—not a man to whom could be addressed the commonplace platitudes of conventional sympathy and condolence, and so, when last I saw him, it was just a look (for we understood each other), a shake of the hand, and "Good-bye."

THE POSITION OF PHARMACY IN JAPAN.

BY FRÉDÉRIC S. MASON.

While Japan has adopted legislation, and insists on long study and severe examination of candidates for the practice of medicine, pharmacy has been very much neglected, and, in so far as I know, legislation does not seem to have taken into consideration dispensing and pharmacy generally, as distinct from the medical profession. It is true that the drug business is confined to regularly certified and licensed persons, but they can hardly be classified as pharmacists, and this is explained by the fact that it is a prevailing practice for physicians to dispense drugs to their patients. Special legislation therefore has not been required, as the physicians of Japan give advice and medicine for the same fee.

Of the most prominent living scientific chemists, a fair number are Japanese, but in a general way the adoption of European methods in Japan is more apparent than real, and if one goes into the heart of the country, away from places of interest visited by tourists, it will be seen how skin-deep European and American influence has been. History will show that Japan is simply repeating itself in adopting new ideas spasmodically, yet with deliberation. The Japanese made a thorough investigation of the science and culture of the Chinese early in their history, sending their young men to be educated in China. These returned to Japan imbued not only with the Buddhist religion, but permeated with Chinese thought, literature, poetical and artistic conceptions, and much of the positivism which underlies the Chinese character (although this was foreign to the Japanese sentiment), as well as Chinese views of surgery and the treatment of disease. All these they slowly digested and modified during the following centuries.

The advent of the Portuguese and the Jesuit Fathers in the fourteenth century produced a similar revolution of ideas, and to-day much of Japanese art is simply an intermingling of Chinese and European art of the thirteenth and fourteenth centuries. It has been somewhat further modified by the Dutch, who continued their relations with Japan for some two centuries longer, and it was through the Dutch only that knowledge of Europe filtered into Japan during this period. When Admiral Perry forced the opening of Japanese ports to Western commerce, a large section of the people were ripe for this last revolution, caused by the shock of foreign ideas, which has now practically spent itself. Every innovation, moreover, has now adopted a distinctively Japanese garb, clinging to that which is good in Western ideas, but, withal, impressed by an undercurrent of natural wants and instincts. From the medical standpoint the change has been very liberal, but foreign pharmaceutical conditions do not, at present, appear to be suitable for Japan.

The few European and American pharmacists scattered around the foreign settlements in Japan have no bearing on pharmaceutical conditions or influence on the Japanese in any way, as they only cater to the foreign trade, and serve as models of the European and American conception of pharmacies. None of the European firms are doing more than an average home business, and all would be glad to get out without loss. It is not likely that in another ten years there will be any foreign pharmacists in Japan, unless there is considerable increase in the tourist traffic, upon which they now depend very largely.

Popular Pharmacy in Japan

is still largely conducted on Chinese lines, and stringent ethical conditions are not yet desirable. In the large cities some European drugs (almost exclusively of German manufacture) are sold wholesale to the dispensing doctors, but the public still use many of the old-time remedies, just as "tisanes" are sold by pharmacists and herbalists in France. A few, a very few, European specialties, have penetrated Japan, but they are subjected to a very heavy revenue stamp tax, which renders their price almost prohibitive. A few are not subject to this tax, and a well-known English emulsion seems to have avoided it, by taking the ground that the preparation is a food and not a medicine, but so far as I know, all other proprietary articles are stamped, and imported pharmaceuticals are almost unsaleable, owing to this fact. In connection with this revenue stamp, there is similarity between the position of the British and Japanese druggists. Both are in fear of, and are continually wrestling with the problem as to what should and what should not be stamped, and decisions are rendered by authorities who decide these questions which are just as ridiculous as those rendered by Somerset House. The present medicine stamp campaign in England will probably stir up a similar raid in Japan, as any excuse to raise revenue is eagerly looked after now.

When Japan first opened its arms to Western methods, she imported Dutch and German professors for the education of her medical students; hence, one can understand the exceedingly Teutonic leaning of the medical profession in Japan, especially the preference given to German drugs. So remarkably potent is this influence that the Government Laboratory requires all packages to be examined, and even analysed, allowing to enter only such drugs as have been specially authorised, or which conform to the Japanese Pharmacopœia, which is practically a translation of the German Pharmacopœia. The laws affecting drugs are supposed to be distinctly protective; practically they protect German drugs imported to Japan, to the seclusion of all others. While the German professors have now been, to a large extent, replaced by Japanese, most of these latter have studied in Germany. The medical societies, as a rule, publish their communications in German, owing to the difficulty in translating medical and chemical terms.

Japan is Practically Closed as a Market

for British pharmaceutical goods. Few of the wholesale dealers in drugs in Osaka (the great drug market of Japan) speak English, while the smaller dealers in drugs (one cannot call them pharmacists) are not an educated class. The importation of drugs is important, however, and, as far as my experience of the trade goes, is almost confined to Osaka and Tokio. European and American firms import for the account of large Japanese buyers. It should not be forgotten that Japan has recently emerged from a feudal period, when merchants had little consideration, being classed with jugglers, dancing girls, and persons with scant honour and self-respect, and to this merchant class the druggists of Japan belonged.

While the rural population and fighting classes aimed at lofty ideals of honour, less was expected of the merchant class, but commercial morality, like modesty (as we understand it), has been enforced on the present generation, and to-day the Japanese merchant may be considered trustworthy. I make these remarks because commercial honesty in Japan had until recent years a poor reputation. I am convinced, however, that there is a sincere determination among all classes to reach the highest commercial standard of morality, and I do not wish to imply that because the Japanese druggists do not import directly they are not to be trusted. That they do not do so is simply a matter of convenience; imitation and substitution, of which the Japanese are often accused, is confined to a few firms and cannot be considered a national pharmaceutical offence. What little is done in this way is the outcome of necessity to some extent, owing to the severe taxation and impediments thrown in the way of importing foreign preparations.

Incidentally, it is interesting to add that this enterprising people, who have no proper pharmaceutical body in Japan, recently invaded China, and are opening pharmacies of European style in the treaty ports (and probably in the interior of China) for the sale of simple preparations, such as paregoric, tinctures, syrups, and patent medicines, made specially for the Chinese. In China there are no restrictions of any kind, and no German training has invented stringent standards of purity of drugs, nor has any qualification been imposed for their dispensing.

I may add, in conclusion, that it is some fifteen years since I made a careful study of pharmaceutical conditions and possibilities of Japan, and at that time I found them to be so adverse to all prospects of business that I have since paid them scant attention, although visiting the country and doing business there all the time. It is possible therefore that some modifications may have since taken place in the legal position and standing of pharmacy, but I can truthfully say that up to five months ago I did not observe any change or improvement over the position of pharmacy as here explained.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN.

EXAMINATIONS IN EDINBURGH.

Government Visitor's Report for 1903.

Report on the Examinations of the Pharmaceutical Society of Great Britain, held in Edinburgh during the year 1903.

January 9, 1904.

To the Lords of the Council.

My Lords,—I have the honour to report that examinations were held in Edinburgh during the months of January, April, July, and October, 1903, by the Board of Examiners of the Pharmaceutical Society of Great Britain. I was present on thirteen occasions, and beg to submit the results of both the Major and Minor examinations.

Major Examination.

	Number.	Percentage.
Candidates examined	8	—
Candidates passed	3	37·5
Candidates who failed	5	62·5
Rejected Candidates.		
Failed in Botany	2	25·0
Failed in Materia Medica	1	12·5
Failed in Practical Chemistry and Physics	1	12·5
Failed in Physics	1	12·5

Remarks.

Only eight candidates presented themselves for this "honours" examination, and out of this number five failed. It is matter for regret that so few pharmacists seek to obtain the higher qualification of pharmaceutical chemist. The examination is necessarily of a high standard, yet the benefit obtained and the additional knowledge acquired make the diploma worth striving for. At the same time, the successful candidate has an increased status amongst his fellow pharmacists which should be an additional inducement. More students might be attracted if systematic courses of study in the subjects required for examination were established at recognised schools of pharmacy in convenient centres, or botany, chemistry, and physics might be taken in the universities. That it is possible for pharmacists to attend classes in the universities or medical schools, even when engaged at business, is evidenced by the fact that I know of several in Scotland who have successfully qualified as medical practitioners.

MINOR OR QUALIFYING EXAMINATION.

	Number.	Percentage.
Candidates examined	532	—
Candidates who passed	172	32·3
Candidates who failed	360	67·6
REJECTED CANDIDATES.		
(*a*) Candidates who failed in Practical Work and were not admitted to Oral Examination	234	43·9
Failed in Practical Chemistry	80	15·0
Failed in Practical Pharmacy	26	4·9
Failed in both above	128	24·0
(*b*) Candidates who passed in Practical Work but failed in the Oral Examination	126	23·6
Failed in Botany	12	—
Failed in Materia Medica	12	—
Failed in Oral Chemistry	45	—
Failed in Prescriptions	3	—
Failed in Oral Pharmacy	28	—
Obtained marks in each subject but failed in the aggregate	43	8·0

The practice of stopping a candidate whenever he fails in any part of the oral examination makes it impossible to give a percentage of the rejections in each subject.

Remarks.

I reported last year a considerable falling-off in the number of passes over the preceding five years. On this occasion I regret to state that there is a still larger percentage of rejections, for out of 532 candidates who presented themselves for examination, no less than 360, or a little over two-thirds, failed to satisfy the examiners.

Practical chemistry and pharmacy together accounted for 234 of the failures, so that 65 per cent. of the rejected candidates failed in practical work.

Practical chemistry alone shows 208 failures, practical pharmacy 154.

The excessive number of rejections shows that the examination is either too stringent or the students must be imperfectly trained, for it may be generally accepted that the average intelligence of the candidate is not at fault.

I do not consider that the cause is to be looked for in the undue severity of the examination, even although in practical pharmacy alone nearly 29 per cent. failed—a percentage much too high, considering that this is or should be the daily work of both apprentices and assistants.

In practical pharmacy the candidate is not asked to do more than he should have readily acquired during his apprenticeship—namely, to make pills, suppositories, or plasters, dispense mixtures, powders, or ointments, and to manufacture one or two galenical preparations selected from the British Pharmacopœia, all of which should easily be done well within the time allowed.

The examiners, having due regard to the welfare of the public, rightly demand accuracy in dispensing, yet a considerable number of the rejections is due to carelessness in this respect. To give a single example: a mixture which should have been six ounces by adding four ounces of water was only made up to four ounces, so that the individual doses of the other ingredients were much increased—a matter of serious import where poisons are concerned.

The failure of so many candidates can only be due to deficient training, the system of cramming many facts in a limited time taking the place of systematic instruction over a prolonged period, simply because the students have neither been compelled nor in general have the opportunity to do otherwise.

One probable reason is that many pharmacists, to a greater or less extent, evidently buy their pharmaceutical products from wholesale manufacturers instead of making them in their own places of business.

Their apprentices and assistants have thus little or no opportunity of becoming practically familiar with the Pharmacopœia, and mainly depend on the short experience gained in three or six months' course of training in a school of pharmacy.

The extensive use by the public of proprietary articles, wholesale manufacturers' ready-made mixtures, pills, compressed tablets, capsules, no doubt still further lessens the experience which an apprentice or an assistant would otherwise gain by a more frequent dispensing of physicians' prescriptions.

In oral pharmacy candidates frequently show that they have a deficient practical experience of the processes described in the Pharmacopœia, or have not seen various apparatus used. One candidate, when asked about the various sizes of sieves used for powders, admitted never having seen one, but "could imagine what it was like."

Practical chemistry, with its 39 per cent. of failures, also gives evidence of imperfect training. The candidates have not spent sufficient time in a laboratory, and have stored their memories with a number of facts acquired in a too limited period, without having been taught to think and apply what they have learned.

A suggested remedy by some is the division of the examination; but this is only to begin at the wrong end, as it would not correct the present cram system. It is the education of the pharmacists that is at fault. It is not sufficient merely to recommend the student to attend a certain number of lectures. He is left to himself, and attempts to acquire the necessary knowledge by a three or six months' attendance at one of the numerous schools of pharmacy—a period quite inadequate to the average student for thoroughly mastering all the subjects of examination.

A compulsory curriculum, with systematic theoretical and especially practical training in recognised schools of pharmacy, with properly equipped laboratories, is, in my opinion, of the first necessity. Certificates from these recognised schools should also be required before admission to examination, to show that the candidate has attended a full course of instruction in each subject. There would thus be less chance of so many students entering the examination-room quite unprepared, as is at present so often the case.—I have the honour to be, my Lords, your obedient servant,

(Signed) G. BALFOUR MARSHALL,
Visitor.

PRACTICAL NOTES AND FORMULÆ.

Concentrated Tar Water (Ph. Batav. Supp.).

Sodium carbonate, 1, is dissolved in hot water, 50; wood tar, 10, is added to the solution, frequently shaken for a day, and filtered. The filtrate should be kept in completely filled bottles.—*Pharm. Centralh.*, **44**, 454.

Pill Excipients.

For Alkaloids—Starch, milk sugar, or kaolin massed with honey. *For Ammonium Carbonate*—Tragacanth (without glycerin). *For Methylene Blue or Pyoctanin*—Kaolin and vaseline. *For Chloral Hydrate*—Starch, tragacanth, massed with honey; or marshmallow powder massed with glycerin. *For Creolin*—Kaolin. *For Silver Nitrate, or Potassium Permanganate*—Kaolin and vaseline. *For Deliquescent Substances*—Canada balsam or kaolin and vaseline.—*Pharm. Central.*, **44**, 38, after *Journ. Pharm. Chim.*

THE STUDENTS' COLUMNS.

BOTANY (4).

Seed Structure.

Now that the New Year has been heralded in, the botanist will begin to think of what will first mark the approach of spring in the vegetable world. Among the wild flowers one may, even at this early date, find in sheltered coppices the daisy, and even the dandelion, thus reminding us of the mild winter. The hardy furze too can be found in a wealth of golden glory on the heaths, while the pale yellow catkins of the hazel are already conspicuous in the hedgerows. Soon, then, must the student begin to prepare himself for these early forerunners of reviving vegetable life; let him read carefully the chapters on classification in any elementary botanical treatise, and thus begin to fit himself for the field work which will follow later on. In this lesson, however, it may perhaps be well to consider the structure of the various types of seeds that we shall meet with, and to deal with the conditions necessary for their germination. The seed of the broad bean will be one of the most convenient for our purpose, as it is large and easily examined, and it can be readily procured by all. It will be found advantageous to soften the beans first by soaking them in water for a few hours, thus rendering the skin more easily removable, and the dissection of the kernel more easily effected. The first thing to note is the long black scar on the edge of the seed; this is called the "hilum," and it marks the part by which the seed was attached to the pod in which it grew. At one end of this hilum there can be seen by careful examination a very minute hole, which is known as the "micropyle"; it is present in every seed, though it cannot always be so easily found as in the case of the bean. Next, carefully remove the outer skin, and inside will be seen the young rudimentary plant. It consists of two large thickened lobes, each flattened on the inner side and rounded on the outer, while between these, close to the margin, we can find the rudimentary bud and root. The two large lobes are called the otyledons, the rudimentary bud and root are known respectvely as the plumule and the radicle, while the cotyledons, umule and radicle are collectively known as the embryo. It must be carefully noticed that the tip of the radicle lies close o the micropyle, and it is this part which is always the first to break out when the seed swells and begins to germinate; soon t curves down towards the earth, and by its direct prolongation it forms the primary root of the plant. The plumule, which curves inward, is the bud of the future stem, and on careful examination with a hand-lens it will be seen to consist of minute rudimentary foliage leaves. During germination, the thick, fleshy cotyledons remain within the seed-coats, and the whole of the store of food material they contain is used up for the growth of the young plant. This state of affairs, however, must not be taken as a universal rule, for in many other seeds, similar in general structure to the bean, the cotyledons rise out of the soil, and form the first two leaves.

Albumen, Endosperm, Perisperm.

Let us now try to follow up the general characters of seeds more closely. When describing the structure of any seed, one must always consider first the characters of the coats and afterwards proceed to a description of the morphological nature of the kernel. The former can be dismissed in a few words. Two coats are always to be found, the outer and the inner; various names have been applied to them by botanists, but usually the word "testa" is used to distinguish the firm outer covering from the "tegmen" or inner membrane, which is generally of a soft and delicate nature and is closely applied to the kernel. The substance of the kernel, however, is much more complex, and we shall find many morphological variations. The kernel of our bean seed we found to be made up of three parts, the radicle or rudimentary root, the plumule or undeveloped stem, and the two large lobes or cotyledons. These three parts, collectively known as the embryo, form the rudimentary plant, hence they are always present in every seed. Now in the bean the kernel consisted of the embryo alone, but we shall find that this is by no means always the case, for often the embryo is enclosed by a solid mass of tissue, known as "albumen." The cells of this albumen contain various substances, such as starch or oily matter for the use of the young embryo during the process of germination; thus its function is simply to serve as a reservoir of food material for the young plant. The meaning of the terms "albuminous" and "exalbuminous" as applied to seeds must now be obvious, since the former is given to those seeds in which the kernel is composed of embryo with more or less albumen, while the latter name is given to those seeds in which the kernel consists of embryo only.

Besides the presence or absence of albumen, there is another important point in which seeds differ, some possessing two cotyledons, while others have only one. In our bean we found two, but had we examined instead a grain of wheat or barley or some other cereal, we should have found but one cotyledon present. On account of this difference the whole of the flowering plants are divided into two groups, viz., the dicotyledons, or those plants which produce seeds possessing two cotyledons, and the monocotyledons, in which the seeds possess but one. There are other differences which mark off these two great classes from one another, but this is the most constant feature by which to distinguish between the two groups. It may perhaps be well to warn the student that in the course of his studies he will find albumen designated as "endosperm" and "perisperm." These two terms are applied according to the origin of the albumen, but before the student enters closely into the minute study of the development of the ovule, or unripened seed, it may be found somewhat difficult to grasp the true morphological difference which gives rise to this change of nomenclature. Let it suffice to say that within the young ovule there is always to be found a cell larger than its neighbours, which is called the embryo sac. Through fertilisation, changes are introduced in this embryo sac, and a tissue is formed within it. This tissue, thus formed *within* the embryo sac, is known as endosperm, but to any similar nutritive tissue that remains *outside* the walls of the embryo sac the term perisperm is applied.

When reading of albumen the student must clearly understand that the substance implied has no connection with animal albumen, such as is found in the white of egg. The albumen found in ripe seeds assumes many different appearances; thus in the wheat, oat, maize and all cereal grains the cells are filled with starch grains, this particular variety of albumen being accordingly known as starchy or farinaceous. Other plants, of which the poppy is a good example, produce seeds with an oily albumen, while we also find instances in which the albumen is mucilaginous or even horny.

Secretion of Enzymes.

It may be well to remind the student again that all this reserve material stored up in the albumen or cotyledons of the seed for the support of the young embryo during germination is in an insoluble form, and that the presence of an enzyme or ferment is necessary to effect the conversion of this food material into a soluble state. In the seeds of grasses there is a special layer of cells which secretes the well-known enzyme ferment "diastase," which converts the insoluble starch into the form of sugar known as maltose, which is very readily soluble in water, and hence can be made use of by germinating plants when the reserve material takes the form of oily matter, or, in fact, whatever may be its chemical composition. For some particular enzyme is always present to act upon it and to decompose it into one or more soluble products.

It is very advisable to dissect and carefully examine as many different seeds as are available, and the advisability of making sketches of the dissected parts cannot be too strongly urged. When the student has drawn his own conclusions as to the morphology of the seed he is examining, let him check the accuracy of his work with the description he will find in most botanical text-books. Much valuable work may also be done by exposing a few different kinds of seeds to the conditions necessary for germination (a box filled with moist sawdust and kept in a warm place serves excellently for the purpose). The various stages of growth should be carefully noted, and sketches should be made as often as possible. In Edmond's 'Elementary Botany' one of the preliminary chapters is devoted to an account of the different forms of germination, and the student cannot do better than to refer to this during the course of his experiments.

SCHOOL OF PHARMACY STUDENTS' ASSOCIATION.

ORDINARY MEETING.

Friday, January 22, 1904, at 17, Bloomsbury Square, London, Mr. Harold Deane, B.Sc., in the chair.

Mr. T. E. Wallis, B.Sc., who had consented at very short notice to take the place of another member, read an interesting paper on

The Garden Spider.

He dealt first with the various divisions of the Invertebrata, and then described the anatomy of a typical insect. A description followed of the anatomy and life history of the spider, special stress being laid on the points of difference between it and an insect.

On the conclusion of the paper a vote of thanks was passed to Mr. Wallis, on the motion of Mr. Naylor, seconded by Mr. Welton.

NORTHAMPTON CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Friday, January 22, 1904, at the Black Boy Hotel, Wood Hill, Northampton, Mr. Evan C. Ashford, Vice-President, in the chair.

The Hon. Secretary (Mr. F. Cowdery) stated that Mr. John Bingley, J.P., for many years Divisional Secretary for Northampton of the Pharmaceutical Society, had written thanking the Association for its resolution of appreciation of his services in that capacity.

Benevolence.

Mr. W. McKinnell and Mr. G. Ingle made earnest appeals on behalf of the Benevolent Fund of the Pharmaceutical Society.

It was agreed that the Hon. Secretary, with Mr. Donald McKinnell (the new Divisional Secretary), be asked to appeal to the chemists of the town and county of Northampton for subscriptions.

Price Protection.

A resolution from the Reading Chemists' Association, urging that steps be taken to induce certain manufacturers of proprietary articles, whose articles are subject to extreme cutting, to place these goods on the P.A.T.A. List, was adjourned for consideration at the next meeting.

BOURNEMOUTH PHARMACEUTICAL ASSOCIATION.

ORDINARY MEETING.

Thursday, January 21, 1904, at Bournemouth, Mr. Morris in the chair.

Local Topics.

The evening was essentially a "local" one, all the subjects of discussion being of local importance. Members first considered the advantages of a scheme of local price protection, but, after some discussion, it was felt that the present moment was not an opportune one for launching such a scheme, and it was decided to let it stand over.

The appointment by the local authorities of a "Bournemouth Advertising Committee," the difficulty of obtaining supplies of benzine, etc., by rail, and other matters were discussed, but it was felt that as an Association, little could be done in these matters.

The Benevolent Fund.

The Secretary then drew attention to the unsatisfactory state of the Benevolent Fund, and asked whether the Association could not make an effort to send up a record amount this year. It was decided to ask members to pay their subscriptions through the Association, and, as far as possible, to make a personal appeal to every registered person in the district. Several members volunteered to help the Secretary in the canvassing. A sum of over £4 was subscribed among those present in the room to "start" the fund.

The next meeting of the Association will be held at its rooms in Albert Road on Thursday, February 18, when Mr. C. F. R. Pars has kindly consented to open a discussion on "Co-operative Buying."

CHEMISTS' ASSISTANTS' ASSOCIATION.

ORDINARY MEETING.

Thursday, January 21, 1904, at 73, Newman Street, London, W., the President, Mr. A. B. Britton, in the chair.

Mr. W. Lamond Howie delivered a lecture entitled:—

From Mont Blanc to the Matterhorn,

Illustrated with about one hundred and twenty views, photographed by the lecturer. There was a much larger attendance than usual, and the lecture was followed with great interest. The tour commenced from Chamonix and terminated at the foot of the Matterhorn, at Zermatt. The route followed comprised a three days' journey round Mont Blanc to Courmayer. Leaving Mont Blanc behind, a visit was paid to Aosta and thence to Milan. The Italian lakes were illustrated and described, and a striking description of the Matterhorn concluded a most enjoyable lecture.

On the motion of the Chairman a vote of thanks was passed to Mr. Howie, and the meeting terminated.

WESTERN CHEMISTS' ASSOCIATION (OF LONDON).

SMOKING CONCERT.

Wednesday, January 27, 1904, at the Norfolk Square Hotel, Paddington, W., Mr. J. W. Bowen, President of the Association, in the chair. A very good programme of vocal and instrumental music was given by a number of professional artists, and there was an exceptionally large attendance of members and friends. On the suggestion of Mr. H. Cracknell, Treasurer of the Association, a collection was made on behalf of the Benevolent Fund of the Pharmaceutical Society, and realised eight guineas.

LONDON CHEMISTS' ASSOCIATION.

DINNER.

Tuesday, January 26, 1904, at the Hotel Cecil, London, Mr. T. H. W. Idris, J.P., L.C.C., Mayor of St. Pancras, and President of the Association, in the chair. The company included several members of Parliament, in addition to a large body of chemists and druggists—members of the London Chemists' Association, and visitors.

The Chairman proposed the usual loyal toasts, which were cordially received.

The Chairman proposed the toast of

The Houses of Parliament.

They had with them that night Messrs. R. K. Causton, T. Lough, E. R. P. Moon, H. Kimber, Sir M. Bhownaggree, Mr. W. O'Malley, and Mr. Herbert Robertson (Sir Albert Rollit, M.P., arrived later in the evening from another meeting). All these gentlemen were members of Parliament, and—what was more—were representative men, fully entitled to be styled legislators. Chemists, he continued, constantly had to face facts that brought home the grave dangers to the public that resulted from the fact that the interpretation of the laws at present in force did not carry out the intentions of Parliament. The Chairman proceeded to give briefly the history of the earliest pharmaceutical legislation in Great Britain in 1852, and of the subsequent Act of 1868. He did not think anyone could object to the principle laid down in the preamble to that Act. The Act provided: (1) That no unqualified person should call himself chemist and druggist; (2) that no unqualified person should keep open shop for the sale of poisons; (3) that no unqualified person should sell a poison; (4) that no person should sell a poison except in accordance with the poison regulations laid down by the Pharmaceutical Society with the approval of the Privy Council. The Act did not interfere with the use of poisons in the arts and manufactures, except to the extent of labelling with the name of the article and the word "Poison." Mr. Idris proceeded to explain the effect of the decision of the House of Lords in 1880 in the case of the Pharmaceutical Society *v.* the London and Provincial Supply Association, and quoted remarks of Lord Justice Bramwell and Lord Justice Thesiger. Since that decision the apparent intentions of Parliament had been largely set at naught. Men who had failed to pass examinations, or had been prosecuted for selling poisons had in many cases evaded the Act by forming small limited companies, and doing everything that appeared to be prohibited by the Act. Attempts had also been made by interested persons to lessen the restrictions on the sales of dangerous proprietary preparations of poisons on the plea that the Pharmacy Act provided a monopoly for chemists. The monopoly theory would not hold water. The facts connected with the agitation for free trade in poisons had been exposed by proceedings in the Law Courts, and condemned by all persons qualified to judge, especially by medical men and coroners. But the Pharmacy Act greatly required strengthening. At present a company consisting of seven or more unqualified men might do as a corporate body what the State would trust none of them as individuals to do. They could call themselves chemists, they could keep chemists' shops, where deadly poisons were stocked and sold. They did not break the law if they had a hundred such shops where poisons were sold every day, and employed not a single qualified man. These companies need not conform with the regulations which were binding on individuals as to keeping poisons. The Legislature had said that the keeper of the open shop, the person responsible for the control of businesses where deadly poisons were sold must be qualified, and that principle was being violated by companies daily. Many of the present defects in the law could be met by a

Pharmacy Bill

prepared by the Pharmaceutical Society, and introduced by Mr. Lough in the last session of Parliament. The speaker then enumerated some of the principal provisions of that Bill. He hoped to be able to prove to the members of Parliament present that Clause 7 was fair and necessary as well as the other clauses. The only opposition to the Bill came from limited companies, controlled by unqualified people. Now the Lord Chancellor, speaking in the House of Lords on August 3, 1899, said that the committee to whom the Companies Bill had been referred "were unanimously of opinion that the formation of companies to practise any profession, and which intended really to take advantage of the company machinery to do that which an individual without qualification may not do, should be stopped." It was then his Lordship's intention that the committee's opinion should be supported by the enactment of a clause embracing the subject, which, however, was dropped, owing to opposition. It was for those who objected to Clause 7 to provide an alternative which would bring companies into line with individuals If it were enough that one of several directors should be qualified there would not be the slightest difficulty in appointing a dummy director who would have nothing really to do with the control of the business. If seven railway porters combined were fit and proper people to control a chemist's business, with the aid of one qualified man to hand poisons over the counter, why should not any one of them be permitted to do the same thing without troubling to convert the business into that of a limited company? It was also an anomaly that in all the shops of limited liability companies there was no statutory obligation to comply with the poisons regulations designed by Parliament to prevent accidental poisonings. He hoped that the matter would receive the careful attention of Parliament, and especially of those members of the Legislature who had been kind enough to come there that night.

Mr. R. K. Causton, M.P., who is one of the Government "whips," was the first to respond. Whatever differences of opinion they might have in the House of Commons, members of Parliament were able, he said, to meet their chemist friends when they dispensed hospitality. The subject embodied in the Pharmacy Bill was of great public importance. It could not be said that it was due to lack of energy on the part of Mr. Lough that the Bill had not been passed. The Bill was, indeed, of such great importance that he (the speaker) felt that it was only through the hands of a responsible government that the Bill could be passed. He and the other members of Parliament were glad to have heard the speech of the Chairman, who had ably put before them views on the Bill which had probably not occurred to them before. They, in the House were just now in some trepidation as to what might happen during the next week or so. There were rumours of dissolution. But he could assure his audience that all the members of Parliament present that night would give their best attention to the Pharmacy Bill, if it came before them in the House.

Mr. H. Kimber, M.P., introduced his remarks by a humorous reference to the preceding speakers, who had left on him the onus of replying for the House of Lords. He (Mr. Kimber) never aspired to belong to that assembly, whereas it was different with Mr. Causton; he had been a member of the Government, and belonged to a party which possessed the faculty of persuading its leaders to obtain honours for their followers. Mr. Causton was a friend of forty years' standing. That length of time had passed by since he was entrusted with the custody of his friend, with whom he made a tour in a foreign land. The speaker then returned to his subject. "What can I say for the House of Lords?" he asked, amid laughter. It was their duty to put a veto on everything the lower House agreed to. The House of Commons comprised 670 distinct minds, and it could readily be understood how difficult it was for all these minds to concur, even on a chemists' Bill. At the commencement of the coming session a hundred and odd private Bills would be introduced; "these might be described as 'fad' bills," suggested Mr. Kimber, but he modified his suggestion by saying that many of them really deserved to be considered seriously.

Mr. T. LOUGH, M.P., proposed the toast of

The Pharmaceutical Society.

The Society, he said, was a statutory body entrusted with important and responsible duties. Among other things they had to act with that mysterious body, the Privy Council. The Society was a great educational body, with one of the most splendid laboratories in the country, and also it did a great work of benevolence. The Society was a sort of fairy godmother to all the chemists of the country, looking after their interests. There was no class of shopkeeper for whom he had more respect than for chemists. He looked back to the old apothecaries of former days, who always looked with the greatest pleasure on all the suffering mortals who came into their shops, and invented those enormous bottles containing red and blue liquids, which were even now a delight to the eye. With the exception of an undertaker in Dublin, of whom Mr. Lough related a humorous story, he had never heard a man make a more eloquent defence of his own trade than Mr. Idris had made that night. Chemistry being that branch of science which treated of the composition of substances and the changes which they underwent, chemists should understand better than anyone else the possibilities of effecting changes in the House of Commons. Mr. Causton had said that the Bill had no chance. He strongly protested against that statement. If they (the chemists) produced a proper effect, the Bill would have an excellent chance. The principle of placing corporate bodies in the same position as individuals had been laid down lately by decisions on questions affecting trades unions and labour disputes. In such cases corporate bodies had been held to be responsible for the individual acts of their servants. Why, indeed, should privileges, denied to individuals, be given to a corporate body? The omission of the letter "s" at the end of the word "person," in the Pharmacy Act, was the sole cause for the necessity of the Bill. The simple persons who, in those archaic days before the flood, framed the Act of 1868, never thought that any except individuals would compound poisons. He proposed the health of the great Pharmaceutical Society, which had guarded the interests of chemists for so long; a Society to which, surely, they might all do homage. He coupled with the toast the name of Mr. C. Umney, a gentleman who was very well known to all of them.

Mr. CHARLES UMNEY, who was warmly received, said the presence of so many Parliamentary representatives augured well for the coming campaign.. They were "live" members, and chemists were to be congratulated on having gained their sympathy. Mr. Umney then went on to refer to his forty years' connection with the Pharmaceutical Society; during the seven years he had acted as an examiner he had found that the chemists who passed their examination were well qualified to carry out the duties of a responsible position, but now he believed they were much better qualified, for the tests had become more stringent. The various institutions of the Society were next touched on, and Mr. Umney regretted there was sometimes a lack of men to take up the numerous scholarships which the Society offered. The Benevolent Fund and its good work were also referred to. He believed the Society missed an opportunity when the Sale of Food and Drugs Act was passed. Mr. Umney, speaking as an Auditor, concluded by declaring that the Pharmaceutical Society spent its money in a very good fashion.

Mr. W. O'MALLEY, M.P., proposed the toast of

The London Chemists' Association.

He remarked that after hearing the preceding speeches he had begun to think that poison was not such a bad thing after all. He had learnt something of the "Society," and of the grievances of chemists, and he could assure them that their objects had his full sympathy, and should have his support as a member of Parliament. He congratulated the London chemists on the success of the first dinner in connection with their Association. Speaking as an Irish member, he could tell them that organisation was a very necessary thing, "Individually you are weak, and unless you unite your grievances will remain unredressed." As an example of the difficulties of getting a private Bill through, he instanced a Poor-law Bill, which, although it had the support of practically every Irish member, had for a long time been awaiting the consideration of Parliament. It required years of effort to pass a private Bill; it also required "constant, persistent, powerful, agitation."

Mr. W. S. GLYN-JONES, in responding, said that one of the chief features of the last decade in pharmaceutical matters was the increased number and importance of local associations. It was, indeed, time that London should have an association of its own. If it had done nothing else but bring together that night's gathering, to bring there so many members of Parliament, to hear the Chairman's speech—which was so explicit a statement of their grievances—that Association would have justified its existence. The Pharmaceutical Society would be the first to recognise that the London Chemists' Association was doing good work to further the interests of the Bill; and doing work which the Society, as a statutory body, could not do itself. He would remind them that nothing came to those who did not fetch it; and Mr. O'Malley's advice to organise and agitate was the right advice. Local associations had two distinct lines of work. There was the business side—such matters as the shortening of the too long hours of business, which could only be done by an association, not by individuals—and the social side. The chemist was, naturally perhaps, an isolated animal. The London Chemists' Association now had two flourishing branches doing valuable service on both commercial and social lines. He wished to thank the members of the Western Chemists' Association for the help that they had given in the foundation of the London Chemists' Association, to thank Mr. Bowen (President of the Western Chemists' Association), and all the members of Parliament present for their presence that night.

Sir M. BHOWNAGGREE, M.P., K.C.I.E., proposed the health of

The Chairman.

He expressed himself as much interested in the Pharmacy Bill, and in thorough approval of its general principle. As the defect of the earlier Act was that the letter "s" had been omitted at the end of the word "person," perhaps the Bill might be made shorter—to read "the word 'person' shall be held to include 'persons.'" Sir M. Bhownaggree said that he hoped that night's speeches would have a good effect, and concluded by eulogising Mr. Idris, who, he said, had done much good work on the County Council and elsewhere.

The Chairman, in responding, said that the thing to aim at in order to pass any Bill was to "capture the caucus."

Sir Albert Rollit proposed the toast of the "Press." He was pleased to have had the opportunity of coming, even at a late hour, to meet the chemists of the county. After speaking of the work of Professor Curie with regard to radium, the speaker said that he had always supported, and would always support the Pharmacy Bill, which was right in principle, and, he hoped, would become law.

Mr. Peter MacEwan responded.

The music during the evening was performed by Mr. S. Jamieson, Mr. J. W. Douglas, Mr. W. J. Talintyre, and others.

GLASGOW AND WEST OF SCOTLAND PHARMACEUTICAL ASSOCIATION.

ORDINARY MEETING.

Thursday, January 21, 1904, in the rooms of the Association, West Regent Street, Glasgow, Mr. W. L. Currie, President, in the chair.

The Valuation of Drugs.

Mr. T. Maben read an interesting paper on the valuation of drugs. The term valuation of drugs was used in reference solely to their therapeutic or medicinal value, commercial consideration being left entirely out of account. The questions that naturally arose were (1) Was the determination of the medicinal value of a drug desirable, and (2) was it practicable? As to the first, he asked could there be any doubt? Every pharmacist who had directed his attention to the variations that were found in the active principles of vegetable drugs could not fail to be impressed with the absolute necessity of ensuring greater uniformity. Whatever the variations might be due to, whether soil, climate, exposure, maturity or otherwise of the plant, drying, preservation, the attacks of insects or of bacteria, the fact remained that commercial samples of the same drug did vary enormously in active principle, and they might add, with equal confidence, in medicinal value. It might be desirable once again, he explained, to give actual figures, many of which were now published for the first time, in order to show the extreme fluctuations to which the active principles of drugs were liable. Among alkaloidal drugs there were some figures bearing upon the point:—Belladonna root yielded atropine from 0·24 to 0·6 per cent., red cinchona total alkaloids from 3 to 7·5 per cent., pale cinchona 0·8 to 3 per cent., coca leaves 0·4 to 0·8 per cent., colchicum 0·3 to 0·75 per cent., calabar bean 0·12 to 0·66 per cent., jaborandi 0·23 to 1 per cent., guarana 2·85 to 4·4 per cent., kola 0·86 to 1·25 per cent., nux vomica 1·3 to 1·8 per cent., opium 9 to 13 per cent. of morphine. In drugs depending for their activity on resin they found equally great variations, as for example:—Asafetida 13 to 21 per cent., gamboge 47 to 64 per cent., jalap 5 to 16 per cent., myrrh 15 to 32 per cent., and podophyllum 3 to 4·6 per cent. In dried juices and kindred drugs the soluble matter varied enormously, *e.g.*, kino 20 to 90 per cent., red gum 40 to 90 per cent., catechu 30 to 44 per cent., lactucarium 12 to 28 per cent., lupulin 24 to 41 per cent., and guaiacum 68 to 90 per cent. Without expressing any opinion whether the extractive matter always represented the medicinal value of a drug the following figures were surely sufficiently suggestive:—Roots, herbs, etc.: Arnica 7 to 13 per cent., cimicifuga 11 to 20 per cent., male fern 9 to 16 per cent., orris 6 to 20 per cent., sarsaparilla 9 to 18 per cent., quassia 1·7 to 5 per cent., logwood 5 to 11 per cent., broom tops 7 to 16 per cent., chiretta 4 to 10 per cent., horehound 11 to 20 per cent., Iceland moss 11 to 22 per cent., cusparia 20 to 39 per cent., cascara 23 to 35 per cent., wild cherry 17 to 30 per cent., cinnamon 8 to 16 per cent., mezereon 4 to 13 per cent., cascarilla 6 to 10 per cent., senna 15 to 22 per cent., eucalyptus 14 to 25 per cent., bearberry leaves 26 to 45 per cent., matico 8 to 18 per cent., chamomiles 14 to 28 per cent., colocynth pulp 8 to 19 per cent., hops 9 to 22 per cent., nutmegs 4 to 14 per cent., and galls 31 to 61 per cent.

The next point that called for consideration was an extremely important one, namely, "In how far can pharmacists be held to be responsible for the quality of all these drugs?" Must one test every one of them and sell only those of highest grade, or at least of standard or average grade? The reply to this, he took it, would be that they must wait till the B.P. laid down authoritative instructions in every case; till then, it would be an absolute *non possumus*. Pharmacists would be perfectly unable to conduct business on the footing that they must test every crude vegetable drug they handled, and be responsible for the shortcomings of nature. The suggestion involved a physical impossibility, and no retail pharmacist could assent to it. On the other hand, it being admitted that drugs were naturally liable to be deficient in value, must retail pharmacists sell galenicals of doubtful quality? Was there no *via media* between the difficulties that confronted them, and must they wait till the B.P. made up its mind to increase the list of standardised preparations? A few years ago many conscientious pharmacists declined to make tinctures of belladonna and nux vomica from the liquid extracts, making them from the crude drugs, but the moment the B.P. said "Use the liquid extract" they, of course, used it without a word, and gladly. So at the present day numerous pharmacists would with equal avidity seize the same method of preparing the galenicals if they had official sanction. Must these pharmacists delay carrying out a great and useful reform in the method of preparing their tinctures and other galenicals until in the course of ten years or so the Pharmacopœia provided for the valuation of a few more drugs? Would it not be more in harmony with the spirit of true progress for them to assert the right of private judgment, and thus do something to advance in a practical way the science of therapeutics?

On the motion of the Chairman, Mr. Maben was thanked for his paper.

Pharmacists as Food Specialists.

Mr. J. P. Gilmour outlined a paper on "Pharmacists as Food Specialists," which, he explained, he would probably amplify and deliver to the Association on a future occasion. He stated that this was the second of a series of papers which the Association arranged to have that session on pharmacy sidelines. Mr. Gilmour proceeded to say that he had some sympathy with those who held that sidelines should not be taken up, as not belonging to pharmacy at all. But there was no great prospect of their obtaining a beatific state of things on this side of Jordan. In the meantime they had to pay rent and taxes, and, therefore, they had to have recourse to these sidelines. They should apply the scientific knowledge they had acquired in training for the Minor and the Major to practical purposes in their businesses. Proceeding, Mr. Gilmour showed that chemists could very profitably make a specialty of preparing suitable foods for infants and invalids. It was for the medical man to say in a particular case what kind of food an infant or an invalid should have; but, apart from that, the subject of alimentation and of the kind of food suitable for infants or invalids who were not directly under medical treatment, were matters with which chemists, with their special knowledge, were quite qualified to deal. If they took infants' food, the ideal food for the child was its mother's milk, although recent investigation had shown that it was not always suited for a child; but there were quite a number of ways in which milk could be humanised—made to imitate the human milk. Mr. Gilmour explained that some time ago, in collaboration with his brother-in-law, Dr. Forrest, he had published in a trade journal a simple formula by which it was quite an easy matter to make up a humanised milk for infants. As regarded invalids' food, the chemist should do a great deal more than he did. He should acquire a more intimate knowledge of the varieties and preparations of invalids' food, specialise a little more in it, and give a little more detailed information to people who asked for advice in the matter. It might be worth his while to take some lessons in cooking.

In the course of the discussion which followed, the CHAIRMAN said that, while he was not in favour of absolutely refusing to sell artificially-made and starchy foods, he sympathised very largely with what Mr. Gilmour said, that there was great need for improvement in the feeding of infants. Mr. Gilmour was also quite right in saying that chemists ought to pay more attention to specialising in infants' food.

Mr. ROBERTSON said he believed that if chemists made up their own preparations of infants' and invalids' foods, medical men would gradually come to recommend them.

Mr. MACKAY expressed the view that medical men would resent the interference of chemists in recommending any particular food to invalids.

Mr. Gilmour was thanked for his paper.

Benevolent Fund.

The CHAIRMAN drew the attention of the meeting to the statement in last week's *Pharmaceutical Journal* that the Benevolent Fund of the Society was considerably in need of more support. Glasgow had done well, especially in recent years, but he thought it could do still more. If they read carefully the facts and figures which appeared in the Journal they would learn that by each member giving a little extra to the Fund a considerable sum of money would be raised, and those in charge of it would not be in the hampered position for want of funds that they found themselves in at present. He appealed very strongly to the chemists of Glasgow to do all they could towards increasing the Fund. It was a most deserving object.

Mr. MOIR said he sympathised with the unfortunate position in which the Benevolent Fund found itself, but he thought that the Society was largely to blame in abolishing the system of collecting subscriptions by Divisional Secretaries.

The CHAIRMAN explained that he had brought this matter before the Council more than once. A great mistake, he felt, had been made in taking away the collection of subscriptions from Divisional Secretaries. From experience he could say that not only did the Divisional Secretaries enjoy calling on the members, but the members themselves always welcomed those visits.

MIDLAND PHARMACEUTICAL ASSOCIATION.

ANNUAL BALL.

Thursday, January 21, 1904, at the Vestry Hall, Islington Row, Birmingham. Members and friends attended to the number of nearly 100. To music supplied by Mr. A. Westwood's band, dancing was kept up with vigour until the small hours. Those present included the President (Mr. A. W. Gerrard), the Hon. Secretary (Mr. J. Radford), and one of the Vice-Presidents (Mr. T. W. Lowther) acted as M.C.

BLACKPOOL AND FYLDE CHEMISTS' ASSOCIATION.

ANNUAL DINNER.

Thursday, January 21, 1904, at the Palatine Hotel, Blackpool, Mr. JOSEPH SANKEY in the chair.

The CHAIRMAN, after the loyal toasts, congratulated those present on the position of their Association, but regretted the absence of so many of their members from South Shore, St. Anne's, and Lytham. He then called upon Mr. H. M. Johnson, Ph.C., to propose the toast of

The Pharmaceutical Society.

Mr. JOHNSON referred to the improved position of pharmacy within recent years, which was probably owing to the larger numbers of country members on the Council, like Mr. Lord Gifford, whom, no doubt, they were anxiously waiting to hear.

Mr. LORD GIFFORD, in responding to the toast, complimented the local chemists on their public spirit, and dealt with the important question of organisation from the point of view of pharmacy and medicine. He contended that bodies of persons called into existence in the public interest had a right to claim protection against outsiders. That was merely a fair bargain. It was said that pharmacists asked too much in endeavouring to obtain a qualified directorate, and that companies have now vested interests; but he could not see where the vested interest came in. To put the matter on commonsense ground, Was it right that a fully responsible person might not do what he could do by limiting his responsibility? The thing was absurd. The qualified directorate was the Council's method of trying to establish a principle which was absolutely essential to professional existence. Mr. Gifford next referred to the 'P.J. Formulary' and the proposed 'Compendium,' and then dealt with territorial representation. What was wanted was not schemes, but men, and while admitting that much might be said in favour of territorial representation, and something against it, the important and essential thing was the exclusion of unqualified persons from practice. All other questions sank into insignificance by the side of that. The great need, which he believed was being more and more effectively met, was effective leadership, effective organisation, and loyal following. He believed chemists were rapidly getting nearer that desirable state of affairs, and that was why he was not a pessimist; but he believed a happier time was not very far distant.

The Town and Trade of Blackpool.

Mr. F. CROSSLEY, who proposed the toast of the "Town and Trade of Blackpool," said that, having had thirty years' experience of Blackpool, he thought its townsmen were an exceedingly smart set of business men.

Councillor LAURIE, in responding to the toast, thanked Mr. Crossley for his complimentary remarks.

The Blackpool and Fylde Chemists' Association

was proposed by Mr. JNO. E. PARKER, who said he remembered the district when there were only eight chemists in the whole of it, whereas now there are thirty or forty in Blackpool alone. Of those eight all but one—his friend, Mr. Councillor Lofthouse, of Fleetwood—had passed to their rest.

Mr. C. H. TURVER, the President of the Association and Divisional Secretary, responded. He thanked Mr. Parker for the kind way in which he had proposed the toast, and referred to the work of the Association during the past twelve months. Referring to the saying, "Happy is the nation that has no history," the past year had been much quieter than the previous rather strenuous one; associations had done their work and done it well; the Society had been strengthened; the P.A.T.A. had put money in their pockets; and these and other useful institutions had been strengthened and even made possible by local associations. He would urge all chemists in the district to join their local Association and to attend the meetings. They would be surprised how intensely interesting such meetings were.

The toast of "The Visitors" was eloquently proposed by Mr. H. P. **Withers**, and responded to by Messrs. **Nall** and **Saunders**.

The musical programme was the best yet put before the Association.

PLYMOUTH, DEVONPORT, STONEHOUSE AND DISTRICT CHEMISTS' ASSOCIATION.

ORDINARY MEETING

Friday, January 22, 1904, at 7, Whimple Street, Plymouth, Mr. J. **Barge**, President, in the chair.

Suggested At Home.

The **Chairman** said it had been thought desirable for the Association to hold a social evening in place of the usual pharmacy ball.

Mr. **Roper** suggested that a committee be formed to obtain information as to the probable cost, and decide whether such a reunion would be approved of. The following members were asked to make the necessary inquiries:—Messrs. Barge, Park, Weary, Woods, Maitland, Perkins, Spear, Goodwin, Morgan, and Fairweather.

The C.O.D. Postal System.

The **Chairman** said he himself was not in favour of the scheme, as he considered it placed a strong weapon in the hands of large firms which would be detrimental to local chemists.

Mr. **Roper** thought it would be of service to large districts, but would enable manufacturers to deal direct with customers, and they, as middlemen, would be ignored. He instanced a case, when the parcel post was first introduced, where a chemist in a fashionable health resort lost a considerable amount of his dispensing connection through customers consulting London physicians and being recommended to take their prescriptions to London chemists, who availed themselves of the parcel post facilities.

Mr. **Hunt** said the only objection he could see against the scheme was the necessity for payment for articles before the purchaser had any opportunity of examining them, but he thought this difficulty could be obviated by having a system of deferred payments.

Mr. **Roper** then proposed the following:—

> That this meeting is of opinion that the cash on delivery postal system would operate to the disadvantage of local chemists as a body, although it would remove some of the difficulties under which postal trade is at present carried on.

Mr. **Condy U'Ren** seconded the motion, and, after further discussion, in which Messrs. **Perkins** and **Goodwin** took part, it was unanimously adopted.

Other Matters.

Mr. **Roper** thought the Association should express an opinion on the very small profits offered by Messrs. Savory and Moore, who had just placed their goods on the P.A.T.A. list. The members felt that this matter should receive attention, but no action was taken.

Mr. **Park**, who was unable to attend, owing to a severe cold, wrote, suggesting that members of the Association should discuss, and, if it was thought advisable, take steps in regard to firms who, it was reported, gave preferential terms to certain competitors.

After a little discussion, it was decided to bring the matter before the next meeting.

NOTTINGHAM AND NOTTS CHEMISTS' ASSOCIATION.

ANNUAL DINNER.

Thursday, January 21, 1904, at the Victoria Station Hotel, Nottingham, Mr. R. **FitzHugh**, J.P., in the chair.

The attendance was the largest on record, and the guests included the Mayor and Sheriff of Nottingham, Councillor A. Page, and Councillor R. Freeman. While dinner was being served a string band played selections.

The **Chairman** having proposed the loyal toasts,

Mr. W. **Gill** proposed the toast of

The Pharmaceutical Society of Great Britain.

He did not think there was one member present who would not receive the toast with the utmost heartiness that night, because during the last four or five years the Pharmaceutical Society had risen very highly in the esteem of chemists. That, he thought, was partly due to the fact that about 1899 or 1900 the management of the Society was put on a more democratic basis. When they considered the many duties it had to perform, and the delicacy of those duties, he thought they would all agree that the Society discharged those duties in a very admirable manner. First of all, it was an educational body. The School of Pharmacy was the best in the country, and it had turned out men who had held high places in pharmacy, medicine, and science. The Society had also this aim, that wherever a man was found calling himself a chemist and druggist the public should know that he was a man who was competent to prepare medicines and serve them with the various articles that might be needed in times of illness. Unfortunately that safeguard was not quite so complete as it might be. Legal acumen and common sense were not always synonymous. There was a flaw in the Act, but they hoped some time it would be altered. Then, a further function of the Society was the carrying out of the provisions of the Pharmacy Acts, and the duties given to it by its charter. Those duties were not simply and solely on behalf of chemists and druggists, but the public generally. But these were not the only things the Society did. A great work was being done just now on behalf of benevolence. The Benevolent Fund of the Society was one of its most useful institutions, but he was very sorry to say that at the present time the demands upon it were so great that its resources were very short. It was quite possible that a few days ago they received a circular giving details of cases relieved during the past year, and as they looked down the list they might have felt thankful that the name of their own city did not appear. He was sorry, however, to tell them that one of the recipients was a man who a few years ago was trading in Nottingham, but, unfortunately, owing to ill-health, had gone under, and was glad to have a grant from the Society year by year. They had hoped that night to have had with them the genial presence of the President of the Pharmaceutical Society, and to have listened to his silvery eloquence. Many of them would have a warm recollection of Mr. Atkins' visit to them a few years ago. Unfortunately, Mr. Atkins found that the pressing duties of his office were a big strain upon his health, and was unable to be with them and deeply regretted it. But they had with them a gentleman who was always welcome at their board. He referred to Mr. Sergeant, who had worked for the Society for a great number of years as Local or Divisional Secretary.

Mr. F. R. SERGEANT, in acknowledging the toast, said he sincerely regretted the absence of the President of the Pharmaceutical Society. The best response he could make to the toast was to say that he was a firm believer in the Society. It was founded in 1841 with the triple object—the advancement of chemistry and pharmacy and the education of those who practised them; the protection of the chemists and druggists of the United Kingdom; and the foundation of a benevolent fund for those who were unsuccessful in business, and their widows and orphans. In days past they had heard much grumbling about the Society, but he thought to-day the trend was in the opposite direction. The claims of the Society had sensibly risen in the estimation of chemists and druggists throughout the country. Mr. Sergeant called attention to the extent to which the provisions of the Society had been carried out by comparing the year 1841 with the year 1904 from the point of view of the craft. The year 1841 was a period of crude drugs, but the present was a time of active principles, alkaloids, and improvements in every direction. The Society by its educational system, and by offering scholarships, had improved the status of the chemists of the country, and also secured that the craft should be a better educated class of men. Alluding to the Benevolent Fund, Mr. Sergeant mentioned that there were 16,000 chemists in the country, but of these a very large proportion did not subscribe to the Fund. He appealed to those present who were not subscribers to become so; he did not think there was any member of the craft who could not afford 2s. 6d., and if everyone did that there would be no difficulty in the future. The Fund at the present moment was some £750 to the bad, and that ought to be made up before next April. Whatever might be their opinions about other divisions of the work of the Society, there could not be two opinions about this. He felt sure that the Society was the only rock and refuge of chemists in time to come, and the more loyal they were to the Society the better and happier would be their prospects in the future.

Mr. C. A. BOLTON gave "The Mayor, Magistrates, and Corporation of the City," which was responded to by the Mayor, Sheriff, Mr. J. T. Spalding, J.P., and Councillor S. Cook.

Mr. G. J. R. PARKES submitted the

Nottingham and Notts Chemists' Association,

making graceful reference to the President and the Secretaries.

Mr. EBERLIN, one of the Secretaries, in acknowledging the toast, said the Association was not a very ostentatious institution, but it did a quiet and useful work. But there were other directions in which, he thought, it might exercise its functions. He had often thought, for example, that the Association might be affiliated with the medical institutions of the city. He believed there were occasions when medical men might be very glad to unite with the chemists, and especially glad to reciprocate honour that would be conferred upon themselves by conferring similar honour upon them. Chemists might also be willing to render service in connection with the charities of the city. In most towns there was an advisory committee, which included some of the leading pharmacists, and such a committee might be of great use in Nottingham. There were the General Hospital, the Dispensary, and a number of other similar charities purchasing drugs on a very extensive scale, and yet the whole of that business was in the hands of gentlemen who were not specially competent to deal with it. The General Hospital had been unable to continue the use of cod-liver oil because of the price to which it had risen. If the institution had had on its staff a chemist they would have been able to see the necessity of letting out contracts for the supply of that article, and thus not only have saved a large sum of money but have conferred greater benefits upon the poor of the town. Having spoken of the valuable work in connection with pharmacy and pharmaceutical politics which the Association had accomplished during the past year, Mr. Eberlin said that he saw that day in the London Press that an important statement was made. A paper was read before the Pharmaceutical Society of Great Britain by Professor Wild, and in the debate Professor Jackson advocated the establishment of a public pharmacy at the public expense, so that the poorer sections of the community might be sure that they would be able to obtain the services of a highly-trained pharmacist at a low cost. In all conscience they could obtain such service at a low enough cost now.

Mr. MIDDLETON also responded.

Other Toasts.

Mr. T. WILSON proposed "The Visitors," to which Mr. W. BRINSON replied, and the CHIEF CONSTABLE, Mr. P. S. Clay, gave the health of "The Chairman."

Mr. FITZHUGH, responding to the latter toast, mentioned that of the thirty-five dinners which the Association had attended he thought he had partaken of thirty. He had been President of the Association many years and taken a great interest in its affairs, more particularly the branch connected with the young members. He hoped that he should be spared many years to preside at that meeting, and to continue to do what he could for the Association.

The musical programme was contributed by Miss Elsie Parkes, Messrs. Herbert Clarke, H. R. Clarke, and A. C. Vallance (Mansfield).

NORTH STAFFORDSHIRE CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Thursday, January 21, 1904, at the Roebuck Hotel, Stoke-on-Trent, the PRESIDENT, Mr. J. AVERILL, J.P. (Stafford), presiding.

The PRESIDENT opened a discussion on

Territorial Representation.

He thought that the present mode of electing members of the Council was a sort of haphazard method, and not nearly so good as that suggested by Mr. Tocher.

Mr. W. B. ALLISON moved:—

> That this meeting of the North Staffordshire Chemists' Association approves of the principle of district or territorial representation on the Council, and generally approves of Mr. Tocher's scheme.

The speaker thought that more members would use their votes under the proposed scheme.

Mr. R. G. EMERY seconded the motion.

The PRESIDENT thought that if a representative travelled about and visited various associations in his constituency under Mr. Tocher's scheme, his expenses should be paid out of some fund to be established.

Mr. EDMUND JONES was glad this subject had at last been brought forward. It required a mathematical mind to follow all the intricacies of Mr. Tocher's marvellous scheme, which he thought, if carried, would be to the advantage of the craft generally. Mr. Newsholme, as they knew, was opposed to the scheme, but the speaker could not see how Mr. Newsholme could reconcile his present attitude with that which he adopted with regard to the question of local secretaries. It seemed to the speaker that both questions were practically on all fours. If it was an advantage to have a "Parliamentary division local secretary," why not have a "Parliamentary division member of the Council"? He did not think that there was anything in the argument that the old champions of the Society would, under the new scheme, stand a chance of being left out in the cold. They were men who had done good service, and no constituency that adopted them could overlook those services, and exchange them for the work of an untried man.

Mr. T. C. Cornwell, Vice-President, felt that the present time was not opportune for pressing forward Mr. Tocher's scheme. The question of representation appeared to him to be one not simply of territory, but heads. The only good argument in favour of Mr. Tocher's scheme seemed to be that new blood might be introduced. Among chemists there were men who could very well replace some of those already on the Council. Some of the old blood, and, he thought, some of those in very high places, could very well be replaced by men who were cognisant of the times, and who could be of greater utility to the trade. As regards the paucity of membership, they would find that wherever there was a certain subscription there was always a large body of men who never would pay it; but he thought their Society compared favourably with similar ones, and it was increasing in numbers.

Mr. Weston Poole did not approve of the scheme at the present time, and he saw great difficulties in the way. Their object was a common one whether they lived in the North or South of England. They were simply joined together in a Society for one common object, for the safety of the public, to administer the Pharmacy Act, and the Council should secure legislation as far as possible in their interests. Those three objects were the same in all parts of the country. The speaker went on to enumerate some of the difficulties of Mr. Tocher's scheme, and the President briefly replied.

On the motion being put to the meeting, there were for it, eight, and against, one, other members abstaining from voting.

Benevolence.

At the close of the meeting the hat was sent round, and £1 was subscribed by the members for the Benevolent Fund.

Social.

The question of holding a ball for North Staffordshire chemists was again mooted, but as there seemed to be some difficulty in the matter of securing sufficient numbers, it was suggested that a picnic in the summer should be substituted for it, and that the ladies should be invited.

EAST SUSSEX PHARMACEUTICAL ASSOCIATION.

ORDINARY MEETING.

Tuesday, January 19, 1904, at the Edinburgh Hotel, St. Leonards, Mr. T. D. Vint, the President, in the chair.

The President read a paper on the

Evolution and Present Condition of Pharmacy.

His personal and hereditary interest, he said, dated back to 1813, when his father was duly indentured to serve a seven years' apprenticeship. The development of pharmacy could be divided into three epochs:—(1) The unorganised, prior to 1815, when the compounding of prescriptions was mainly in the hands of apothecaries and the sale of drugs and poisons was undertaken by any who chose; (2) an epoch of partial or voluntary organisation; a review of affairs pharmaceutical in 1841 revealed the immense stride taken in the sixty years since the foundation of the Pharmaceutical Society; (3) the issue of the British Pharmacopœia and the passing of the Pharmacy Act of 1868 ushered in the third epoch—that of compulsory organisation. The effects anticipated from the law of 1868 had, however, not been realised. A large number of able men had entered the ranks of pharmacy, but many only to use it as a stepping-stone to some other calling, while thousands remained occupying positions of usefulness very inadequately appreciated. There had been little, if any, improvement in the social status of the chemists as such. Companies had found that the Limited Liabilities Act covered a multitude of sins, and many now used their drug department as a bogus advertisement of their cheapness. The multiplication of special preparations only differing in the name of the makers, the hair-splitting and vacillation of the Inland Revenue, and, in some districts, the doings of public analysts and the fierce competition of to-day had produced disastrous results. Hopeful signs, however, were the increased effort of the Pharmaceutical Society to adapt itself and its journal to modern requirements, the rapid multiplication of local associations, and the existence of two powerful bodies in the P.A.T.A. and C.D.A., tending to weld chemists together. The pharmacy of the twentieth century would be what they, the pharmacists, made it.

Mr. Rossiter proposed a vote of thanks.

Mr. John Smith, in seconding, referred to the commercial spirit of the age which drives the modern chemist to purchase ready-made galenicals, with doubtful advantage.

Mr. Ewbank Smith recalled his initiation into the art and mysteries of pharmacy.

The vote of thanks having been carried, the meeting terminated.

POOR-LAW DISPENSERS' ASSOCIATION.

GENERAL MEETING.

Friday, January 22, 1904, at Surrey House, Victoria Embankment, W.C., Mr. M. G. Smith (Lewisham Infirmary), President, in the chair.

Mr. M. G. Smith, President, was selected as delegate to the Council meetings of the National Poor-law Officers' Association, the next meeting to be held at Reading in March.

Mr. G. W. Lindsay, M.P.S. (Camberwell Infirmary), then read a short paper on

Glass and Glass Bottles.

The ancient history of glass was first dealt with, from Egyptian and Roman times. Afterwards, Venice, Germany, and France were pre-eminent respectively in glass manufacture. It was not until the sixteenth century that glass was manufactured in Britain. Before 1773 all the plate glass was imported from France; but British manufactures were now superior to any other nation in Europe. Glass is formed by the fusion of silicious matter, such as powdered flint, or fine sand, together with some alkali, alkaline earth, salt, or metallic oxide. Five kinds are usually recognised in commerce: (1) Bottle, or coarse green glass; (2) Broad spread, or sheet window glass; (3) Crown, or the best window glass; (4) Plate glass, or glass of pure soda; (5) Flint glass, or glass of lead; and coloured glass may be mentioned as a sixth kind. The *modus operandi* of the glass or bottle blower may be shortly summed up as follows:—The melted glass, which has already been calcined in the "fritting furnace," is transferred on iron shovels to the working furnace, where, under the action of great heat, it becomes fused and fit for being blown. A long hollow iron rod, about 5 ft. in length, is taken and dipped into the pot. A sufficiency having been taken up, the workman blows into the other end of the tube, rolls it to and fro on a smooth slab, then slips it into a mould, still blowing through the rod; after which other deft operations form the neck and rim of the bottle, and it is then carried off on an iron rod to the annealing furnace, from which, when cooled down, it emerges a perfect bottle.

An interesting discussion followed, and the proceedings terminated with a cordial vote of thanks to Mr. Lindsay for his paper.

LONDON CHAMBER OF COMMERCE.

CHEMICAL SECTION.

Tuesday, January 26, 1904, at Oxford Court, Cannon Street, London, Mr. John C. Umney in the chair.

Mr. John C. Umney was re-elected to the position of Chairman and Mr. David Lloyd Howard to that of Deputy-Chairman.

Duties and Taxes.

Dealing first of all with the London Port and Docks Bill, 1904, the Chairman explained that many of the rates proposed by the Docks Company to be levied on goods and raw materials imported into London were excessive, and that in accordance with the procedure of other sections he would suggest that a protest be entered on the minutes of the Section, which was supported by several speakers and unanimously agreed on.

The Chairman then explained the present position with regard to the negotiations for attempting to obtain alcohol free of duty for manufacturing purposes. The Chairman outlined the work that had been carried out by the Joint Committee of the Chemical Section of the London Chamber of Commerce and the Society of Chemical Industry. He stated that particulars were now being scheduled giving typical examples of goods which entered this country without imposition of duty, into the composition of which ethyl alcohol entered, and in the preparation of which ethyl alcohol was wasted, and on which import duties could be imposed by the Customs Consolidation Act of 1876. Of five typical aniline dyes of which particulars had been furnished to him by Professor Green, one of the members of that Committee, there was a non-imposed duty equivalent to not less than £27,000 out of £90,000 import value; in other words, that might be taken as a measure of the disability of manufacturers in this country to compete against those manufacturers working in other countries with practically duty-free alcohol. With regard to medicinal substances, the Chairman instanced sulphonal, upon which the import duty should be paid of at least 1s. 9d. per lb., and Mr. Tyrer instanced phenacetin, the import duty on which should be not less than 4d. to 4½d. per lb.

The Chairman pointed out that these facts were brought forward, not with a view to having these duties imposed by the Customs, but as a means of urging upon the Government the necessity for immediate consideration of the whole subject.

Mr. Tyrer stated that there was very little prospect of the removal of the 5d. differential duty between British and Foreign imported spirit, but the Chairman explained that this might not be a great obstacle, for the British distillers of grain spirit might be able, by means of a considerably increased demand, to work their factories up to their full output, or, if it were necessary, they might even so modify their plant as to distil potato spirit, the cultivation of the potatoes forming a useful addition to the present agricultural industries of Great Britain and Ireland.

Mr. Christy congratulated the Committee on the work that it had done, and proposed its re-appointment in conjunction with that of the Society of Chemical Industry, and it was supported by Mr. Lescher, and carried unanimously.

The following now constitute the Joint Committee of the Chemical Section of the London Chamber of Commerce and the Society of Chemical Industry:—

Mr. John C. Umney (Chairman).

Sir William Ramsay, F.R.S.
Mr. S. Hall
Dr. Squire
Mr. Levinstein
Prof. A. G. Green
Mr. D. Howard
Mr. Walter F. Reid
Mr. Thomas Tyrer

Mr. D. Lloyd Howard
Mr. E. V. Barrett
Mr. F. B. Boulton
Mr. T. H. W. Idris
Mr. Charles Umney
Mr. E. A. Webb
Mr. Edmund White
Mr. Gosnell

The meeting terminated with a vote of thanks to the Chairman.

SOCIETY OF CHEMICAL INDUSTRY: YORKSHIRE SECTION.

ORDINARY MEETING.

Monday, January 25, 1904, at the Midland Hotel, Bradford. Mr. J. E. Bedford in the chair.

Mr. F. W. Richardson, city analyst, and Mr. Adolf Jaffe gave a paper upon the subject of

The Determination of Sugars in Milk,

and exhibited modern forms of polarimeters and tintometers. The authors strongly criticised ordinary text-book methods, and showed how complex and difficult a question it was accurately to determine several sugars when present in a mixture. The copper methods were severely scrutinised, and on the whole disapproved of; while the polarimeter was extolled as an invaluable means of estimating sugars, even in complex combinations. The authors claimed that a simple and yet accurate process has been marked out by them which enables them to readily determine cane (beet) and milk sugars in milk and condensed milk. The possibilities of the modern half-shadow Schmidt-Haensch polarimeter were described and illustrated. Lovibond's tintometer for colour measuring and recording was also exhibited, and was said to do very much for the colour chemist what the balance and weights do for the analyst—*i.e.*, enable him to keep a definite record of colours of various kinds. Silvered cells with glass walls, varying from ⅛ in. to 2 ft., were shown. The large cells were used for recording the colours of potable waters, while the small cells were employed for deeply-coloured solutions.

Mr. Walter Gardner exhibited the Dalite lamp, of which he is one of the patentees; and the great advantages of this light in our climate for colour matching, etc., were illustrated. Messrs. Richardson and Jaffe also used it with their tintometer. Mr. Gardner also showed improved absorption spectra apparatus.

BRADFORD CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Tuesday, January 26, 1904, at the Royal Hotel, Bradford, the President, Alderman Dunn, in the chair. The special occasion of the meeting was a lecture by Mr. W. M. Gardner, of the Bradford Technical College, on

Radium and the Genesis of the Elements.

Mr. Gardner described the results of the researches of Crookes, Röntgen, the Curies, and others, and by demonstration showed how radium is extracted from pitchblende and finally concentrated by fractional crystallisation of the chlorides, the bromides being formed in the later stages. He spoke of chemical actions of radium salts in considerable detail, dwelt on the three methods of investigating the property of radio-activity, expressed the known points of difference between the three kinds of rays, spoke of the developments due to the investigations of Rutherford, Ramsay, and Soddy, and, in conclusion alluded to the "ultimate wonder" of the proof which the two last-named supplied that helium is spontaneously generated from radium, thus establishing as an indisputable fact the transmution of one element into another.

A cordial vote of thanks was awarded to Mr. Gardner for his most interesting lecture.

It was announced that the annual dinner of the Association was to be held on April 12, and that Alderman Robinson, of London, had accepted an invitation to be present.

CARDIFF AND DISTRICT PHARMACEUTICAL ASSOCIATION.

ANNUAL MEETING.

Wednesday, January 27, 1904, at the Park Hotel, Cardiff, Mr. Jabez A. Jones in the chair.

Annual Report.

The annual report stated that the Association had made further progress, and was now firmly established. A petition urging manufacturers of proprietary articles to place their goods on the P.A.T.A. list was prepared under its auspices, and had resulted in the addition of many important proprietaries to the list. Half-day picnics and social evenings had been very successful. The financial report showed receipts amounting to £46 18s. 11d., and a balance in hand of £4 9s. 9d.

The President, in moving the adoption of the report, said there was a much better feeling amongst chemists in the town than three years ago, when the Association was formed. The report was adopted.

Mr. Jones then vacated the chair in favour of Mr. David Anthony, the new President. In his

Presidential Address,

Mr. Anthony, who has carried on business in Paris, contrasted the position of the French "pharmacien" with that of the British pharmacist. He first alluded to the Frenchman's advantages in training. A first-class "pharmacien" passed a preliminary examination equivalent to an English B.A. degree, was then apprenticed, and afterwards studied for three years at the School of Pharmacy. A second-class "pharmacien" passed a lighter preliminary examination, was an apprentice for three years and an assistant for three years, and then studied for one year in the School of Pharmacy. In France, he went on, the "pharmacien" and the doctor were compelled by law to strictly confine themselves to their own professions. The "pharmacien" was the sole dispenser, the doctor the sole prescriber, and consequently they were in perfect harmony—an ideal state of things. The pharmacies were entirely dispensing establishments; there were no sidelines, not even a sponge, and in them the patent medicine label was unknown. A chemist would put up a quantity of medicine according to the doctor's prescription, and then the doctor would prescribe it where required as put up in the original packages. Prescriptions were written in the language of the country, and a series of numbered formulæ of directions for taking, the number of one of which was attached to every prescription, preventing the chemist from making mistakes in that direction. He thought that they would all agree that the positions of both physician and pharmacist were infinitely better in France than they were here. In fact, he thought them ideal, and the sooner we adopted the same in this country the better. How was that to be done? He suggested by making friends with the doctor.

Mr. A. Hagon, commenting on the address, thought the present conditions in this country did not admit of the hope that pure pharmacy would find subsistence for the men who were qualified pharmacists in Great Britain. The restrictions imposed in France would, he felt, be resented in England.

Votes of thanks to the President and other officers who were elected in November concluded this meeting.

ANNUAL DINNER.

In the evening the members of the Association dined together, the President, Mr. David Anthony, in the chair.

The loyal toasts having been honoured, Mr. A. Hagon proposed the toast of

The Pharmaceutical Society.

He referred particularly to the Benevolent Fund, and said there was no fund that was of such importance to the trade as this fund. The chemists of Cardiff were fairly prosperous, and, he thought, were in a position to give it a helping hand.

A collection on behalf of the Fund was then taken, and realised £2 13s. 0½d.

Mr. W. R. Hopkins, Divisional Secretary, in response, said many applicants to the Fund were men who had worked assiduously and lived blameless lives, but had been compelled by the stress of illegitimate competition to make an appeal to the Society. The Pharmaceutical Society, in educational attainment, compared favourably with any similar institution in the United Kingdom. It had paid special attention to the thorough training of young men for their business.

Dr. Cornelius Griffiths, in submitting

The Cardiff and District Pharmaceutical Association,

alluded to the benefits to be derived from united action.

The President responded, saying that they had enemies on all sides, and it was necessary that the army should be strengthened in order that they might conquer. They wished to approach the medical profession amicably, and he hoped they might establish the Continental relations between pharmacist and physician in England.

"The Retiring President and Officers" were toasted by the President, Mr. J. A. Jones replying. "The Health of the Visitors" concluded the toast-list.

The intervals between the toasts were enlivened by contributions from a vocal quartette.

PUBLIC DISPENSERS' ASSOCIATION.

ANNUAL MEETING.

Wednesday, January 27, 1904, at St. Bride's Institute, E.C., Mr. Duff in the chair.

Annual Report.

The annual report, which was presented to the meeting, showed that the finances of the Association are in an entirely satisfactory condition. The title of the Association had been altered during the year, and, among other changes, Mr. T. H. W. Idris had been elected President. The Association had done much useful work on behalf of dispensers in public institutions. The reports of the Secretary and Treasurer were adopted.

A letter was then read by the Secretary from the President, Mr. T. H. W. Idris, regretting his inability to be present, and saying that he thought it would be better to elect a new President. He did not believe in the same President being elected again and again. It was agreed that the Secretary should write and ask Mr. Idris to reconsider his decision.

Election of Officers.

The following were elected as officers :—Chairman, Mr. Noad Clarke; Vice-Chairman, Mr. Duff; Treasurer, Mr. Hewitt; Secretary, Mr. Leadbeater; and Council, Messrs. Lindsey, Mills, Welford Phillips, Whitmore-Peck, and Windmill.

Other Business.

The retiring CHAIRMAN then reported on the progress of the Register of Public Dispensers throughout the country.

It was suggested that some of the wholesale houses should be asked to show some of their novelties at an exhibition, the date of which was not fixed.

The TREASURER proposed that the subscription of the Association should be raised to 5s., and, at the desire of the members, it was decided to obtain the views of all members of the Association.

Arising from a proposal to omit the annual smoking concert from the programme, the members, after some discussion, decided it should be given another chance.

Votes of thanks were passed to Mr. Idris for his interest and help during the past year, and to other officers in connection with their work for the Association.

POISONING CASES AND INQUESTS.

The deaths from poisoning reported during the seven days ended Wednesday, January 27, 1904, numbered fourteen, thus :—

Poison.	Accident.	Suicide.
Alcohol	2	—
Carbolic Acid	—	1
Chloroform	1	—
Hydrocyanic Acid	1	1
Laudanum	3	—
Liniment	1	—
Morphine	1	—
Oxalic Acid	—	1
Potassium Cyanide	—	1
Vermin Killer	—	1
Total	9	5

Alcohol.—Two three-year-old boys have died from alcoholic poisoning, caused by drinking whiskey—one at Hull and the other at St. Helens.

Carbolic Acid.—A farmer at Assels, near Northam, is reported to have committed suicide with this poison.

Chloroform. — A boy died under chloroform at Derby Infirmary.

Hydrocyanic Acid.—Mr. Morland Lawson (36), son of Sir Wilfrid Lawson, is reported to have taken prussic acid while temporarily insane. The poison was obtained from a veterinary surgeon. A medical man, Dr. Nelson (46), of Stamford Bridge, took an overdose of prussic acid, which, it was stated, he used as a stomachic.

Laudanum.—An engineer, at Glasgow; a girl of sixteen years at Ashton; and an elderly woman, at Garforth, each died from the effects of an overdose of laudanum.

Liniment.—An old lady, at Ryde, died from shock, caused by taking a quantity of liniment containing belladonna, acetic acid, turpentine, and camphor, which was given her in mistake for medicine by her husband.

Morphine.—An inquiry was held at Bloxwich on Tuesday January 26, concerning the death of a month-old infant which occurred after a dose of medicine containing morphine. —The mother, a single woman named Fellows, stated that the baby was taken to a hospital in Walsall, where a prescription was obtained from Dr. Oliver. She took the prescription to Mr. Frank Bannister, chemist, Bloxwich, and asked Miss Bannister, the chemist's sister, what it would cost to make it up. The latter, after consulting her brother, said the price would be 9d. She asked that the medicine be got ready, stating that it was for a baby. She gave the child the prescribed dose, and ten minutes afterwards baby became ill. Dr. Berry attended the child, but it died the following morning.—Miss Sarah Bannister said Miss Fellows came to the shop on Friday morning, handed her a prescription and asked the price; she consulted her brother and quoted a price, retaining the prescription for her brother to dispense. Miss Fellows said nothing to her about the medicine being for a baby.—Mr. F. Bannister, chemist and druggist, said he was not informed that the mixture was for a baby. He supposed it was for the young woman's husband. It was a hospital prescription, and was simply headed "Geo. Fellows," without indication as to age. In addition to a grey powder (or powders) there was ordered a mixture to consist of sodium bicarbonate, 2 drs.; solution of morphine hydrochloride, 5 minims; glycerin, 3 drs.; water to 4 oz. Dose.—Two teaspoonfuls every four hours. The quantities were expressed by symbols and Roman numerals in the usual way, but the quantity for the morphine solution, "m.vi." was written exactly like "m. 61," and he dispensed it with 61 minims After further scrutinising the prescription and knowing now that the patient was a child he had come to the conclusion the quantity intended was 6 minims. In hospital practice, it was customary to state the age on a prescription for a child; in private practice the usual way was to write "Mrs. So-and-So's Baby." There was nothing of that sort on this prescription.—Other evidence having been given, the Coroner said it was pretty clear that nothing was said about a baby when the medicine was ordered.—The jury returned a verdict of death from misadventure through an overdose of morphine, adding that they thought the ages of child patients should be stated on prescriptions, and exonerating Mr. Bannister from all blame.

Oxalic Acid.—A widow at Sheffield, during a fit of temporary insanity, took some oxalic acid, then cut her throat, and died.

Potassium Cyanide.—On a verdict of "Guilty" being found against Mr. Whitaker Wright, he swallowed some potassium cyanide in compressed form, with a fatal result.

Vermin Killer.—A man at Birstall, who purchased threepennyworth of vermin killer, containing strychnine, from a local chemist, swallowed some with suicidal intent.

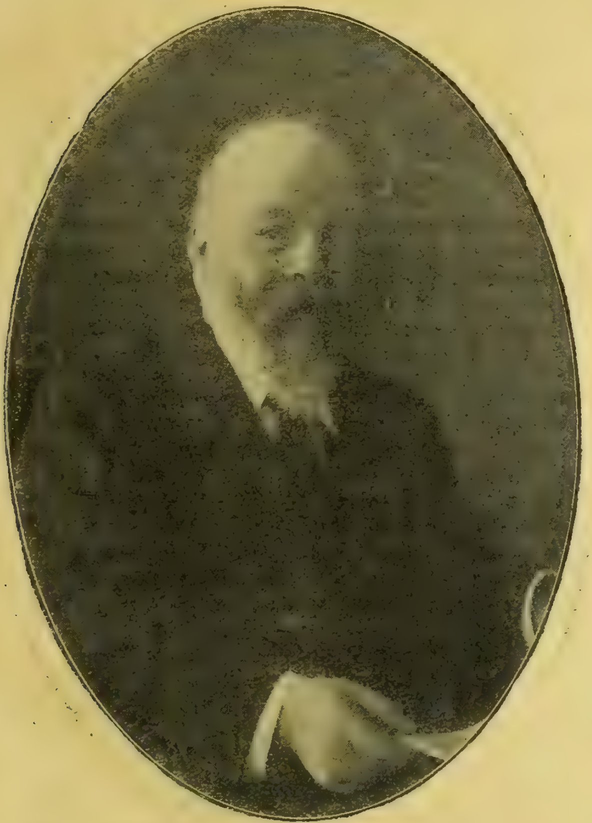
Inquests.—Mr. Troutbeck held an inquest at Westminster on January 25 on the body of Emma Gilby (59), who died after taking a penny "Headache powder."—The jury, having found that death was due to natural causes, the Coroner remarked that in regard to these cheap powders there appeared to be different kinds, some bearing distinctive names. The chemist who had been called was not able to say what some of them contained, and openly admitted that the nature of the ingredients was a secret of the makers. It was permitted by the law, and so long as the national finances were supported by revenue derived from payments in respect of secret remedies, the present unsatisfactory state of things would doubtless continue, and coroners and juries could not do more than protest. ——At West Ham an inquest was held concerning the death of a boy who had eaten some slices of bread and butter "which were all green," found in an empty house.—The jury returned a verdict that the boy died from collapse, due to some irritant poison, but that there was no evidence to show how the deceased got the poison.

Attempted Suicide.—Several cases of attempted suicide by poisoning are reported, the poisons employed being oxalic acid and laudanum.

A PROGRESSIVE MOVEMENT AT BIRMINGHAM.

A VISIT TO MESSRS. SOUTHALL BROS. AND BARCLAY'S NEW PREMISES.

Probably no city at the present time is more prominently before the British public than the metropolis of the Midlands. The habitat of Mr. Chamberlain has always been associated with progressive movements, both from the point of view of politics and of commerce. And a recent important development of a Birmingham firm of manufacturing chemists, whose name is known to pharmacists throughout the whole Empire, forms the subject of this article. A Journal representative has this week visited the factories of Messrs. Southall Bros. and Barclay, Limited, where extensive additions have recently been made.



MR. THOMAS BARCLAY.

As I entered the offices (writes our representative) Mr. Barclay was engaged in discussing with other members of his firm the recent catastrophe at Aalesund. The news of the disaster had only come to hand a few hours before, and I arrived in time to hear some of Mr. Barclay's personal experiences which the disaster had recalled. Aalesund is, of course, a long distance from the Lofotens; it is, in fact, about half-way between Bergen and Trondhjem, but on the occasion of his recent visit to Balstad, where is situated Messrs. Southall Bros. and Barclay's cod-liver oil factory, Mr. Barclay visited, among other places, the scene of last Saturday's calamity. "It is only little over a year ago," he was saying as I entered his office, "that I was walking about among these people, and, with the aid of an interpreter, conversing freely with them; they are a fine, manly race." The inhabitants were not exactly engaged in cod fishing, and it was satisfactory to learn that the cod-liver oil industry will not suffer in consequence. While on the question of cod-liver oil I took the opportunity of the presence of such a great authority to ask his opinion with regard to the coming season, and those interested will be pleased to know that Mr. Barclay's opinions are that the prospects are decidedly more favourable, although nothing definite can as yet be stated. At the Balstad factory the manufacture does not commence until later in the season, when the livers are in a better condition, and the fishing productive of larger fish. However, the object of the Journal's visit to the home of fiscalitis was not to discuss cod-liver oil, any more than it was to talk about the fiscal problem.

VIEW OF WORKS BEFORE ALTERATION,
Showing "Old Waterloo Tavern" in the foreground.

VIEW SHOWING THE CENTRAL BLOCK,
Recently erected on the site of "Old Waterloo Tavern."

So, leaving Norway in the background, and with Mr. Thomas Barclay as guide, I commenced a tour of the extensive new premises which will be formally opened on the first day of the next month. And as we journeyed from one department to another, upstairs and downstairs, through long corridors, caves, and winding underground passages, my guide instructed me in the routine of a wholesale drug business. Imaginary orders were sent down the pneumatic tube to the wet departments, and up the lift to the dry rooms; then down below real orders were filled in and placed on the lift, which glided up to the distributing room. For several hours we wandered through winding passages, up and down staircases, in an interesting round of practical instruction.

It will not be necessary here to describe in detail the various departments visited, nor, indeed, is it practicable even briefly to outline some of the processes of manufacture which were in course of application. But a general idea of the extensive premises will no doubt be of interest.

The Early Days.

The firm was founded, I learnt from Mr. Barclay in the course of our peregrinations, by the late Thomas Southall, a little less than a century ago—to be exact, in the year 1820. The founder was joined shortly afterwards by his brother William, and since then the history of the firm has been one of steady and continual progress. Nearly every year has seen some change in an upward direction, while at one time and another very important additions have been made to the industries in which the firm is interested. Take, for instance, the erection of the cod-liver oil factory twenty-five years ago, and the important addition, made in 1880, when Sanitary towels were placed on the market. Already, before the passing of the Pharmacy Act of 1868, and many, many years before such precautions were introduced into the Pharmacopœia, Messrs. Southall Bros. and Barclay demonstrated the necessity of pharmaceutical standardisation; since that time they have been continually experimenting in this direction, with the result that they are now able to boast—and a proud boast it is, too—that they have succeeded in standardising approximately the whole of the official galenicals. Perhaps, however, one of the most important and one of the largest developments the firm has ever made takes the form of the addition which has recently been made to the Birmingham premises. For fifteen months the new premises have been in course of erection, and the whole now covers a huge area, forming a very imposing block of buildings, bounded on its four sides by four important thoroughfares.

The Laboratories.

Before inspecting the new premises a tour was made of the older rooms and laboratories, which have done service for so many years; and it was satisfactory to note the perfect organisation visible everywhere, and the efficient methods adopted. It was, too, something of an eye-opener to see the enormous casks and other containers reaching from floor to ceiling, filled with all kinds of galenicals. Bottle warehouses stocked with enormous quantities of glass; oil cellars, in which barrels of cod-liver oil, castor oil, and olive oil were collected; all this was very interesting to inspect.

All inflammable liquids are stored in a specially-constructed outhouse. In this store nothing is done except in the daylight, unless under special circumstances, when light is shed

GUTTING THE FISH AT BALSTAD IN THE LOFOTENS.
(Counting from the left, Mr. Barclay is the seventh figure in the picture.)

through a window from an adjoining room. Indeed, the greatest precautions are taken against fire in all parts of the buildings. There are regulation outdoor fire staircases, while inside the various rooms are divided by fireproof doors.

Poison Precautions.

Equally stringent are the precautions taken with reference to poisons, and the system of checking adopted renders it practically impossible for a mistake to occur. There is a separate poison room in the wet department, and another in the dry department; these rooms are in the sole charge of registered chemists and druggists, no other person being allowed entrance. On the door is a printed order bearing the names of checkers, and under no circumstances is a potent poison transferred from this room unless it has been checked by two of the persons whose names appear on this notice. This law is like the law of the Medes and Persians, unalterable.

The Latest Developments.

The manufacturing laboratories have been very considerably extended, and it is intended to utilise this increased space for the manufacture of a greater number of fine chemicals. With this end in view, a quantity of up-to-date machinery has been laid down, and in fact, at the time of the visit, was already working.

The analytical department has been extended, and special rooms which have been added will be devoted entirely to the preparation of standardised tinctures and liquid extracts.

There is a fresh section where tablets are compressed, capsules filled, and pills are coated with sugar or gelatin. It is not necessary to add that this department has been fitted up with the most modern and perfect appliances. Other departments which have been enlarged include the druggists' sundries department, the rooms where counter specialties are packed, and the patent medicine rooms.

The printing plant, driven by electric motors, is very extensive; and a good idea of the efficiency of this branch of the business can be gained from the various price-lists and handsomely illustrated booklets which issue from it.

The accommodation for packing is most complete, and has been increased in proportion to the increase in other departments. Moreover, the section devoted to packing has been centralised, so that all goods for the home trade are now packed on one floor, adjoining the offices. Goods for export, however, are packed in a special department, also adjoining offices devoted entirely to that trade. Goods in bond are packed in an adjacent room.

Office accommodation is now more commodious, while the show-room is another and important addition, and every chemist who is anywhere in the vicinity of Birmingham should not miss the opportunity of paying a visit there.

But it will not be necessary to describe in detail, or even to name the various sections which have recently been added. Suffice it to say that every department has been fitted up in the most up-to-date style, and that there is every convenience for an enormous output.

What struck one in the course of the journey through the building was the large proportion of employees who had been with the firm for a great number of years. If these works were in France quite a dozen members of the staff would be now wearing the medal awarded by the State in recognition of long and faithful service. In nearly every department there seemed to be at least one who had commenced to serve the house more than thirty years ago, whilst some among them have watched its growth since the early sixties. And when the firm celebrates its centenary, sixteen years hence, doubtless some of these will be able to point to half a century of service.

LEGAL INTELLIGENCE.

High Court of Justice: Chancery Division.

Mineral Waters: A Substitution Action.

On Saturday, January 23, 1904, before Mr. Justice Byrne, Mr. Sebastian, on behalf of Messrs. Schweppes, Limited, moved for judgment in default of appearance against Claytons (Cardiff), Limited. The default of appearance, Counsel said, was really merely a matter of arrangement, for the defendants had written to his clients offering not to appear and oppose the application in any way if they would waive an account and damages. The plaintiff company had agreed to this. The plaintiffs were the well-known manufacturers of mineral waters, and they brought this action to restrain the defendants, their servants and agents, from in any manner passing off other mineral water not of the plaintiffs' manufacture as and for water of the plaintiffs' manufacture. The plaintiffs also asked for an order for delivery up or destruction of certain labels which are in the defendants' possession or under their control. The statement of claim sets out the extent of the plaintiffs' business and the use by them of a distinctive label under which many millions of bottles had been sold. It also sets out the discovery of what the defendants had done, and stated that the defendants were selling, or offering for sale, mineral waters in embossed bottles, with labels so closely resembling those of the plaintiffs as to render it difficult, even when the bottles were placed side by side, to distinguish between them; in fact, Mr. Sebastian said, he thought there was no difference between them, except as to the name.

His Lordship granted the injunction as asked, except with a slight modification in form, as damages were not now asked for.

"Absorbine."

From Tuesday, January 19, to Friday, January 22, 1904, Mr. Justice Joyce had before him the action Christy *v.* Tipper. The plaintiffs, Messrs. T. Christy and Co., asked for an injunction to restrain the defendants, B. T. Tipper and Son, of Birmingham, from selling or offering for sale any preparation under the name "Absorbine," so as to lead to the belief that their preparation was the preparation of the plaintiffs. An injunction was also asked to restrain infringement of trade mark. The defendants presented a notice of motion to rectify the register of trade marks by expunging the word "Absorbine."

For the plaintiffs it was contended that "Absorbine" was a preparation for veterinary purposes, and a milder form was made for use by human beings. The preparation was originally sold in 1888 by Mr. Wilber Fenelon Young, of Massachusetts, who in 1892 registered the mark in America. In November, 1901, plaintiffs applied to register the word "Absorbine" in England in two classes—one for veterinary purposes and the other for medicine and pharmacy. "Absorbine" had been largely advertised and sold in this country, and Thomas Christy and Co. were appointed agents. Soon after the preparation was advertised Messrs. Corbyn, Stacy, and Co. wrote that they had used the word "absorbine," but they did not oppose the registration.

Messrs. Tipper, on the other hand, urged that "Absorbine" was not a good word to be put on the register, that it ought not to have been put there, and should be removed. It was placed on the register as an invented word. Prior to the registration of the word "Absorbine," it was used by the defendants, and it was known to the trade and public Corbyn, Stacy, and Co. used the word for three years prior to the registration for an article of a similar character. Defendants themselves for twenty years prior to 1901 sold "Tipper's Absorbent Ointment." Defendants did not know until the end of 1902 that plaintiffs had registered the word.

A number of witnesses having been examined,

Mr. Younger, K.C., for the defendants, said his Lordship must look at the state of things at the date of the registration of the trade mark. The use of the word "Absorbine" by Messrs. Corbyn, Stacy, and Co. prevented it being an invented word, and the Comptroller was entirely ignorant of the use. Messrs. Corbyn, Stacy, and Co. had circulated 4,800 copies of their catalogue, in which they listed one of their preparations as "Absorbine." The only way in which the applicants had used the word was on a bottle of liquid embrocation, whereas the defendants put it on a pot of ointment. If judgment was given for the plaintiffs his Lordship would be stopping Messrs. Corbyn, Stacy, and Co. from using a word they had adopted long before plaintiffs applied to register their mark. There had been no suggestion that what the defendants had done was calculated to deceive the public, and on the question of passing off the defendants' preparation as and for that of the plaintiffs there had not been even the foundation of a case laid before the Court. The point was a very substantial one on the question of costs, for many witnesses had been in attendance to prove that they had never heard of plaintiffs' embrocation.

Mr. Hughes, K.C., in replying for the plaintiffs, argued that the use of "Absorbine" by the defendants was in respect of goods of precisely the same class as those of the plaintiffs, although they were made up in a different way. Anyone having "Absorbine" recommended to them as a veterinary specific would very likely accept ointment instead of liquid. If one man had as a trade mark the word "Absorbine" for a veterinary preparation it would surely tend to deceive if another manufacturer used the same word to describe another article used for the same purpose, but made up by a different method.

Mr. Justice Joyce intimated that he would take time to consider his judgment.

High Court of Justice: King's Bench Division.

Arsenic in Beer.

On Thursday, January 21, 1904, before Mr. Justice Bruce, the final stages were reached of the case in which Messrs. Bostock and Co., Limited, sugar refiners, Liverpool, are claiming from Messrs. J. Nicholson and Co., Limited, sulphuric acid manufacturers, Hunslet, Leeds, the sum of £300,000 as damages for the total ruin of their business, alleged to be caused by defendants supplying plaintiffs with acid which contained large quantities of arsenic to be used in making brewing sugar.

Further evidence having been given on behalf of the defendants' case,

Mr. Russell asked to be allowed to amend the pleadings so as to include a charge of fraud and misrepresentation in supplying in 1900 unpurified for purified acid which had previously been supplied, and had been sent by defendants without giving notice of the change.

Sir Edward Clarke objected, and, after some discussion,

Mr. Justice Bruce said what he felt was that all the facts were known to the parties, and no one was taken by surprise by any new fact. He must allow the amendments. It was eventually decided that his Lordship should decide the question of fact raised in the case, and subsequently questions of law should be argued.

Sir E. Clarke then addressed the Court on behalf of the defendants, and submitted that there had been no fraud or misrepresentation on the defendants' part. The questions of fact upon which the result of the case would depend were:—(1) Were the plaintiffs induced by false and fraudulent material representations made by the defendants to enter into the contracts? (2) (i.) Was there any warranty of the kind of acid to be supplied under the contract of 1900? (ii.) Does B.O.V. indicate according to the custom of the trade, or the user of the parties, unpurified acid? (3) Did the plaintiffs expressly or by implication make known to the defendants the purpose for which the acid was to be used? (4) Did the plaintiffs mislead the defendants into believing that they required the acid for by-products only? (5) Could the plaintiffs, by the exercise of ordinary care, have discovered the presence of arsenic in the acid before they used it?

Mr. Russell then replied on the whole case, occupying the remainder of that day, and continued on the following day (Friday). He submitted that the contention of the defendants that they were unaware for what purpose plaintiffs required the acid was not borne out by the facts. In any case, defendants had no right to substitute unpurified arsenious acid for a purified chemical without giving warning. The question raised by the defence that plaintiffs should have exercised care before using the acid, did not, counsel contended, affect the position of Bostocks in this action. Defendants contracted to supply a certain quality of acid, and they fraudulently substituted something else.

The case was resumed on Monday, when Mr. Danckwerts submitted that by the conduct of the parties Bostocks were entitled to assume that the acid sent in 1900 was free from arsenic. It was a fraud to suddenly change the acid sent without notice to Bostocks. That amounted to a fraudulent misrepresentation that Bostocks were getting the same kind of acid that they had before. This was a contract for the sale of acid free from arsenic.

On Tuesday the arguments were concluded, the case having occupied twelve days.

His Lordship said he hoped to give judgment at an early date next week, and expressed his obligation to the counsel engaged on the case for the very able and exhaustive arguments that had been addressed to the Court.

Clerkenwell County Court.

A Medical Man's Claim.

Recently, at the Clerkenwell County Court, before his Honour Judge Edge, a claim was heard at the instance of Dr. Mitchinson, of Burton Crescent, London, against Mr. Kohen, jeweller, for the sum of £4 16s. for professional attendance and medicine. The defendant filed a counter-claim for £5, alleging that the doctor supplied a pitch plaster instead of a belladonna plaster, whereby Mrs. Kohen suffered severe pain and injury, and incurred considerable expense in extra attendance and nourishment.

Plaintiff said he obtained a belladonna plaster from a chemist for the injured arm. He denied that it was a pitch plaster. Mrs. Kohen did say something to him about her arm being inflamed, but that arose from the violent manner in which she removed the plaster.

The chemist who supplied the plaster stated that at the time of purchase he had not a pitch plaster in his shop. He was certain that it was a belladonna plaster.

Mrs. Kohen, in her evidence, said she kept the plaster on for one and a half days, and it nearly drove her mad. She told plaintiff at the time that it was a pitch plaster, because when it came off her arm was black.

The Judge said the evidence showed that plaintiff prescribed the proper thing, and was supplied by the chemist with a belladonna plaster.

In giving judgment for plaintiff on the claim and counterclaim, his Honour remarked that charges of that sort against medical men ought not to be brought unless people were prepared to substantiate them.

Sale of Food and Drugs Acts.

Sweet Spirit of Nitre.

On Thursday, January 28, 1904, at Sheffield Police Court, Mr. Walter Atkinson, chemist and druggist, of 323, Penistone Road, Sheffield, was charged with selling sweet spirit of nitre deficient in ethyl nitrite.

It was stated for the prosecution that the spirit contained 0·06 per cent. of ethyl nitrite, instead of 1·75 per cent.

For the defence, it was contended that the spirit was purchased twelve months ago, and had deteriorated through evaporation.

A fine of £2, inclusive of costs, was imposed.

PERSONALITIES, BUSINESS CHANGES, ETC.

Mr. E. A. Brotherton, M.P., member of the firm of Brotherton and Company, ammonia distillers, has been elected Vice-President of Wakefield Chamber of Commerce.

Messrs. A. E. Staley and Company, manufacturers of optical and photographic lenses, of 35, Aldermanbury, E.C., are shortly removing to more commodious premises at 19, Thavies Inn, Holborn Circus, London, E.C.

Mr. A. A. Watts, of Sheffield, recently assistant to Mr. Cave, Southport, has purchased the pharmacy at Ansdell, near Lytham, established and hitherto carried on as a branch by Mr. J. H. Taylor, of St. Anne's-on-the-Sea.

Mr. R. Taylor Monks, of Radcliffe, Lancashire, has disposed of his retail branch business at Little Lever, near Bolton, to Mr. James Heywood, of that town. The valuation and transfer were conducted by Messrs. Thomas Tomlinson and Son, New Cannon Street, Manchester.

Councillor J. R. Birkett, J.P., the chemist-mayor of Morecambe, on Monday presented to the Corporation a Mayoress's 18-carat gold chain. On the badge is inscribed:—"Borough of Morecambe, incorporated 1902. Mayoress chain presented to the Corporation by John Birkett, Esq., Mayor, 1903-4. Mrs. Mary Birkett, Mayoress, 1903-4."

Messrs. Stewart, Dunn, and Dobson have secured large premises at 4, Victoria Road, Deal, and will open a new pharmacy there as soon as the necessary alterations are completed. Wholesale houses are invited to send price-lists and special terms or quotations for opening orders to Mr. E. J. Dobson, Gilsland, Deal.

Pinafore Bouquet.

Coriander oil, 10 minims; thyme oil, 10 minims; balm oil, 20 minims; cardamom oil, 40 minims; citron oil, 1 drachm; bergamot oil, 2 drachms; essence of musk, 1 fl. oz.; spirit of neroli, 8 fl. oz.; violet extract, 12 fl. oz.; spirit of rose, 16 fl. oz. —*Spatula*, **9**, 547.

MISCELLANEOUS NEWS.

Divisional Secretaries and other Members of the Pharmaceutical Society are requested to assist the Editor by sending local newspapers containing items of interest to chemists and druggists.

"Allenburys" Cricket Club.—The annual Bohemian concert in connection with this club will take place at the Cripplegate Institute, E.C., on Wednesday, February 10. An excellent musical programme has been arranged.

Midland Pharmaceutical Association.—At the meeting of the Association to be held on February 17, 1904, at the University of Birmingham, at 8.30 p.m., the President, Mr. A. W. Gerrard, will read a paper on "Plasters and Plaster Spreading."

A Chemist's Bequest.—The legacy of £10,000 left to the deserving poor of Castle Donnington, by the late Mr. James Farmer, chemist and druggist, has been invested, and a residue of £200 from the annual income will be distributed amongst 142 persons.

Royal Photographic Society.—At a recent meeting of the society, Mr. J. C. S. Mummery presiding, Mr. Douglas English, B.A., gave an exceptionally interesting lecture on "Camera Notes on Natural History." The lecture, which dwelt mainly with the subject of animal defence, was illustrated by a fine collection of lantern slides from photographs by the lecturer.

Hertfordshire Analyst's Report.—The report of Mr. Arthur E. Ekins, analyst for the county of Hertford, on the examination of samples under the Sale of Food and Drugs Acts in the county during the quarter ended December 31, 1903, shows that among other substances, three samples each of lard and pepper, two of camphorated oil, and one of arrowroot, were taken and analysed. All were found to be of genuine composition.

"Common-sense Exterminator."—"A highly interesting import," says the *Daily News*, "was listed under the heading of 'Drugs' in last Saturday's 'Bill of Entry.' Between a consignment of sugar of milk and one of senna we find £800 Common sense Exterminator. We wonder how long this has been going on." A correspondent, who directed the attention of the *Daily News* to this singular import, asks if it has anything to do with the fiscal controversy.

A Glasgow Incident.—On Wednesday morning a young man was remitted to the Sheriff of Lanarkshire on a charge of having, on January 23, in Eglinton Street, Glasgow, administered a chloral hydrate mixture with whisky to a friend, and of having attempted to rob him while under the influence of that drug. On being arrested accused had in his possession a whisky bottle, which, on examination, was found to contain a large quantity of chloral hydrate. A packet of chloral hydrate crystals was found in his possession.

Junior Pharmacy Ball.—The twenty-third annual Junior Pharmacy Ball will be held at the Portman Rooms, Baker Street, London, on Wednesday, February 24, 1904. Tickets, price 7s. 6d. each, including supper and light refreshments, can be obtained from any of the stewards, or from Mr. Percival Trick, Hon. Secretary of the Ball, Salisbury House, London Wall, E.C. The members of the Committee are Messrs. Ralph L. Cassie, R. D. Dixon, C. W. Martin, J. E. Southon, A. H. Solomon, and H. C. Wright.

Manchester Bottle Exchange.—The profit for the year 1903 on the business of the Manchester and District Mineral Water Bottle Exchange and Trade Protection Association, despite the wretched weather, amounted to £280 13s. 8d., against a very serious loss in 1902. The bottles brought into the store during the year numbered 3,024,000, which included 106,324 stray bottles—a decrease of 108,840 on the number recovered during the previous year. The Association has a total membership of 191. The Burnley members have arranged to have their own district Association.

A Pill Exonerated.—At Keighley County Court on January 25, the fair fame of a pill came before the notice of Judge Bompas, K.C., on mention of the case Toothill *v.* Parkinson, in which £25 damages were claimed by the plaintiff on account of injuries alleged to have been caused by pills supplied by the defendant. Counsel for the plaintiff, said Mr. Waugh, who acted for the defence, had shown him the results of an analysis, and he was now satisfied that the pills of the defendant had nothing to do with the illness. The case was, therefore, dismissed by consent.

Will of the Late Mr. Nathaniel Smith.—The will of Mr. Nathaniel Smith, chemist, of Cheltenham, has been proved, the estate being valued at £18,600 gross. Legacies are bequeathed, ranging in amount from £100 to £10, to his executors, his sons, his grandson and nieces, his servants, his nephews, and his sister-in-law, and the income of the residue of the estate he gives his wife, and after her decease the estate is to be divided equally between his son, the Rev. Walter Percy Smith absolutely, and his son, Mr. William Sumner Smith, and the latter's wife and family in certain trusts.

The Carpels of the Leguminosæ.—One of the most curious botanical exhibits recently placed on view has been the small collection of double-podded French beans shown at a meeting of the Linnean Society on the 21st inst., by Dr. Eric Drabble, Demonstrator in Botany at the School of Pharmacy. One of the earliest lessons the botanical student learns from his text-books is that leguminous plants have but a single carpel. Here, however, were many instances to the contrary, for several examples were shown in which it was clear that two carpels had been developed and joined together, except for a small portion at the end farthest from the carpellary leaves. The specimens thus brought forward by Dr. Drabble are, so far as is known, unique.

The Therapeutic Value of Radium.—Dr. John Macintyre, of Glasgow, lectured to the members of the Institution of Engineers and Shipbuilders in Scotland on Tuesday evening, at Glasgow, on the subject of "Radium and Its Properties." He expressed regret at the nature of some of the statements that had been circulated as to its effect in medicine and surgery. Personally, his lips were sealed on this aspect of the question, because it was too early to look for such results, and much harm would be done by premature publication of possible or probable effects. He could say, however, that radium had been shown to possess therapeutic value, but in any affections in which it had so far been tried better results had been obtained by other forces.

A Noted Scoto-Australian.—The death has recently been announced of Sir John M'Intyre, K.C.M.G. He was born in Glasgow in 1832, and was trained as a chemist. At the age of twenty he emigrated to Victoria to seek his fortune. He first tried his luck at the goldfields, and for some time worked as a miner at Bendigo and other goldfields. He then started in business as a chemist in Bendigo, in partnership with his brother-in-law. He took an active part in public affairs, was elected the first Mayor of Sandhurst, and as such did the honours on the occasion of the Duke of Edinburgh's visit to the colony. After several unsuccessful attempts he was elected to a seat in the Victorian Legislative Assembly. For many years he was prominent in the political life of the colony, and held various offices under the Crown. He received the honour of knighthood in 1895.

Bradford Analyst's Report.—Mr. F. W. Richardson, the Bradford city analyst, in his report for the year 1903 states that of 484 samples submitted to him during the year, 35, or 7¼ per cent., were found to be adulterated, and 16, or 3 per cent., of doubtful quality. The only observation that Mr. Richardson has to make on matters dealt with by chemists are as follows:—"A so-called baking-powder proved to be a mixture of alum powder and a little starch. A sample of lime water contained only two-thirds the proper amount of lime. Two samples of compound liquorice powder contained over double the proper amount of sulphur, with a corresponding deficiency of the more expensive constituents. A citrate of magnesia gave 1 grain of lead per lb. A vinegar sample showed one part of sulphuric acid in 700, whereas no free mineral acid should be present. A sample of cream of tartar yielded ½ grain of copper per lb."

Chemist's Will.—The will of Mr. Michael Cole Sumners, pharmaceutical chemist, of Heckington, Lincoln, who died on October 29 last, left estate valued at £5,158 18s. 1d. gross, with net personalty £2,555 10s. 10d., and probate of his will has been granted to his son, Mr. Henry Tindale Sumners, chemist, of Heckington; Mrs. Marion Turner Kiddall, of Beaconsfield, Bucks; and Mr. William Whysall, chemist, of Grantham. The testator bequeathed to his son and daughter £500 each, and gave his son the option of purchasing his business premises and house for £700, reduced to £650 by a codicil in recognition of his son having left a good appointment in order to come home and assist his father, and the option of purchasing his stock-in-trade at a valuation without consideration for goodwill. He left the income of his residuary estate to his wife for life or widowhood, and, in the event of her remarriage, a legacy of £500. He devised real estate at Ketton, Rutland, to his said son, and he left the ultimate residue of his estate to his children in equal shares.

Mr. John Taylor's Funeral.—The funeral of the late Mr. John Taylor, of Bolton, whose death was recorded in last week's issue of the *Pharmaceutical Journal*, took place on Saturday, the 23rd inst., and was very largely attended. The Council of the Pharmaceutical Society, of which Mr. Taylor was a respected member, was officially represented by Mr. C. B. Allen (Vice-President), Mr. R. Lord Gifford, Mr. G. T. W. Newsholme, and Dr. Symes. Mr. Bremridge, the Registrar of the Pharmaceutical Society, who, with Mr. Allen, had made a special journey to Bolton, was also present. A wreath had been sent by the members of the Council of the Society as a mark of respect for their late colleague. The high esteem in which Mr. Taylor was held in Bolton was strikingly exemplified by the very large number of persons who attended the funeral, and the special memorial service held on Sunday evening in the Congregational Church, at which Mr. Taylor had been a worshipper and office-bearer. An appreciation of Mr. Taylor, by Mr. J. Rymer Young, appears in this issue (see page 118).

A Zulu Poison.—A case of poisoning of a native Zulu woman is given in the *Natal Mercury*, of December 25, 1903, which shows that poisons are still used in Natal that are unknown to Europeans. The drug in this case is called "Isindiyandiya," an infusion of the leaves and bark of which was used. The poison seems to be of an irritant nature, causing a burning pain in the mouth and throat, violent vomiting, and pain in the region of the stomach. The poison was given by the husband to cure his wife of excessive dreaming. On autopsy the right side of the heart was dilated and glazed with a viscid black fluid. The symptoms indicate that the poison belongs either to the Euphorbiaceæ or the Thymeleaceæ, or possibly the Anacardiaceæ. According to a correspondent in Natal the number of deaths that takes place this way has probably been considerable, so that the Government have now made a law compelling natives to register births and deaths, and making the chiefs responsible for the register. The state of morals amongst the Zulus is indicated by the fact that a chemist was asked by one of the headmen of a tribe for some medicine to make a certain woman love him. It turned out that he wanted to give it to another man's wife, who would have nothing to do with him while her husband lived. The man who wanted her had five wives already! The husband, when warned, shifted his kraal and joined a neighbouring tribe.

Charge Against a "Chemist's Manager."—At Clerkenwell Police Court on Tuesday, January 26, Edward Reynolds (30), described as a chemist's manager [The name Edward Reynolds does not appear on the 'Register of Chemists and Druggists, 1903.'—Ed. *P.J.*], of Highbury Hill, Highbury, was charged, on remand, before Mr. Bros, with being a suspected person attempting to pick pockets at the Agricultural Hall.—It was stated that Reynolds was followed by Charles Day, the assistant manager of the World's Fair, for three-quarters of an hour, and Mr. Day alleged that the prisoner placed his hands in the folds of ladies' dresses; finally he gave him into custody.—Mr. Drake, who prosecuted, said, in consequence of inquiries made, and of communications made to him by Mr. Ricketts, who appeared for the prisoner, it was not proposed to proceed with the charge.—Detective-sergeant Henbert said the result of the police inquiries was that Reynolds had always borne a good character. He had been employed in several drug stores in London, and had been regarded sometimes as eccentric.—Mr. Ricketts said the prisoner had instructed him to say that nothing was further from his thoughts than dishonesty or improper conduct. He was the manager at one of Mr. Dodd's drug stores, and had been employed by that gentleman for eight months. A large amount of cash passed through his hands, and he was scrupulously honest.—After hearing evidence of character Mr. Bros said the prisoner's conduct was calculated to excite suspicion, and the authorities were quite right in giving him into custody. It was their duty to protect persons who attended the Agricultural Hall. He would give the prisoner credit for not intending to act dishonestly, but he would advise him to be very careful with regard to his conduct in public places. In the circumstances the prisoner would be discharged.

Sicilian Bouquet.

Mitcham lavender oil, 3 drachms; clove oil, 30 minims; bergamot oil, 4 drachms; sandal oil, 20 minims; otto of rose, 1 drachm; ambergris essence, 4 drachms; musk essence, 1½ fl. oz.; essence of heliotrope, 4 drachms; marechale extract, 1 oz.; alcohol (90 per cent.), 8 fl. oz.—*Spatula*, **9**, 548.

SCHOOL AND COLLEGE NEWS.

School of Pharmacy.—The annual dinner of the students of the School of Pharmacy of the Pharmaceutical Society has been arranged to take place on Tuesday, February 23, 1904, at the Holborn Restaurant.

King's College, London.—A course of lectures and practical work in clinical pathology and bacteriology will be held on Tuesday and Friday afternoons, from 2.30 to 4.30, commencing Tuesday, February 2. Professor R. T. Hewlett will be the director of the classes, and has arranged that the instruction shall cover the chief points of importance in clinical methods and diagnosis.

North of England School of Chemistry and Pharmacy.—The fifth annual dinner and smoker of the above school was held at the Collingwood Restaurant, Newcastle-on-Tyne, on Wednesday, January 20. Mr. F. R. Dudderidge, F.C.S., Principal of the School, occupied the chair, and was supported by Mr. G. F. Merson, F.C.S. (former Principal), Messrs. J. W. Dewar, J. S. Hill, and J. G. Murdoch (past and present demonstrators), and a large company of past and present students. A capital programme of music and recitations was rendered during the evening. The toast of "The Health of the Principal and Success to the School" was proposed by Mr. J. W. S. Minikin. In replying, Mr. Dudderidge attributed the increasing success of the school in great measure to the able assistance of his demonstrators, and these gentlemen also suitably responded, their remarks being received with great applause. The genial ex-Principal added a few words in his usual happy manner, and the proceedings were declared to have been the most successful in point of numbers in the history of the school.

COMPANY INTELLIGENCE.

Solurol (Thymic Acid) Co., Limited.—Capital, £5,000, in £1 shares. Objects: To adopt an agreement with Dr. E. Schmoll and to carry on the business of dealers in drugs, chemicals, and patent medicines and commodities which may be conveniently dealt in in connection therewith. No initial public issue. The first directors are: F. Wissler, F. H. Mertens, and A. Pam. Dr. E. Schmoll, the Marmite Food Extract Co., Limited, and Messrs. Leon and Charles Comar may each, while holding 200 shares, appoint a permanent director. Registered office, 40, Mincing Lane, E.C.

BANKRUPTCY INTELLIGENCE.

Re **Wm. A. Davis,** described as a chemist and druggist, Measham.

The trustee under this failure reports that the estate has yielded a first and final dividend of 1s. 10d. in the £.

Re **Frederic G. Johnson,** Hull.

At the Hull County Court on January 22, Judge Raikes, K.C., heard an application under the Bankruptcy Acts.

Mr. Locking (Messrs. Locking and Holdich) applied for the discharge of Frederic E. Johnson, formerly a director of Messrs. Allison, Johnson, and Foster, chemists and druggists.

His Honour said that, on the report of the Official Receiver before him, he could grant the application with two years' suspension.

MARKET REPORT.

The quotations given below are the lowest prompt cash prices for bulk quantities, to which other charges have to be added. It is important that this should be borne in mind in making any comparison between the prices quoted and those of the wholesale drug trade.

General Markets.

London, Thursday, January 28, 1904.

At the beginning of the week there appeared to be signs of improvement on the markets in drugs and chemicals, but it is to be feared that there is no real change for the better. There have been no out-of-the-way transactions as regards quantity, and fluctuations are few. The speculative market in quinine has weakened; this is partly to be accounted for by the large quantity of bark offering to-day in Amsterdam, and partly owing to fear of continued reprisals on the part of the combined makers in a certain direction. Sales of B&S Sulphate have been made at 11¼d. for March delivery, and there appear to be further sellers at the price, although the nominal quotation is 11½d. Much will, no doubt, depend upon prices realised for bark at the Dutch auctions, results of which were not known at the time of going to Press. The commencement, however, showed a decline. Sales of Cod-liver Oil have been made at the price quoted last week for this season's oil. Buyers, however, are holding off, possibly in anticipation of lower prices. Camphor is nominally unchanged since last week, but no definite selling price can be quoted. Opium is firm at unchanged prices. The Alkaloids are also unaltered.

ALUM.—Lump, £5 12s. 6d. ; Ground, £6 2s. 6d.

ARROWROOT.—80 barrels St. Vincent sold at Wednesday's sales, fair manufacturing at 1¾d.

BICARBONATE OF SODA.—£7 5s. per ton, landed.

BISMUTH.—Carbonate, 8s. 1d. ; Subnitrate, 7s. 4d.

BLEACHING POWDER.—English, £4 15s. to £4 17s. 6d.

BORACIC ACID.—Powder, £1 4s. 6d.

BORAX.—In powder, 14s. 6d. ; crystals, 13s. 6d.

CAMPHOR.—A quantity of Japanese tablets has been sold at 2s. 9d. c.i.f. Feb.-March shipment. The spot price for this is 1d. to 2d. dearer. As regards English refiners, the position is unchanged from last week.

CARBOLIC ACID.—Crystals, 39° to 40°, 5d. ; crude, 60°, 1s. 6½d.

CASCARA SAGRADA.—There is very little in New York. 95s. to 100s. is asked for old bark on the spot, and there are very few sellers.

CASTOR OIL—Is easier. Belgian 1sts, £19 17s. 6d.

CINNAMON.—80 bags sold at the spice sales ; fair cuttings at 7½d.

CITRIC ACID.—1s. to 1s. 0½d. per lb.

CLOVES.—Fair Zanzibar was bought in at 8½d. at the spice sales. The private market has been quiet, at rather advanced prices.

COCAINE.—11s. 9d. to 12s. 3d. per oz. for the hydrochloride, according to quantity.

COCOANUT OIL—Is firm. Cochin, £30 spot ; Ceylon, spot £26.

CODEINE.—8s. 11d. per oz. for the pure alkaloid.

COD-LIVER OIL.—Sales of this season's oil have been made at 265s. f.o.b. Bergen. Buyers are, however, holding off in the hopes of lower prices.

CREAM OF TARTAR.—98 per cent. foreign powder, 87s.

ERGOT—Is inquired for. Good Spanish is quoted at 1s. 8d. to 1s. 9d.

GINGER.—At the spice sales held on Wednesday 256 packages Cochin sold at rather easier prices, medium and small rather roughly cut and scraped at 42s., and dullish washed rough rather wormy at 27s. Of Jamaica 39 barrels sold middling at 41s. to 43s.

IODIDE OF POTASSIUM.—The Convention price is 8s. 9d. per lb.

IODINE.—9s. 9d. to 10s. per lb. for the resublimed, according to quantity.

IODOFORM.—11s. 8d. per lb.

LINSEED—Is 3d. dearer for spot.

LINSEED OIL—Is firmer. London spot pipes £16 17s. 6d., barrels £17.

MENTHOL—Is quiet. The price asked on the spot is from 17s. to 18s., according to quantity and holder.

MERCURIALS.—Calomel 2s. 8d., Corrosive Sublimate 2s. 4d., Red Precipitate 2s. 11d., White Precipitate 2s. 11½d., Mercuric Sulphate 2s. 4d.

MORPHINE—Is unchanged at 4s. 6d. per oz. for the hydrochloride.

NUTMEGS.—There was a large supply of West Indians offered at Wednesday's sales, and 234 packages found buyers at fairly steady rates.

OPIUM—Is unchanged. The market remains firm.

OTTO OF ROSES.—Reports which have come to hand of large sales of Otto to the States and France are fully confirmed. The quantities of available stock for shipment to England are becoming reduced.

OXALIC ACID.—2⅝d., delivered free London.

PEPPER—Was not in demand at the spice sales, and privately business is very slow, with steady prices.

PEPPERMINT OIL.—H.G.H. 14s. 6d. ; this is, however, only a nominal quotation, as no business is doing. For American oil there is no inquiry at the moment, and there are no quotations. For Japanese 5s. 6d. to 5s. 9d. is quoted for outside brands, and 6s. for Kobayashi.

PIMENTO.—Of 319 bags offered on Wednesday 66 sold, fair at 4d.

POTASSIUM BROMIDE.—1s. 11½d. per lb.

QUICKSILVER.—£8 5s.

QUININE.—Messrs. Howards and Sons, Limited, quote 1s. 1d. per oz. for the sulphate in 100-oz. tins. In 1-oz. bottles the price is 1s. 3d. to 1s. 4d. per oz., according to quantity. The price quoted by the German makers is 1s. for the sulphate in 1,000-oz. lots in 100-oz. tins. For all salts other than the sulphate Messrs. Howards' prices are exactly the same as those of the German makers. In the second-hand market 11½d. and 11⅝d. are the prices quoted, but buyers are holding off until the result of to-day's bark sales in Amsterdam is known.

SAFFRON—Is steady at late rates—34s. to 36s. for B.P. quality.

SANTONIN.—24s. to 25s., according to quantity for B.P. Crystals.

SENEGA ROOT.—From America comes the information that stocks are concentrated, and it is expected that higher prices will rule. The "spot" quotation is 3s. 2d.

SHELLAC.—Some small sales have been made on the spot at firm prices.

TURPENTINE—Is dull; American spot 46s.

PATENTS AND TRADE MARKS.*

New Patent Applications.

TREATMENT OF ANIMAL, VEGETABLE, OR CHEMICAL SUBSTANCES FOR THE PURPOSE OF INCREASING THEIR SOLUBILITY IN LIQUIDS (No. 9,002 of 1903).—J. Maggi, 95, Boulevard Beaumarchais, Paris. Relates to a process for treating animal, vegetable, or chemical substances for the purpose of increasing their solubility in liquids, and consists in first converting them into a paste, impregnating them with air or inert gas, treating them in a vacuum drying apparatus—these operations being effected at a low temperature—and finally submitting them to a high temperature in such a manner as to fix the porosity of the product.

INHALER FOR ETHYL CHLORIDE AND OTHER ANAESTHETICS (No. 19,610 of 1903).—H. Coxeter, 30, Seaton Street, Hampstead Road, London. Consists of an outer cylindrical portion, having suitable connections for a face-piece and for a gas-bag. Within said cylindrical portion is a lining or drum, which may be rotated through an angle of about 150° by means of a handle working in a slot in said cylinder. The inner drum may be removed from the outer cylinder for the insertion of the lining or other absorbent material which is to receive the anæsthetic. Openings are provided both in the outer cylinder and the inner drum, which register with one another when the drum is moved into certain positions by means of the handle aforesaid, thereby allowing the patient to receive either air alone, a mixture of air and anæsthetic vapour, or to inhale from and exhale into the gas-bag abovementioned, at the will of the operator.

PROCESS FOR OBTAINING THE ASSIMILABLE PHOSPHO-ORGANIC MATTER CONTAINED IN VEGETABLE FOOD-STUFFS (No. 24,692 of 1903).—S. Posternak, 6, Rue Marguerin, Paris. The inventor has discovered that the phospho-organic matter contained in most vegetable food-stuffs is distinguishable from the organic substances which accompany it by its resistance to oxidising agents, and has further discovered that the extracts containing said phospho-organic matter, obtained by acid, neutral or alkaline, extraction from said vegetable products, and whether containing albumen or not, or the precipitate containing the said phospho-organic matter can be completely freed from organic impurities, by treating them with oxidising agents, as, for example, the permanganates, chlorine and such like, or by submitting them to electrolytic oxidation. Various examples are given.

Note.—Opposition to the grant of any of the above-mentioned Patent applications must be filed at the Patent Office on or before February 29, 1904.

New Trade Mark Applications.

"**CLUNELL,**" for chemical substances included in Class 1, by J. Clulow, Gloucester House, Hampton, Middlesex, and J. M. Darnell, Priory Cottage, Grove Road, Hounslow, Middlesex. 258,661.

"**MARROL**" ("Marro" disclaimed), for chemical substances prepared for use in medicine and pharmacy, by Virol, Limited, 152-166, Old Street, E.C. 253,475.

"**RHEUMATIC AND INFLUENZA POWDERS**" and signature, for rheumatic and influenza powders, by C. Wood, 4, Lever Street, Hazel Grove, near Stockport. 257,768.

"**CORALOIDS**" ("Coral" disclaimed), for medicine for man in the form of pilules, by A. E. Robinson, 16, Scarisbrick Street, Southport. 258,545.

"**CYLLIN,**" and device of sun rising on the sea, for chemical substances prepared for use in medicine and pharmacy, by Jeyes' Sanitary Compounds Co., Limited, 64, Cannon Street, E.C. 259,683.

"**CARBI,**" for philosophical instruments, scientific instruments, and apparatus for useful purposes, etc., by Société Anonyme le Carbone, 12-33, Rue de Lorraine, Levallois-Perret, near Paris. 259,238.

"**AUXETOPHONE,**" for philosophical instruments, scientific instruments, etc., by the Hon. C. A. Parsons, Heaton Works, Newcastle-on-Tyne. 259,413.

"**RIAPURE,**" and device of the heads and trunks of two men, for air purifying apparatus, by G. Dubuis, of 26, Hugh Street, Pimlico, S.W. 258,887.

Device representing the good Samaritan, and words "Carters Invalid Furniture" (wording disclaimed), for instruments, apparatus, and contrivances, not medicated, for surgical or curative purposes, etc., by E. G. Payne, trading as "Carters," 6a, New Cavendish Street, W. 259,056.

"**PETRYL,**" for perfumery, etc., by Marion James and Ker, Limited, Durham Grove Works, Morning Lane, N.E. 257,396.

"**DALPERCO,**" for perfumery, etc., by W. E. Smith, 525, Glasgow Road, Shieldmuir, Wishaw. 258,962.

"**HYGESO,**" for perfumery, etc., by E. Cook and Co., Limited, East London Soap Works, Bow, E. 259,334.

Note.—Opposition to the registration of any of the above-mentioned trade marks must be filed at the Patent Office on or before Febuary 20, 1904.

"**BLUE BELL**" and device, for chemical substances prepared for use in manufactures, photography, and philosophical research, including anti-corrosives, but not including paints, pigments, colours, lamp-black, mineral dyes, mineral dye-stuffs, varnishes and glue, by Peter Dawson, Dufftown, Glenlivet, N.B. 258,796.

"**ANTI-GOURMINE**" ("Anti-Gourme" disclaimed), for substances used for veterinary purposes, by La Zyma Société Anonyme de Bacteriologie Industrielle, Clarens, Switzerland. 257,460

"**NANBERRY**" salve label, for a veterinary preparation, by N. Clarkson, Market Place, Richmond, Yorks. 258,106.

"**CODOINT**" ("Cod" disclaimed), for chemical substances prepared for use in medicine and pharmacy by Scott and Bowne, Limited, 10 and 11, Stonecutter Street, E.C. 259,456.

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* These abridgments of new patent applications and particulars of new applications for trade marks have been specially compiled from official sources, for the *Pharmaceutical Journal*, by Mr. Reginald W. Barker, agent for procuring patents and registering trade marks and designs, 56, Ludgate Hill, London, E.C., from whom any information on the subjects may be obtained. Mr. Barker will also send copies of his 'Trade Mark Notes' and 'Patent Notes for Inventors' free on application.

"**BUIS AN TIDO**," for chemical substances prepared for use in medicine and pharmacy, by G. Hamilton, 5, Charlotte Square, Newcastle-on-Tyne. 259,535.

"**NEVERRIP**" and device of two hands grasping piece of material (device only claimed), for instruments, apparatus, and contrivances, not medicated, for surgical or curative purposes, etc., by the Miller Rubber Manufacturing Co., 1245-1260, Getz Street, Akron, Ohio, U.S.A. 259,215.

"**DIPLOMATE**," for perfumery, etc., by C. Locher, 42, Rue de l'Hôpital, Berne, Switzerland. 259,051.

"**URALIA**" ("Ural" disclaimed), for perfumery, etc., by Southall Bros. and Barclay, Limited, 19, 20 and 21, Lower Priory, Birmingham. 259,400.

"**BELL RINGER BRAND**" and device, for perfumery, etc., by Bells Stores, Limited, Scotland Road Stores, Liverpool. 259,588.

Note.—Opposition to the registration of any of the above-mentioned marks must be filed at the Patent Office on or before February 27, 1904.

LETTERS TO THE EDITOR.

All Communications for the *Pharmaceutical Journal* must be addressed to the Editor, 17, Bloomsbury Square, London, W.C., and, if intended for publication in the current week's issue, should reach the Office not later than Wednesday, unless specially arranged for in advance. The matter should be written clearly and concisely on one side of the paper only and must be authenticated by the names and addresses of the writers, as no notice can be taken of anonymous letters. Articles submitted for the Editor's approval should be accompanied by stamped addressed envelopes, otherwise no guarantee can be given that they will be returned if not found suitable. Reprints of articles cannot be supplied unless the authors communicate with the Editor before publication. The right to reproduce all original matter and illustrations published in the Journal is strictly reserved.

The Tests of Purity for Cod-liver Oil.

In your last issue Dr. McWalter deplores the fact that the identity and purity of cod-liver oil cannot be established by the estimation of the specific gravity, or by the nitric acid test for albumin. This may be readily admitted, but though the tests he mentions may not be sufficient, "there are others," which, even if they are not in the Pharmacopœia, are used by all competent analysts, namely, the iodine absorption, the saponification equivalent, the Maumené reaction, and the refractometer test. In addition there is the very simple and excellent colour test with nitric and sulphuric acids. This is performed in a few minutes, and appears to be very reliable. From the figures I have been able to collect, it seems that genuine cod-liver oils have the following characteristics:—

Specific gravity	0·923-0·930
Exposed at 0° C. for two hours	Still clear
Albumin test	Ring may appear soon or be very slight.
Sulphuric acid test	Violet
Nitro-sulphuric test	Rose-Pink
Maumené	112°-118°
Refractometer figure	+42 - +48
Saponification equivalent	18·2-18·7
Iodine absorption	140-148

The analysis of cod-liver oil has been the subject of excellent papers recently by E. Dowzard, C. E. Sage, and E. W. Mann. The last-named strongly commends the nitro-sulphuric acid colour test. This test is by no means a novel one; it seems to be due originally to H. Meyer, and is quoted by Allen ('Commercial Organic Analysis'), in 1886, who gives the results obtained by this test on genuine cod-liver oil and certain other fish oils.

London, January 26, 1904. C. G. Moor.

Like Dr. McWalter, I have failed to get the albumin test to respond readily with one or two samples of cod-liver oil. A sample bought in 1900 responds to the test quickly, while a sample bought from an historic London house last December has taken forty-eight hours. It seems to me questionable whether age has not something to do with the disparity.

Nuneaton, January 27, 1904. A. E. Slinn.

Searl's Test for Yeast Extract.

I have read with considerable interest the reports of the recent case heard in Liverpool in reference to meat extract adulterated with yeast extract and the correspondence following thereon. I have examined a fair number of extracts, both meat and yeast, and also mixed extracts, and I can support all that Mr. A. Searl says in his letter in your last issue. I have found that the precipitate is so characteristic with yeast extracts that it could not possibly be confounded with the small and finely-divided precipitate that one sometimes obtains even from pure meat extracts. With most yeast extracts the amount of this precipitate is sufficiently definite to allow at least a good opinion to be formed as to the extent of the adulteration, but with Marmite I have found on several occasions that the results are far less typical than with other preparations. It is possible that something takes place in the manufacture of the last-named which differs from the usual method of preparation; at all events, the reaction is an excellent qualitative one, and, under most conditions, when carried out carefully, and with scrupulous regard to detail, it may be of great assistance from a quantitative point of view. The practical value of the reaction has certainly been demonstrated by the fact that only just before this test was devised several cases came before me personally in which pure yeast extracts had been sent to public analysts unmarked, and were reported upon by them as pure meat extract. But directly after this test had been published and public attention called to the matter, an enormous quantity of the adulterated product was withdrawn from the market, and proceedings under the Sale of Food and Drugs Act were instituted. The final report of the Royal Commission on Arsenical Poisoning has shown a very serious danger connected with the corruption of yeast extract. Four different samples of one brand were found to contain from 1/26th to 1/6th of a grain of arsenic per pound. (*Lancet*, December 19, 1903.) It is a recognised fact that in its development yeast lays hold of arsenic if present in the medium in which it is grown.

London, January 23, 1904. Ernest J. Parry.

In Mr. Searl's note to my communication, published in the *Pharmaceutical Journal*, January 23, he states that I did not follow his specific directions to boil for one or two minutes. "One or two minutes" can hardly be called a specific instruction, but seems to imply a degree of latitude which is hardly exceeded by choosing three minutes, as I did. The point, however, is of no importance, because I have tested pure meat extracts by boiling for two minutes exactly, and still obtained a large organic precipitate—blue-green in colour. Mr. Searl now admits, first that some yeast extracts give unsatisfactory results; secondly, that some pure meat extracts do give a precipitate; thirdly, that the test is in no sense of the word quantitative. As those were the points I endeavoured to prove in my paper, we seem to be in perfect agreement, and analysts are in a position to judge of the value of the test. It would be interesting to hear from Dr. Campbell Brown and Mr. Collingwood Williams details of the procedure, which, with "skill and prudence," render it a satisfactory test.

Liverpool, January 26, 1904. Herbert E. Davies.

Army "Compounders."

In the paper on "University Education for Pharmacists," by Dr. Wild, the following sentence occurs:—"The public services—the Army and Navy—should provide careers, with a well-defined professional status, for a certain number of well-qualified pharmacists, and here again the pharmacist to a military or naval hospital might well perform other scientific duties for which his training and knowledge would specially fit him." A faint gleam of hope was entertained that the Advisory Board appointed after the South African War to re-organise the Army Medical Department would have put pharmacy on a proper footing in the Army and Navy, but up to the present time we have not heard that they have even considered this question. Of course, there are many difficulties in the way, which are not apparent to the public. We may look upon the Army and Navy as made up primarily of fighting men, but in order to complete their equipment require to employ experts, who are non-combatants, such as medical practitioners, engineers, accountants, and, let us say, pharmacists. Give the latter class remuneration, promotion, and social status commensurate with their qualifications, to the seeming detriment of the former, and you raise questions in professional ethics which the War Office authorities could never satisfactorily settle. For this reason I fear the pharmacist's prototype in the Army must remain, for some time at least, simply—"Army Medical Compounder."

January 25, 1904. "Observer" (272/34).

Territorial Representation.

The subject of territorial representation on the Council being now under consideration by local pharmaceutical associations, perhaps I may be allowed to direct attention to a point which, I think, is in danger of being overlooked. It is sometimes urged that there ought to be more country chemists engaged in retail pharmacy elected to the Council, and that there are at present too many Londoners on the Council. As a countryman, who knows something of the work of the Council, I would like to point out that, instead of being an advantage, it would possibly be detrimental to the interests of the Society, and chemists generally, to reduce the number of London representatives in order to replace them by country retail chemists. For though country chemists may be willing to travel to London once each month to attend the meetings of the Council—which means at least two days' absence from their own business—they would probably find it extremely inconvenient to journey to town several times each month to be present at the meetings of the various committees and sub-committees. The result would be that the bulk of the committee work would either be relegated to the remaining London members, or crowded into the evening before, and the time available after, each Council meeting. Thus it might happen not infrequently that important business would be "rushed" to enable the country members to leave in time to catch their trains home, and it might be that had the business under consideration not been "rushed," a very different conclusion would have been arrived at—possibly to the benefit of pharmacy. However, the point I wish to bring out is, that if more country members are elected, there will be fewer London members to do the essential detail committee work, consequently a large proportion of the work of the Society would unavoidably be confined to a smaller number of persons than at present.

January 28, 1904. "A Country Chemist" (273/51).

BIRTH.

Lansdown.—On January 25, at 20, Phœnix Lodge Mansions, Brook Green, W., the wife of George Arthur Lansdown, of 9, Regent Street, Waterloo Place, S.W., architect and surveyor to the Pharmaceutical Society, of a daughter.

DEATHS.

Baxter.—On January 22, William Smith Baxter, Chemist and Druggist, Bramley. Aged 43. Mr. Baxter had been a member of the Pharmaceutical Society for many years, and for some time past had acted as Divisional Secretary.

Daubeny.—On January 23, George Daubeny, Chemist and Druggist, Bristol. Aged 50. Mr. Daubeny, who lived alone in St. Mark's Road, Easton, it is reported had not been seen since Tuesday, January 19, and as his establishment remained closed it was feared by the neighbours that something had happened. An inspector and two police-constables went to Mr. Daubeny's house on Saturday night, and effected an entrance by getting through one of the bedroom windows. In one of the back-rooms Mr. Daubeny was found sitting in a chair in an unconscious condition. He was removed to the Royal Infirmary, and death took place an hour later. It is understood that for some weeks past Mr. Daubeny had been in very poor health.

Davies.—On January 23, Thomas Davies, Chemist and Druggist, Brynmawr. Aged 71.

Deacon.—On January 22, Frederick George Deacon, Chemist and Druggist, Southsea. Aged 43. Mr. Deacon had been connected with the Pharmaceutical Society as an Associate and latterly as a member for many years.

Hutchins.—On January 22, Charles Hutchins, Chemist and Druggist, Neath. Aged 76. Mr. Hutchins, who was born on December 29, 1827, started as a chemist and druggest in Neath in 1854, and continued to conduct the business until within a few hours of his death, which was due to apoplexy. He was a widower and leaves six sons and three daughters.

Langham.—On January 22, Edwin Langham, Pharmaceutical Chemist, Peckham. Aged 69.

Pollard.—On January 21, Wilson Horner Pollard, Chemist and Druggist, Brighouse. Aged 79 years. Mr. Pollard, who was a native of Mirfield, and one of the oldest tradesmen in Brighouse, was apprenticed to the late Mr. B. Atkinson, of Brighouse, and, after a successful business career, he retired some years ago.

Smith.—On January 19, Peter Smith, Chemist and Druggist, Liverpool, formerly of Widnes. Aged 47.

Williams.—On January 25, William Parry Williams, Chemist and Druggist, Carnarvon. Aged 92. Mr. Williams was one of the most respected citizens of Carnarvon. He was a past mayor, and up to a few years ago filled one of the aldermanic seats. He was also the first Chairman of the School Board, and retained the position for some twenty years. Mr. Williams was father of Dr. W. J. Williams, Carnarvon, and of Dr. J. D. Williams, medical officer of the Roath district, Cardiff.

PUBLICATION RECEIVED.

Elementary Dispensing Practice. By Joseph Ince, F.C.S., F.L.S., F.R.M.S. Pp. xii. + 443. Price 3s. 6d. net. London: The *Chemist and Druggist*, 42, Cannon Street, E.C. 1903. From the Publishers.

REPLIES TO CORRESPONDENTS.

Information required by readers will be published in this column as early as possible, but the Editor cannot undertake to reply by post, even though stamped addressed envelopes accompany the queries. Replies will, in all cases, be referred to the sender's initials, and the registered number added in each instance should be quoted in any subsequent communication on the same subject. When formulæ are given without definite weights and measures, it should be understood that the solids are to be weighed and liquids measured. Plants for recognition should be addressed to the "Curator, 17, Bloomsbury Square, London, W.C.," accompanied by a stamped, directed envelope for reply. No notice can be taken of anonymous communications.

Registration of Ointment (R. W.—105/23).—Your question is not quite clear. Will you please send fuller information?

Smelling Salts (H. K.—105/20).—The addition of safranin, or of tincture of cudbear, should produce a permanent deep pink colour.

Sale of Poisons (F. B. B.—106/2).—The veterinary surgeon is wrong. Section XVII. of the Pharmacy Act, 1868, is binding on veterinary surgeons as well as on chemists and druggists.

Medical Institute (J. H. C.—105/13).—You should on no account recommend anyone to have anything to do with the Institute you name. It has been repeatedly exposed in the columns of *Truth*.

Methylated Spirit (A. R.—105/19).—Permission is sometimes given for the use of non-mineralised methylated spirit in the arts and manufactures. You should apply to the Excise officer in your district.

Salary (J. E. F.—105/33).—(1) £30 to £40 a year indoors; (2) £36 to £45 a year, indoors. The amount to be added for an outdoor salary varies greatly according to the locality. You might expect an additional £40 a year, perhaps, on an average.

Mixture (E. M. T.—105/15).—An almost identical mixture was the subject of investigation a few years ago by Mr. J. Rutherford Hill (*P.J.* [4], **10**, 417), who showed that nux vomica seeds frequently contained a copper salt, and ascribed the green colour to the action of ammonia on that salt.

Pyramidon (G. D. K. C.—105/17).—This is dimethyl-amido-antipyrine. It has been recommended as an antipyretic, antineuralgic, and analgesic; also for typhoid fever and asthma, the latter of which, according to one investigator, it relieves by allaying nervous irritability. In large doses it is said to increase the quantity of urine excreted.

Botanical Books (G. T. D.—105/16).—There is no periodical Journal which would suit your purpose, but one of the following books should meet your requirements:—'A Year's Botany,' Kitchener; 'Lessons from Fields and Lanes,' Grierson; 'Field Flowers,' Shirley Hibberd. See also the articles entitled "Flowers of the Month" in volume four of the fourth series, *Pharmaceutical Journal*.

Manchester Scholarship (J. P. W.—105/12).—Pendlebury's Arithmetic' is the best book to work with in the subject. You might with advantage use for practice the examination papers of the College of Preceptors in Arithmetic (Hodgson, Farringdon Street, London, post free, 7d.). We do not know any really good "synopsis" which will give you the information you require, but if you refer to *P.J.* [4], **15**, 68, you will find advice on the subject.

Helleborus Niger (C. P. W.—105/18).—*Helleborus niger* is not a British plant, although often cultivated in gardens. *H. fœtidus* and *H. viridis* are the only two British species. The plant is described and illustrated in Bentley and Trimen's 'Medicinal Plants,' Tab. 2. It is a native of mountainous woods in Southern and Eastern Europe, and the rhizomes are chiefly imported from Germany. It is described in the *Pharmaceutical Journal* [3], **7**, 610.

First Aid (W. C.—105/28).—(1) One part of boric acid should be held in solution by 25 fluid parts of distilled water at 60° F. At a lower temperature some of the acid may be expected to crystallise out. You may probably experience a difficulty in dissolving the boric acid in that proportion of water without heat. (2) You may either use a saturated solution, or a solution in which more acid is suspended, if it has previously been finely powdered. (3) A "drop" is usually understood to mean a minim. Actually, it may vary greatly according to circumstances.

Glucose in Honey (T. F. W.—105/14).—The presence of an appreciable quantity of sulphates probably indicates adulteration with commercial glucose. The B.P. test for sulphates is therefore a guide to adulteration with glucose. Again, honey adulterated with glucose does not normally contain albumin, except in traces. Natural honey does contain albumin, which may be tested for thus:—3 Gm. of honey is dissolved in 6 C.c. of distilled water, the liquid filtered, acidulated with acetic acid, and mixed with an equal volume of saturated solution of sodium sulphate or chloride. On boiling, the albumin coagulates, leaving the liquid, which was opalescent before, quite clear.

Discoloured Muzzles of Cattle (H. and B.—105/26).—The disqualification is a perfectly just one, and for this reason: Certain breeds of cattle, such as Herefords and Sussex, should have white or delicately pink muzzles, and any pigmentation is due to previous crossings. Such "outside" blood may not be within the knowledge of the exhibitor, and may be due to atavism or reversion to some long past ancestor, but, certain points having been agreed upon by the breed societies, those animals which have them not must fail in competition with such as have them. The Jerseys have black muzzles, and in them a white or red nose would probably disqualify in a breed class (not for a milking competition). The pigmentation is deep, and to get rid of it is difficult as well as dishonest.

Calendar for the Week (Jan. 31—Feb. 6, 1904).

Days of		Events of the Week.	Sun	
M	W		Rises	Sets.
31	S	*Septuagesima Sunday.*	7.43	4.43
1	M	○Full Moon, 4.33 p.m.	7.42	4.45
2	Tu	Blackpool and Fylde Chemists' Association, at 9 p.m.	7.41	4.47
		Grimsby and District Chemists' Association, at 9 p.m.—General Meeting.		
		Royal Photographic Society, 66, Russell Square, London, at 8 p.m.—Practical Demonstrations on Printing Processes.		
		Wakefield and District Chemists' Association, at 8.15 p.m.		
3	W	Pharm. Soc. G.B., 17, Bloomsbury Square, London, at 11 a.m.—Meeting of Council.	7.39	4.49
		Pharm. Soc. of Ireland, 67, Lower Mount Street, Dublin, at 3 p.m.—Meeting of Council.		
		Exeter Association of Chemists and Druggists, at 8 p.m.—Supper.		
		Newcastle-on-Tyne and District Chemists' Association, at 8 p.m.—Smoking Concert.		
		Stockport Chemists' Association, at 9 p.m.		
		Wolverhampton and District Chemists' Association.—Annual Meeting.		
4	Th	Chemists' Assistants' Association, 73, Newman Street, London, at 8.30 p.m.	7.38	4.50
		Chemical Society, Burlington House, London, at 8 p.m.—Papers by R. E. Doran, and R. S. Morrell and E. K. Hanson.		
		East Aberdeenshire Chemists' Association, Station Hotel, Maud, at 2.15 p.m.—Annual Meeting and Dinner.		
		Great Yarmouth Pharmaceutical Association, at 8 p.m.		
		Linnean Society, Burlington House, London, at 8 p.m.		
5	F		7.36	4.52
6	S	Football.—Metros *v.* War Office, 3rd.	7.34	4.54

LETTERS, NEWSPAPERS, QUERIES, and other COMMUNICATIONS have been received from Messrs. Acfield, Bane, Bayes, Beacher, Bennett, Benny, Birnie, Caulton, Clarkson, Coleman, Colley, Cox, Curnow, Cushing, Davies, Dowdy, Dunn, Eyres, Fletcher, Goldman, Greig, Gwinn, Hole, Horner, Jones, Kelf, Kerr, Knight, Maben, Macaulay, Moor, Morgan, Mumford, Ommanney, Orton, Palmer, Parry, Philp, Pitchford, Pollard, Robinson, Rose, Sankey, Shacklady, Shaw, Smith, Taylor, Thomas, Tocher, Wilson, Young.

Telegrams: "Pharmaceutical Journal London"
Established 1841
The Pharmaceutical Journal
A Weekly Newspaper for Chemists and Druggists.
The Oldest Organ of the Drug Trade in Great Britain.
Editorial Offices, 17, Bloomsbury Square, London, W.C.
Publishing & Advertising Offices, 8 Serle Street, London W.C.
Telephones: "Editor" 3230 Gerrard: "Publishers" 270 Holborn

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The Journal circulates widely in the United Kingdom, France, Germany, Austria, Italy, Russia, Switzerland, Canada, the United States, South America, India, Australasia, South Africa, etc. It is supplied regularly to the majority of the Chemists and Druggists in business in England, Scotland, and Wales, and to the whole of the members of the Pharmaceutical Society of Great Britain. Orders for Advertisements or for Copies of the Journal should be addressed to the Publishers, 8, Serle Street, London, W.C.

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Annual Subscription, 20s. Post Free; Single Copies, 4d. each, by Post, 4½d.

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CHANGES OF ADDRESS.

Instructions from Members of the Pharmaceutical Society, with reference to the transmission of the Journal, should be sent to the SECRETARY, 17, Bloomsbury Square, London, W.C.

The Pharmaceutical Journal Office.

Thursday, February 4, 1904.

For Selling Cream of Tartar containing lead, a London firm of grocers has been fined £10, including costs.

The Council of the British Medical Association has approved of, and decided to support, the Pharmacy Acts Amendment Bill.

The Duty on Catalogues exported to Australia is 3d. per lb. or fraction of a lb. Testimonials wrapped round proprietary medicines are liable to the same duty.

A Very Successful Dinner, in connection with the Tees-Side Chemists' Association, was held at Stockton-on-Tees last week. The after-dinner speeches are well worth perusal.

At Wednesday's Meeting of the Council of the Pharmaceutical Society, 103 new members and fifty-three student associates were elected, while ten persons were restored to membership.

The Last Sheets of the 'P.J. Formulary' are now in the press, and it is only the necessity of preparing the exhaustive index, now in course of compilation, which is causing delay in publication of the book.

American Cotton is the staple from which the bulk of surgical dressings are made, and the present crisis is therefore of especial interest to chemists and druggists. The price of the raw material is about 4d. per lb. higher than it was twelve months ago.

The Registrar's Report dealing with the Register of Chemists and Druggists, and relating to membership of the Pharmaceutical Society, was presented to the Council yesterday. The report also contained a summary of the year's legal work in connection with the Society.

For Selling Compound Liquorice Powder, alleged to contain an excessive amount of sulphur, a Sheffield herbalist was summoned at the local police-court under the Sale of Food and Drugs Acts, on Thursday of last week. The case was adjourned in order that a sample might be submitted to Somerset House for analysis.

The Announcement Was Made at yesterday's Council meeting of a subscription of 100 guineas to the Benevolent Fund; the subscriber is Mr. H. S. Wellcome. The Secretary also reported the receipt of a longer list than usual of contributions from local associations. A resolution expressing sympathy with the family of the late Mr. John Taylor was carried.

At Monday's Meeting of the London Section of the Society of Chemical Industry, Dr. Thorpe gave it as his opinion that the electrolytic method for the detection of arsenic is the best for purposes in which law actions are involved. The subject under the consideration of the meeting was the Report of the Royal Commission on Arsenical Poisoning.

Among the Government Measures which it is intended to discuss during the Fourth Session of the First Parliament of King Edward VII. are proposals for amending the law relating to Public Health and for dealing with the hours of employment in shops. The name of Mr. Thomas Lough, M.P., is down for ballot for priority in the introduction of private Bills.

Judgment in the "Arsenic in Beer" case was given on Tuesday. Mr. Justice Bruce held that by supplying Messrs. Bostock with sulphuric acid containing arsenic Messrs. Nicholson had committed a breach of contract: he was of opinion, however, that had plaintiffs exercised ordinary care they would have detected the presence of arsenic. The question of damages was reserved.

Mr. Justice Joyce has decided that "Absorbine" is not an invented word, and must therefore be removed from the Register of Trade Marks. This is the outcome of an action brought by Messrs. Thomas Christy and Co. and another for an injunction to restrain a Birmingham firm from selling under the name of "Absorbine" any embrocation not prepared by the plaintiffs.

The Price of Santonin has again been raised. German makers have again reduced the price of quinine, the official quotation now being 11½d A large supply of drugs, comprising old and new goods, was offered at to-day's auctions.

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MEDICAL APPROVAL OF THE PHARMACY BILL.

Members of the Pharmaceutical Society will be pleased to learn that the Pharmacy Acts Amendment Bill is to have the support of the British Medical Association. It will be remembered that a fear was expressed last year that the Bill, as it then stood, might interfere with the rights of medical practitioners, but the Council of the Society, at its meeting in October last, decided to introduce a clause which would show that the promoters of the Bill had no such intention. We learn from the *British Medical Journal* that the Medico-Political Committee of the British Medical Association, at a recent meeting, had the Pharmacy Bill under consideration, and the following letter was read:—

Pharmaceutical Society of Great Britain,
17, Bloomsbury Square, London, W.C.
October 12, 1903.

Dear Sir,—I am directed by my Council to convey to you the following Clause which it has been decided shall be inserted in any future Pharmacy Bill introduced into Parliament next session.

"The provisions of this Act shall not interfere with or abrogate any of the rights reserved by Section XVI. of the Pharmacy Act, 1868, or by Section I. of the Pharmacy Act (1868) Amendment Act, 1869."

I may say that it has never been the intention of my Council to interfere with the medical profession, and as soon as we heard that our Bill of last session was capable of bearing a different interpretation, my Council at once decided to make the intention plain, and has done so in the above-mentioned Clause. May I express the hope that the

Vol. 72. No. 3407. (4th Series, Vol. 18. No. 1754.)

Parliamentary Bills Committee of the British Medical Association may see their way to support this Society in its efforts to obtain the necessary powers for protecting the public from incompetent retailers ?

I am, yours faithfully,
Richard Bremridge, Secretary.

Chairman of the Parliamentary Bills Committee
of the British Medical Association.

The Medico - Political Committee resolved, and the resolution was subsequently endorsed at a meeting of the Council of the Association on January 20 :—

> That the Pharmaceutical Society be thanked for their communication informing the British Medical Association of the amendment which it is proposed to introduce into the Pharmacy Bill, and be informed that the Committee cordially approves the Bill so amended, and is recommending the Association to support the same.

The recommendation that the Council of the British Medical Association should support the Pharmacy Bill was worded as follows :—

> That the Council be recommended to support the Pharmacy Bill, when reintroduced into the House of Commons, subject to the amendment promised by the Pharmaceutical Society.

That recommendation also was adopted at the meeting of the Council. An amendment was moved and seconded to the following effect :—

> That no fresh legislation by the Pharmaceutical Society is satisfactory unless it secures, beyond doubt, the ancient privilege of medical practitioners dispensing their own drugs either by themselves or by their own assistants qualified or unqualified.

The amendment, however, when put to the Council, was lost. The position therefore is, that the Bill now has the cordial approval and support of the body which represents the medical men of the country. Mr. Thomas Lough, M.P., has consented to introduce the Bill again this Session. It will also be "backed" by Messrs. Ellis Griffith, E. Marshall Hall, K.C., J. Henniker Heaton, G. Macrae, J. Reid, J. F. Remnant, and J. L. Wanklyn. Mr. Lough's name occurs in the list of those members who will ballot for priority with regard to the introduction of private Bills.

A HIDDEN TREASURE.

It was announced a short time ago that the Russian Minister of Finance had offered a prize of 50,000 roubles to the person who should discover the best means of denaturing alcohol. By the courtesy of Baron R. Ungern-Sternberg, the Russian Consul-General in London, further particulars of the competition are now given. As might be expected, the first condition is that the denaturing agent must not render the alcohol unfit for technical purposes ; further, it should not be of a poisonous nature nor must it contain elements possessing caustic properties, such for instance as sulphur, phosphorus, arsenic, the halogens, etc. ; neither should the agent contain products, which after evaporation of the alcohol, or when the latter has finished burning, leave mineral deposits or solid organic residues of a nature to clog machinery or otherwise detract from its commercial application. Whatever be the agent employed it should render the alcohol unfit for drinking purposes, but at the same time should not give off a disagreeable or suffocating odour which would be likely to cause a nuisance. The substance ought, moreover, to possess denaturing properties, in the highest degree, so that only a very small quantity need be employed. It should not be costly. When the competitor has found some substance to fulfil all these requirements there are still two other points to bear in mind. Namely, there should be some sure and easy method of demonstrating the presence of the agent, and some means must be found of rendering it impracticable to procure pure alcohol from the denatured product. There is plenty of time for intending competitors to conduct their experiments, as the competition does not close until July 1, 1905.

CHEMISTS AND THE COTTON CRISIS.

The position of the cotton market is, to put it at the mildest, exciting. American cotton is the staple from which the bulk of surgical dressings are made, and, therefore, the fluctuating condition which has of late characterised the market is of especial and direct interest to chemists and druggists. The price of raw cotton on Tuesday last, the 2nd inst., stood at 8·96d. per pound or 4·08d. higher than on the same day twelve months ago. This serious rise in price is due in a very great measure to speculative influences, a great deal of gambling having been indulged in, more especially in the United States. Prices of manufactured goods, such as lint, wool, gauzes, and bandage material generally have not, at the time of writing, advanced to anything like the same extent as the raw material. Makers of wool have had stocks from which to draw, and in the case of lints, gauzes, and the like they have had the yarn-spinners between them and the cotton market. The seriousness of the situation can be gauged by the fact that it was referred to in the King's Speech to Parliament on Tuesday last in these words :—"The insufficiency of the supply of the raw material upon which the great cotton industry of this country depends has inspired me with deep concern. I trust that the efforts which are being made in various parts of my Empire to increase the area under cultivation may be attended with a large measure of success." On the evening of the same day Mr. Balfour received the following telegram :—"The British Cotton Growing Association, on behalf of Lancashire, wishes to express its grateful thanks for the attention which has been called to the serious position of the cotton supply in His Majesty's Speech from the Throne to-day."

It is estimated that to fill the world's requirements, which are yearly increasing, a crop of at least eleven million bales of American cotton is necessary. Over and above this amount large supplies of Egyptian, Indian, and other cottons are required for particular purposes. In the year ending August, 1903, the American yield was about 10,758,000 bales, being a shortage of 300,000 bales. This deficit, in conjunction with the gambling which took place in New York and New Orleans, and to a less extent in Manchester and Liverpool, caused great distress both in Lancashire and New England. As far as the present cotton year is concerned, things up to the end of November were doing fairly well. The daily receipts of cotton in the United States were full, supplies to Great Britain were larger than in the corresponding period of 1902, and the

Lancashire mills were on full time. On December 3 the Washington Bureau issued its crop estimate of 9,962,039 bales, of an average weight of 490⅕ lb. The effect on the market was instantaneous, and since then panic has been the order of the day. This, in spite of the fact that the Washington Bureau authorities had hitherto had the reputation of underestimating the crop. What the future has in store it is impossible to predict, but at the present time neither buyers nor sellers seem to know what to do. If the speculative element can be kept in check the probabilities point to lower prices; on the other hand, if the "bull" clique continues to operate, the only result can be a continual upward movement, which must eventually enhance the value of "surgical dressings" very considerably.

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AN ATLAS OF POWDERED DRUGS.

Before Professor Greenish's book on 'The Microscopical Examination of Foods and Drugs' was published, in June of last year, the pharmacists of Great Britain laboured under a great disadvantage. The necessity that they should be in a position to identify powdered drugs and to detect sophistication had for years been as obvious as the opportunities for reaching that position had been deficient. The book to which allusion has been made is acknowledged to be the most important text-book on the subject in the English language, and it may be regarded as certain that the 'Anatomical Atlas of Vegetable Powders' (Churchill, 12s. 6d.), which has made its appearance this week, will receive equal commendation and attention from pharmacists. The collaboration of Professor Greenish with Monsieur Collin, the Hanbury Medallist for 1903, has indeed been attended with the happiest results. Both authors had previously established high reputations, which were by no means confined to their respective countries. Those reputations will be enhanced by the publication of the first atlas of powdered drugs which has been produced in this country. Many of the plates, drawn by Monsieur Collin himself, have, with the connective literary matter, already appeared in the *Pharmaceutical Journal* during the past three years. It was, indeed, at the Editor's suggestion that those have now been reproduced in volume form, together with descriptions and illustrations of certain other powdered drugs.

The work may be praised with the more confidence since, in more than one instance, it has been proved by experiment that pharmacists who have never previously examined a drug under the microscope have been able to identify a powder with no other assistance than was given in the articles which have formed the basis of the present book. It has not been the intention of the authors, however, to provide in this 'Atlas' any instruction which shall serve as a substitute for tuition in the methods of histological manipulation. But as a guide to the study of the microscopic characters of drugs the 'Atlas' must prove to be invaluable. In the arrangement of the book, the first and second sections are devoted to starches and flours respectively; in the later sections leaves, flowers and flowering tops, seeds and fruits, woods, barks, rhizomes and roots, cones and bulbs, fungi, spores and glands, and finally, galls are described. While all the important powders official in the British Pharmacopœia receive attention, numerous non-official substances are included, the whole constituting a most useful and valuable addition to the pharmacist's reference library.

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MEDICINE STAMP NOTES.

The following label has been submitted to the Inland Revenue authorities by Messrs. Arthur H. Cox and Co., and returned marked "Liable to Duty":—

LITTLE LIVER PILLS.

Dose:
As a Digestive, One after Dinner.
As an Aperient, One to Four at Night.

The following label, submitted by Mr. E. W. Battle, has been officially marked, "Not liable to Duty."

THE
CELEBRATED INFANTS' COOLING POWDERS.

As prepared by the late Richd. Greaves.

Prepared by
E. W. BATTLE,
Dispensing Chemist,
81, North Street, Ripon.

We shall be glad to receive copies of other doubtful labels which have been officially marked.

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MORE ABOUT AUSTRALIAN TARIFFS.

Some particulars of the difficulties put in the way of importers into Australia of English-made goods by the Federal Customs authorities were given in a recent number of the Journal. It will be remembered that in the case of "patent" medicines duty is charged both on the medicine and on the container. Not only is this the case, but testimonials or other printed matter which may be wrapped round the bottle or box are liable to a tax of 3d. per lb. or fraction of the lb. The same tariff applies to single catalogues sent through the post at the request of a resident in the Colony. The method adopted by German exporters, and described by a correspondent to *Commercial Intelligence*, might also be serviceable to British manufacturers. It has been found much less costly to send the printed matter in bulk to one of the Commonwealth ports, whence it can be distributed by an agent; there is no reason why catalogues should not be wrapped and addressed before forwarding to the post. The primary object of this irritating tax seems to have been to prevent Australian houses having their catalogues printed in England.

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THE NEXT EVENING MEETING.

Members and student-associates of the Pharmaceutical Society are reminded that an Evening Meeting of the Society will be held in London on Tuesday next. For particulars of the papers to be read and the exhibits to be shown, reference should be made to the announcement at page 18 of the 'Inset.'

ABSTRACTS—SCIENTIFIC AND TECHNICAL

A REVIEW OF CURRENT WORK IN PHARMACOPEDICS AND ALLIED SCIENCES

Emission of N-Rays by Plants.

Edouard Meyer finds that the vegetable organism, as well as the animal, gives off N-rays in varying quantities, as may be made evident by the feebly fluorescent screen. The most marked indications are given by the green parts, such as stems and specially leaves, but the emanations are feebly detectable from the flower. Roots, bulbs, and etiolated parts also give off the rays; but the greatest radiant activity appears at the point where the vegetable protoplasm is in its most active state, or is in process of evolution. Thus with two tubes of cress sown on moist wool, one in active germination, the other only recently sown, the evidence of radiant energy was much more marked in the former, and was even obtained from the bottom of the tube, where the radicles had penetrated the wool in the course of their growth. On treating tissues in active growth with the vapour of chloroform so as to slacken their vital functions, the N-ray indications were correspondingly lessened.—*Comp. rend.*, **138**, 101.

Lead in Ammonium Carbonate.

C. T. Bennett, noticing that batches of Liquor Ammonii Acetatis sometimes contained traces of lead, even when prepared from pure acetic acid, examined in Messrs. Wright, Layman, and Umney's laboratories samples of commercial "ammonium carbonate," and found sufficient lead in some samples to give a darkening with sulphuretted hydrogen. The amount of lead in no case exceeded 1 part in 20,000.—*C. & D.*, **64**, 203.

Emission of N-rays by the Human Body.

A. Charpentier has made the sensational discovery that the muscles and nerves of the human subject emit rays which are identical in character with the N-rays of Blondlot (*P.J.* [4], **17**, 269). These rays have the property of enhancing the fluoresence of a feebly-fluorescent substance, such as barium platinocyanide, slightly excited by means of a radium salt covered with black paper and placed at a variable distance from the screen. It was noticed that this fluorescence increased markedly when it approached the body, and was greater in the neighbourhood of a muscle, especially when this was strongly contracted. The same effect was produced by proximity to a nerve or a nervous centre, where the degree of flourescence increased with the excitation of the nervous matter. In fact, the presence of a superficial nerve and its course could be traced by the effect, or its radiant emanations. These effects are observable at a distance, as well as in close proximity to the skin. The emitted rays pass through all those substances, such as aluminium, paper, and glass, which are traversed by Blondlot's N-rays, and are arrested, like them, partially, by lead or by moistened paper. Their refractive index is the same. They may be focussed by a small plano-convex lens of salt water, contained in an aluminium cupule. That these rays are really emitted and not stored up by the body during exposure to light and subsequently given off was proved by the fact that they retained their intensity unimpaired after the subject emitting them had remained in complete darkness for nine hours. Nor are they caused by the heat of the body, for they pass, retaining an unimpaired activity, through aluminium leaves or sheets of cardboard separated by layers of air.—*Comp. rend.*, **137**, 1,094.

Reaction for Nitrites.

W. A. Blunt finds that potassium ferrocyanide solution affords a delicate and convenient reagent for the presence of nitrites in drinking water, in addition to its well-known sensitive reaction with zinc in traces. With nitrites a urine-yellow tint is produced, due to the oxidation of the ferrocyanide into ferricyanide. It might even be feasible to elaborate a colorimetric method for the determination of nitrites by taking advantage of this reaction. The same reagent therefore serves to test, in one operation, for the presence of zinc, iron, and nitrites. It is pointed out that the reaction for zinc is more delicate in the presence of a trace of free hydrochloric acid.—*Analyst*, **28**, 313.

Note on the Acetates of the Alkaline Earths.

Albert Colson finds that calcium and magnesium acetate, unlike the barium salt, do not form an aceto-chloride, analogous to $BaClC_2H_3O_2$, which the author has obtained crystallised with one molecule of acetic acid. In the attempt to produce these compounds, the acetates were prepared free from water by the addition of acetic anhydride to the glacial acetic acid employed. Lime is slowly attacked by this mixture, after a lapse of time the mass greatly increases in volume, giving an amorphous mass five or six times the size of the original lime. This compound has the constitution $Ca(C_2H_3O_2)_2+C_2H_4O_2$. If a small quantity of lime be treated by boiling with a very large excess of the acid mixture the same body is obtained in small hard crystals. Pure acetic acid is completely without action on marble. Crystalline lime, obtained in the electric furnace, rapidly loses its transparency in acetic acid and increases five or six times in volume in half an hour without any great rise in temperature. It appears to become crystalline in several weeks. Acetic anhydride, although it reacts with lime in a similar manner, with the evolution of considerable heat under ordinary conditions, is quite inactive when in contact with that body in sealed, perfectly dry tubes, even at a boiling temperature. If however, a little acetic acid be added to the mixture, the lime is acted on, even in the cold, as with acetic acid alone. Probably the acid is constantly regenerated according to the equation—

$$CaO+C_4H_6O_3+2(C_2H_4O_2)=Ca(C_2H_3O_2)_2+C_4H_6O_3\cdot H_2O$$

the hydrate $C_4H_6O_3$ at once forming $2(C_2H_4O_2)$.—*Comp. rend.*, **137**, 1,061.

Valuation of Hops.

Ernst Hantke finds that the antiseptic action of hops is due to the presence of a soft resin, soluble in petroleum ether. This body possesses a more powerful antiseptic action than salicylic acid, but from its cost is not available for practical application. The quantitative determination of this soft resin serves, however, as a factor for determining the quality of hops, which should yield at least 12 per cent. of this body, together with 2·5 per cent. of tannin. The latter may be satisfactorily determined by means of Loewenthal's process. By determining the amount of ether extract in hops, before and after extraction with the wort, in the process of brewing, further indications of quality may be obtained. With good hops, at least 30 per cent. of the ether-soluble constituents is removed by the wort. The amount of water in good hops should be about 10 per cent. If this figure be exceeded, the hops will not keep well: if less than 9 per cent. of water be present, they will fall to pieces in the process of brewing. The author has detected the presence of an alkaloid in hop seeds, concerning which further details are promised.—*Zeits. ges. Brauw.*, **26**, 217, through *Chem. Centralblatt.*, **1/1903**, 1099.

THE STUDENTS' COLUMNS.

CHEMICAL THEORY.

The Basis of the Atomic Theory.

In a previous lesson ([4], **17**, 910), it has been pointed out that the theory of the molecular structure of matter explained in a satisfactory manner a great many of the properties of matter. It was also shown that accepting this theory the molecules themselves, in the case of non-elementary substances, must be of a compound nature. Now, it is manifest, since the part is necessarily smaller than the whole, that there must exist particles of still smaller mass than these molecules, that is to say, the particle of sodium in a molecule of sodium chloride must be of less mass than the whole molecule. These particles, which were until recently imagined to be the smallest portions of matter which could conceivably exist, are termed atoms, a name derived from the Greek "*a*" not, "*temno*," I cut, *i.e.*, indivisible. The atom is regarded as the unit of chemical action, just as the molecule is the unit of physical action, and may be defined as the smallest mass of substance which can be transferred from one molecule to another.

It will be the aim of the present lesson to draw attention to some of the experimental evidence on which the supposition of the existence of atoms is based, reserving the subject of the properties of atoms to another occasion. The portion of evidence to be now discussed may be conveniently dealt with in three sections:—

I.—Constancy of composition in chemical compounds.
II.—Volumetric relationship of combining gases.
III.—Relation of specific heats to atomic weights.

Constancy of Composition.

When two elements are brought together under such conditions that they can combine, it is always found that one or more of a small number of closely related compounds are produced; the particular substance or substances formed being dependent on the special conditions of the experiment. In the case of some pairs of elements only one compound can be produced, no matter how varied are the conditions of the experiment. For instance, the combination of sodium and chlorine may be brought about in a number of different ways, but in every case the compound contains 23 parts by weight of sodium to 35·5 parts by weight of chlorine. On the other hand, the combination of carbon and oxygen takes place in two ratios, and either or both compounds may be obtained by adjusting the conditions of the experiment. If the carbon is in excess the compound contains 16 parts of oxygen to 12 parts of carbon, while if the reverse is the case, the resulting compound contains 32 parts of oxygen to 12 of carbon. These figures are obtained by the analysis of the respective gases produced in the two experiments. Now, the only plausible interpretation of this constancy of proportion is to assume that portions of matter exist which do not undergo subdivision in chemical reactions, and that these indivisible portions (atoms) possess definite weights, the individual atoms of the same element all having identical weights, but differing in weight from the atoms of other elements.

Adopting this view the explanation of the above observations become simple. In the case of the sodium and chlorine it needs only to be assumed that combination takes place by the approximation of the atom of sodium to the atom of chlorine, and it necessarily follows that the proportion of sodium to chlorine can only be the same as the weight of the atom of sodium to the weight of the atom of chlorine. This view is strengthened by the fact that it affords an equally simple explanation of the second instance. We have only to regard the first oxygen carbon compound as the combination of one atom of oxygen weighing 16 with one atom of carbon weighing 12, and the second oxygen carbon compound as the combination of two atoms of oxygen, *each* weighing 16, with one atom of carbon weighing 12, and the relationship of the two compounds is at once apparent. What is meant by saying the atom weighs 16, 12, etc., is partly explained in the next column under the "Relation of Specific Heats to Atomic Weights."

Volumetric Relationship of Combining Gases.

The discovery of the simple relation existing between the volume of combining gases also furnishes a powerful argument in favour of the atomic hypothesis. It is found that the volumes, in which gaseous substances combine, bear a simple relation to one another and to the volume of the resulting product, for instance:—

1 vol. chlorine and 1 vol. hydrogen combine and form 2 vols. hydrochloric acid.
1 vol. oxygen and 2 vols. hydrogen combine and form 2 vols. steam.
1 vol. nitrogen and 3 vols. hydrogen combine and form 2 vols. ammonia

Now, as has been said, the physical properties of gases may be deduced from the ordinary principles of mechanics without any assumption, other than that matter is built up of molecules, which have weight and movement. One of the conclusions thus obtained is the statement, originally put forward as an hypothesis by Avogadro, that equal volumes of all gases, elementary or compound, measured under like conditions of temperature and pressure, contain the same number of molecules. This fact, which may be deduced without using any chemical consideration whatever, is of the utmost importance, since it enables us to compare the weights of different molecules by simply comparing equal volumes of the different substances when in a gaseous condition, and it may be utilised to show the existence of atoms in the following way:—

We know as the result of observation that 1 C.c. of hydrogen combines with 1 C.c. of chlorine to form 2 C.c. of hydrochloric acid gas. According to Avogadro's law just mentioned, the 2 C.c. of hydrochloric acid must contain just twice as many molecules as the 1 C.c. of hydrogen. Now, seeing that each molecule of hydrochloric acid contains a portion of hydrogen, there must be in the 2 C.c. of hydrochloric acid just twice as many hydrogen portions as there were molecules in the 1 C.c. of hydrogen, that is to say, each molecule of hydrogen must have been divided into two parts. To put the argument in another form, if the molecule of hydrogen had combined with the molecule of chlorine to form 1 molecule of hydrochloric acid, we should only get the same number of molecules of hydrochloric acid as we had of hydrogen to start with, that is the volume of the resulting gas would measure the same as the initial volume of hydrogen, *i.e.*, 1 C.c., which is not the case. Similarly, the molecule of chlorine must also have been divided into two portions.

It is evident, therefore, that since the molecule of hydrogen and of chlorine is divided into two parts, the molecules of at least these elements are built up of separate portions; and, as all efforts to divide the molecule of these substances into more than two portions have been unsuccessful, it is concluded that no smaller portion can be expelled from the molecule, hence these two portions are, by definition, atoms.

Relation of Specific Heat and Atomic Weight.

If in the last experiment we had weighed the 1 C.c. of hydrogen and the 1 C.c. of chlorine we should have found that:—
1 C.c. of chlorine weighed 35½ times as much as 1 C.c. hydrogen
Now, since equal volumes of gases contain the same number of molecules, one molecule of chlorine must weigh 35½ times as much as the molecule of hydrogen, and since each molecule of hydrogen and chlorine contains two atoms, it is evident that

one atom of chlorine must weigh 35½ times one atom of hydrogen. This is expressed by saying that the atomic weight of chlorine is 35·5. By analogous methods of reasoning a number has been assigned to the atom of the various elements, the numbers representing the relative weight of each variety of atom compared to the weight of one atom of hydrogen.

Now, the specific heat is the number of heat units required to raise the temperature of 1 Gm. of the particular substance 1° C. A heat unit is the quantity of heat necessary to raise the temperature of 1 Gm. of water from 0° to 1° C.

It has been found by experiment that the undermentioned elements have the following specific heats :—

Lithium.	Sodium.	Potassium.	Iron.	Silver.	Lead.
0·94	0·29	0·166	0·112	0·057	0·031

that is to say, 1 Gm. of lithium requires 0·94 heat unit to raise its temperature 1° C., 1 Gm. of sodium 0·29 heat unit, and so on. Apart from the fact that it is perhaps unexpected that the same quantity of heat should raise the temperature of equal weights of different elements to different extents, these results do not seem to possess any special significance, but if we calculate the weights of each substance which would be raised 1° by 6·4 heat units, we get roughly the following amounts :—

Lithium.	Sodium.	Potassium.	Iron.	Silver.	Lead.
7 Gm.	23 Gm.	39 Gm.	56 Gm.	108 Gm.	206 Gm.

Now, these weights bear to each other the same relation as do the weights of their respective atoms; that is to say, in a lump of lithium weighing 7 Gm. there would be the same number of atoms as in a lump of lead weighing 206 Gm., and as we have just seen that 7 Gm. of lithium and 206 Gm. of lead are raised 1° by 6·4 heat units, it is evident that to raise the temperature of the atom of lithium requires the same amount of heat as the atom of lead. This is expressed by saying the thermal capacity of an atom is constant. Accepting this conclusion, it will be seen that the reason 6·4 heat units raise the temperature of the 7 Gm. of lithium and the 206 Gm. of lead to an equal extent, is simply because these weights contain the same number of atoms. And from the fact that the specific heats, which are experimentally determined, are connected with atomic weights in the manner described, we again obtain confirmation of the existence of atoms. It should, however, be remarked that this relation is only well defined in the case of metallic elements, in most other cases it is obscured by secondary actions which are only small in metals.

While, as we have seen, there are good grounds for assuming the existence of a unit of chemical action as well as a unit of physical action, we must not suppose that the distinction between atom and molecule is of a fundamental nature, or that a molecule consists essentially of two atoms united. The molecules of mercury, zinc, bismuth, cadmium, and probably most metals, at least in a gaseous condition, consist solely of one atom; on the other hand, the molecule of phosphorus and of arsenic contains four atoms. Further, the number of atoms in a molecule is not constant for the same element at different temperatures. However, while the molecule of some substances is indistinguishable from the atom, a typical molecule is to be regarded as a system of atoms, which under special conditions unite together, and move and act as one mass; under other conditions the system is dismembered, and the identity of the molecule destroyed. In picturing to ourselves atoms or molecules we must be cautious to avoid a too literal conception of the structure of matter as indicated by the atomic theory, in supposing that these units possess all the properties of ordinary matter, and only differ in being small. It is indisputable that the atomic theory forms a very excellent working hypothesis, which, from its completeness, must approximate closely to the truth, yet we must not lose sight of the fact that the theory, or at least some of its extensions, is only a tentative interpretation of the phenomena of matter.

BOOK REVIEW.

'Elementary Dispensing Practice.' By Joseph Ince, F.C.S., F.L.S., F.R.M.S. Pp. 443. Price 3s. 6d. net. London: The *Chemist and Druggist*, 42, Cannon Street, E.C. 1903.

This little volume, for which neither author nor editor claims more than is implied in the word "elementary," is based on a collection of previously published articles, and therefore its somewhat scrappy style to a certain extent disarms criticism. A series of short chapters on dispensing generally, with special references to pills, powders, mixtures, emulsions, and suppositories form a handy little book, written in an agreeable and readable style. Grammatical allusions are interspersed throughout the subject matter, and several chapters are headed by grammatical notes. The chapter on "Precautions in Dispensing" should have been as long as any in the book; as it is, it might have been omitted altogether, as the few points it touches upon could have been introduced elsewhere. At page 127 are a dozen maxims, under the somewhat unfortunate title, "Quisquiliæ," of which several might have been replaced by better ones, or the whole supplemented by another dozen or more, equally good. The special chapters on pills, emulsions, and suppositories are excellent, and sufficiently full for the purpose intended, although a few more modern formulæ might have been introduced in place of several very old-fashioned ones. As an example, the experienced dispenser will wonder why a spermaceti emulsion has been introduced and no mention made of some of the at present popular combinations of zinc, oil, lime, etc., constantly in use; but Mr. Ince has not here written for the experienced dispenser, nor for the advanced student, and his old formulæ make excellent practice for the beginner. The examples of more or less lengthy Latin directions, now unfortunately so seldom seen, will all be useful to the young student. Altogether this little book is a very safe one to hand to the apprentice, for he will be able to read it without any great strain on his mental capacity, and it will give him a good practical introduction to his life's work. For this reason it forms a useful addition to the series it represents. Old pupils of the author will recall many an agreeable memory from a perusal of its pages, as it is full of that quaint diction and those momentary digressions from the immediate subject in hand, so characteristic of their genial old teacher.

Iodoform or Salol Gauze.

Leclair prepares a 30 per cent. iodoform gauze by the following process: — Iodoform in impalpable powder, 30; glycerin, 30; solution of mercuric chloride (Codex), *q.s.*; gauze, free from dressing, 100. Mass the iodoform with the glycerin, and gradually add sufficient mercuric chloride solution to thoroughly moisten the gauze. The iodoform should be in perfectly even suspension in the liquid. The gauze need not be wholly unrolled. It is worked about in the liquid until uniformly moistened, then drained, and partially dried in a dark place. When only just moist, it is wrapped in parchment paper. Salol gauze is prepared in a similar manner, after the salol has been dried in the stove, powdered, and sifted through a very fine silk sieve.—*Archiv. Med. Belg.*, through *Journ. Pharm. d'Anvers*, **58**, 407.

Pharmaceutical Society of Great Britain.

REGISTRAR'S REPORT.

SUBSCRIBERS TO THE SOCIETY FOR THE YEAR 1903.

	Life Compounders.	Annual Subscribers.	
		Members.	Student-Associates.
Number in 1902	439	5,295	619
„ restored in 1903	..	70	
„ elected in 1903	24	455	
	463	5,820	
Deaths, Secessions, etc.	4	221*	
Total Strength of the Society	**459**	**5,599**	**589**

*Of these, 20 have paid the life composition fee and have been transferred to the table of Life Compounders.

ANALYSIS OF EXAMINATIONS FOR THE YEAR 1903.

Number of Persons registered as "Apprentices or Students" 194

MAJOR AND MINOR EXAMINATIONS.

ENGLAND AND WALES.

Examinations.	Number of Candidates during the Year.	Number of Successful Candidates during the Year.	Number of Rejections during the Year.	Number of Examinations during the Year.	Average Number of Candidates at each Meeting.	Average Number of Rejections at each Meeting.	Percentage of Rejections
Major	64	41	23	4	16·00	5·75	35·93
Minor	1,144	352	792	4	286·00	198·00	69·23

SCOTLAND.

Examinations.	Number of Candidates during the Year.	Number of Successful Candidates during the Year.	Number of Rejections during the Year.	Number of Examinations during the Year.	Average Number of Candidates at each Meeting.	Average Number of Rejections at each Meeting.	Percentage of Rejections.
Major	8	3	5	3	2·66	1·66	62·50
Minor	532	172	360	4	133·00	90·00	67·66

THE REGISTERS OF PHARMACEUTICAL CHEMISTS AND CHEMISTS AND DRUGGISTS, 1903.

Additions during the year:—		
Number of persons who have passed the—		
Minor Examination		524
Major „	44†	
Number of persons restored to the Register on payment of a fine		48
		572

Erasures during the year:—	
Deaths	299
Erased at the request of registered persons themselves	5
Erased by the Registrar in pursuance of the provision set forth in Section 10 of the Pharmacy Act, 1868, after sending two registered letters, to which no answer has been received	217
Increase of names on the Register	51
	572

† These, having already been included in the number who passed the Minor, do not increase the numbers on the Register.

Number of Pharmaceutical Chemists on the Register, December 31st, 1903	**2,141**	
„ Chemists and Druggists	**13,436**	
		15,577

ADMINISTRATION OF THE PHARMACY ACT, 1868.

Four hundred and nine cases of alleged Infringement of the Act were investigated during the year 1903.

The following is a list of cases in which proceedings were instituted, and the result:—

	Designation of Offender.	Address.	Nature of Offence.	Result of Proceedings.	Remarks.
1	Unqualified Proprietor of a Drug Store	Marple	Keeping open shop	Two penalties paid	
2	,, Assistant to a regd. Chemist	Bradford	Selling Poisons	Confessed Judgment	
3	,, Manager ,, ,,	,,	,, ,,	Two penalties paid	Pd. prev. penlty. (branch shop).
4	,, Proprietor of a Drug Store	Bridlington	Keeping open shop	,, ,,	
5	,, Manager to a regd. Chemist	Middlesbrough	Selling Poisons	Penalty paid	Branch shop.
6	,, Proprietor of a Drug Store	New Forest	Keeping open shop	Two penalties paid	
7	,, ,, ,, ,,	London, W.	Selling Poison unlabelled	Conviction	17th Section.
8	,, Assistant in a Drug Store	,,	Selling Poison	Penalty paid	
9	,, Proprietor of a Drug Store	,,	Keeping open shop, and selling a Poison unlabelled	,, ,, Conviction	17th Section.
10	,, Manager to a regd. Chemist	London, W.C.	Selling Poison	Judgment for penalty	
11	,, Proprietor of a Drug Store	London, S.W.	Keeping open shop	Penalty paid	
12	,, Assistant to a Limited Co.	,,	Selling Poison	,, ,,	
13	,, Managing Director Ltd. Co.	Newcastle-on-Tyne	,, ,,	Two penalties paid	
14	,, Proprietor of a Drug Store	Liverpool	Keeping open shop	,, ,,	
15	,, Manager to a Ltd. Company	Birmingham	Selling Poisons	,, ,,	Pd. prev. penlty. (branch shop).
16	,, ,, ,, ,,	Darlaston	,, ,,	Penalty paid	Branch shop.
17	,, ,, ,, ,,	Walsall	,, ,,	,, ,,	,,
18	,, Proprietor of a Drug Store	Nottingham	Keeping open shop	Two penalties paid	
19	,, Managing Director Ltd. Co.	Maidstone	Selling Poisons	Four penalties paid	Pd. prev. penlties.
20	Limited Company	Glasgow	Selling Poison improperly labelled, &c.	Conviction	Notice of Appeal given and withdrawn.
21	Unqualified Assistant to a Limited Co.	Birmingham	Selling Poisons	Penalty paid	Branch shop.
22	,, ,, ,,	,,	,, ,,	,, ,,	,,
23	,, ,, ,,	,,	,, ,,	,, ,,	,,
24	,, ,, ,,	Darlaston	,, ,,	,, ,,	,,
25	Limited Company	,,	Breach of Poison Regulations	,, ,,	,,
26	Unqualified Proprietor of a Drug Store	Bradford	Keeping open shop, and breach of Poison Regulations	Two penalties paid	
27	,, ,, ,, ,,	Preston	Keeping open shop, and selling Poison improperly labelled, &c.	,, ,, Conviction	17th Section.
28	,, ,, ,, ,,	,,	Keeping open shop	Two penalties paid	Pd. prev. penalty.
29	,, Assistant to the Exors. of a deceased Chemist	Bolton	Selling Poison	Penalty paid	
30	,, ,, ,,	,,	,, ,,	,, ,,	
31	,, Proprietor of a Drug Store	Norbiton	Keeping open shop	Two penalties paid	
32	,, ,, ,, ,,	Walthamstow	,, ,,	,, ,,	
33	,, Assistant to the Exors. of a deceased Chemist	London, N.W.	Selling Poisons	Penalty paid	
34	,, Manager to a regd. Chemist	Essex	,, ,,	Summons not served	Branch shop.
35	Homœopath	Huddersfield	,, ,,	Penalty paid	
36	Unqualified Assistant to a Limited Co.	Barry Dock	,, ,,	,, ,,	
37	Grocer	Bishop Auckland	,, ,,	,, ,,	
38	,,	,,	,, ,,	,, ,,	

REGISTRAR'S REPORT—*(Continued).*

	Designation of Offender.	Address.	Nature of Offence.	Result of Proceedings.	Remarks.
39	Unqualified Proprietor of a Drug Store	Co. Durham	Keeping open shop	Judgment for penalty and costs	
40	,, ,, ,, ,,	,,	,, ,,	Penalty paid	
41	,, ,, ,, ,,	West Bromwich	,, ,,	Two penalties paid	Pd. prev. penalty.
42	,, ,, ,, ,,	London, W.	,, ,,	,, ,,	
43	,, Manager to a regd. Chemist	Castleford	Selling Poisons	Penalty paid	Branch shop.
44	,, Proprietor of a Drug Store	,,	Keeping open shop	Two penalties paid	
45	,, Assistant in a Drug Store	,,	Selling Poisons	Penalty paid	
46	,, Proprietor of a Drug Store	,,	Keeping open shop	,, ,,	
47	,, ,, ,, ,,	,,	,, ,,	Two penalties paid	
48	,, ,, ,, ,,	Co. Durham	,, ,,	Penalty paid	
49	,, ,, ,, ,,	Cumberland	Keeping open shop, and use of title Chemist	Two penalties paid	
50	Unqualified Proprietor of a Drug Store	Leicester	Selling Poison	Judgment for penalty and costs	
51	,, ,, ,, ,,	Nottingham	Keeping open shop	Two penalties paid	
52	Unqualified Manager to a regd. Chemist	Southend	Selling Poison	Penalty paid	
53	,, ,, Limited Co.	Ponders End	,, ,,	Confessed Judgment	
54	,, Director of a Limited Co.	Edmonton	,, ,,	Penalty paid	
55	,, Proprietor of a Drug Store	London, E.	Keeping open shop	Two penalties paid	
56	,, Manager to regd. Chemist	Manchester	Selling Poison	,, ,,	Pd. prev. penlty. (branch shop).
57	,, Proprietor of a Drug Store	Morley	Keeping open shop	,, ,,	
58	,, ,, ,,	Leeds	Keeping open shop, and selling Poisons unlablld.	Nonsuit Conviction	17th Section.
59	,, Assistant to a Limited Co.	Walsall	Selling Poisons	Judgment for penalty and costs	Pd. prev. penalty.
60	,, Proprietor of a Drug Store	Birmingham	Keeping open shop	Penalty paid	
61	,, Director of a Limited Co.	Hebden Bridge	Selling Poisons	Two penalties paid	
62	,, Proprietor of a Drug Store	,,	Keeping open shop	Penalty paid	
63	,, ,, ,, ,,	Glamorgan	,, ,,	,, ,,	
64	,, ,, ,, ,,	,,	,, ,,	,, ,,	
65	,, Assistant to a regd. Chemist	Grays	Selling Poison	,, ,,	
66	,, ,, ,, ,,	Edinburgh	,, ,,	Complaint not served	
67	,, ,, in a Doctor's Shop	,,	,, ,,	Conviction	
68	Oilman, etc.	Glasgow	,, ,,	,,	
69	Unqualified Director of a Limited Co.	Lewisham	,,	Four penalties paid	Pd. prev. penlties.
70	,, ,, ,, ,,	Norbiton	,, ,,	Judgment for penalties and costs	
71	,, Proprietor of a Drug Store	Nelson	Keeping open shop	Penalty paid	
72	,, ,, ,, ,,	Sunderland	,, ,,	,, ,,	
73	,, ,, ,, ,,	Castleford	,, ,,	Judgment for penalties and costs	
74	,, Assistant in a Drug Store	,,	Selling Poisons	,, ,,	
75	,, Proprietor of a Drug Store	Glasgow	Keeping open shop	Conviction	
76	,, ,, ,, ,,	Leicester	,, ,,	Two penalties paid	
77	,, ,, ,, ,,	Manchester	,, ,,	,, ,,	
78	,, Manager to a Limited Co.	Salford	Selling Poison	Judgment for penalty and costs	Branch shop.
79	,, Proprietor of a Drug Store	Yorkshire	Keeping open shop	Penalty paid	
80	,, ,, ,, ,,	,,	,, ,,	,, ,,	
81	,, Assistant to a regd. Chemist	Bradford	Selling Poisons	Judgment for two penalties and costs	Pd. prev. penalty.
82	,, Proprietor of a Drug Store	Yorkshire	Keeping open shop	Penalty paid	
83	Grocer	Leeds	Selling Soothing Syrup	,, ,,	
84	,,	,,	,, ,,	,, ,,	
85	,,	,,	,, ,,	,, ,,	
86	,,	,,	,, ,,	,, ,,	
87	Unqualified Proprietor of a Drug Store	,,	Keeping open shop	,, ,,	
88	,, Manager to a regd. Chemist and Druggist	Castleford	Selling Poison	Confessed Judgment	Pd. prev. penlty. (branch shop).
89	,, Proprietor of a Drug Store	Sunderland	Keeping open shop	Penalty paid	

REGISTRAR'S REPORT—*(Continued).*

	Designation of Offender.	Address.	Nature of Offence.	Result of Proceedings.	Remarks.
90	Seedsman	Wimbledon	Selling Nicotine Fumigator	Penalty paid	
91	Ironmonger	Strathaven	Selling Arsenical Sheep Dip	Case dismissed	Notice of Appeal given and withdrawn.
92	,,	Girvan	,, ,, ,,	Withdrawn	
93	Unqualified Manager to a regd. Chemist	Congleton	Selling Poisons	Two penalties paid	Pd. prev. penalty.
94	,, ,, ,, ,,	Matlock Bath	,, ,,	Penalty paid	Branch shop.
95	,, Proprietor of a Drug Store	Birkdale	Keeping open shop	Two penalties paid	
96	,, ,, ,, ,,	Lancaster	,, ,,	Penalty paid	
97	,, Assistant to a regd. Chemist	Earlestown	Selling Poisons	,, ,,	
98	,, Assistant to a Limited Co.	Walsall	,, ,,	,, ,,	Branch shop.
99	,, Proprietor of a Drug Store	,,	Keeping open shop	Two penalties paid	
100	,, ,, ,, ,,	Darlaston	,, ,,	,, ,,	
101	,, ,, ,, ,,	Leeds	,, ,,	,, ,,	
102	,, ,, ,, ,,	,,	,, ,,	,, ,,	
103	,, ,, ,, ,,	,,	,, ,,	Penalty paid	
104	,, Assistant in a Drug Store	,,	Selling Poison	,, ,,	
105	,, ,, to a regd. Chemist	Cumberland	,, ,,	,, ,,	
106	,, ,, ,, ,,	Cleckheaton	,, ,,	Judgment for two penalties and costs	Pd. prev. penlty. (branch shop).
107	Grocers	Suffolk	Selling Vermin Killer	Penalty paid	
108	Unqualified Proprietor of a Drug Store	Co. Durham	Keeping open shop	,, ,,	
109	,, ,, ,, ,,	Glasgow	,, ,,	Conviction	
110	Unqualified Assistant in a Doctor's Shop	Glasgow	Selling Poison	,,	
111	,, ,, ,, ,,	,,	,, ,,	,,	
112	,, ,, ,, ,,	,,	,, ,,	,,	
113	,, ,, ,, ,,	,,	,, ,,	,,	
114	,, ,, ,, ,,	,,	,, ,,	,,	
115	,, ,, ,, ,,	,,	,, ,,	Complaint not served	
116	,, ,, to a regd. Chemist	,,	,, ,,	Conviction	
117	,, ,, ,, ,,	,,	,, ,,	,,	
118	,, ,, ,, ,,	,,	,, ,,	,,	
119	,, ,, ,, ,,	,,	,, ,,	,,	
120	,, Proprietor of a Drug Store	Nottingham	Keeping open shop	Penalty paid	
121	,, ,, ,, ,,		,, ,,	,, ,,	
122	,, Manager to a regd. Chemist	Chester	Selling Poison	,, ,,	Branch shop.
123	,, ,, to a Limited Co.	Yorkshire	,, ,,	,, ,,	,,
124	,, ,, ,, ,,	Leeds	,, ,,	,, ,,	,,
125	,, ,, ,, ,,	Morley	,, ,,	Summons not served	,,
126	,, Proprietor of a Drug Store	Yorkshire	Keeping open shop	Two penalties paid	
127	,, ,, ,, ,,	Bradford	,,	,, ,,	
128	,, Manager to a Limited Co.	Yorkshire	Selling Poison	Penalty paid	Branch shop.
129	,, ,, to a regd. Chemist	Huddersfield	,, ,,	Withdrawn on payment of costs	,,
130	,, Proprietor of a Drug Store	,,	Keeping open shop, and use of title Chemist	Two penalties paid	
131	Herbalist	,,	Keeping open shop	,, ,,	
132	Unqualified Proprietor of a Drug Store	Cleckheaton	,, ,,	,, ,,	
133	,, Manager to a regd. Chemist	Bradford	Selling Poisons	Penalty paid	Branch shop.
134	,, ,, ,, ,,	,,	,, ,,	,, ,,	,,
135	,, Assistant in a Drug Store	Walsall	,, ,,	,, ,,	
136	,, Proprietor of a Drug Store	Co. Durham	,, ,,	,, ,,	
137	,, Manager to a regd. Chemist	Erith	,, ,,	Summons not served	Branch shop.
138	,, ,, ,, ,,	Motherwell	,, ,,	Conviction	,,
139	,, ,, ,, ,,	Glasgow	,, ,,	,,	,,
140	,, Assistant ,, ,,	,,	,, ,,	,,	,,
141	,, Proprietor of a Drug Store	Hull	Keeping open shop	Penalty paid	
142	,, ,, ,, ,,	,,	Use of title Chemist	,, ,,	
143	,, ,, ,, ,,	Yorkshire	Keeping open shop	,, ,,	
144	,, ,, ,, ,,	,,	,, ,,	Four penalties paid	Pd. prev. penlties.
145	,, Assistant in a Drug Store	,,	Selling Poisons	Two penalties paid	
146	,, Proprietor of a Drug Store	Dover	Keeping open shop, and use of title Chemist	,, ,,	Pd. prev. penlties.
147	,, Manager to a regd. Chemist	Erith	Selling Poison	Confessed Judgment	Branch shop.
148	Limited Company	Rochester	Breach of Poison Regulations	Penalty paid	
149	Unqualified Assistant in a Drug Store	London, E.	Selling Poison	Case pending	
150	Ironmonger	Maybole	Selling preparation of Corrosive Sublimate	,, ,,	
151	,,	,,	,, ,,	,, ,,	

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN.

MEETING OF THE COUNCIL.

WEDNESDAY, February 3, 1904, at 17, Bloomsbury Square, London, the Vice-President, Mr. C. B. Allen, in the chair. Other members present were Mr. Walter Hills (Treasurer), and Messrs. Carteighe, Cooper, Corder, Cross, Currie, Gifford, Harrington, Newsholme, Park, Southall, Symes, Wootton, and Young.

Illness of the President.

The Vice-President said he was extremely sorry to say that the President was laid aside by a temporary illness of a painful character, but, it was hoped, not a serious one. They had received a letter that morning to say that Mr. Atkins was somewhat better, and he was sure his colleagues all hoped the President would soon be restored to good health. He might mention that this was the first Council meeting that Mr. Atkins had missed during his very long connection with the Council, and he thought that was a record in that respect.

The Late John Taylor.

The Secretary officially reported the death, on January 20, of Mr. John Taylor, who for the past three and a-half years had been a member of the Council.

The Vice-President said, arising out of that communication, he had a somewhat sad duty to perform. He was quite sure that every member of the Council must have come to the meeting that morning with a sense of personal loss, and he thought that any words he could say would not do sufficient justice to the man whose death they had to deplore. He would like, first of all, to say that he had received a communication from the President, who was exceedingly sorry that he was unable to be present, as he would like to have made reference to Mr. Taylor who, he said, came on the Council as an unknown man, without wealth or position, but in a very short time won for himself the respect and esteem of all his colleagues—first by his power of clear thought, next his cogent faculty of expression, and the high principles which actuated all that he said and did. Mr. John Harrison also wrote regretting his non-attendance for many reasons, but chiefly because he should not be present to express his appreciation of the high character and ability of their late friend, Mr. John Taylor, and the deep sense of the loss which the Society and the Council had sustained by his death. Mr. Harrison also wished to express his earnest and sincere sympathy with the family. Mr. Storrar had also written to the same effect. The Vice-President, continuing, said he should like to direct attention to the testimony of one of their colleagues, Mr. J. Rymer Young, in last week's issue of the Journal (see *ante*, p. 118). Nothing more correct and appropriate than that could be told of Mr. Taylor. Unfortunately, Mr. Taylor was not their colleague long. He came to the south as an unknown man, but it was evident that he had made himself conversant with all that pertained to pharmacy, and the eloquence with which he entered into discussions and the beauty of his language immediately impressed his colleagues, and Mr. Taylor quickly won his way into their hearts. He could say a great deal about their estimation and respect for their late colleague, but he thought it would be unnecessary in face of the resolution he should ask the Council to pass. He would like to say, however, that a man of greater honour never applied himself to public debate—he was the soul of honour, was John Taylor, and one or two circumstances had occurred, even during his short period as a Councillor, which had stamped him as a man of high principle. Soon after his election to the Council Mr. Taylor gave up his retail business and accepted an appointment with a large firm not engaged in pharmacy. He immediately placed his resignation in the hands of the President, and had it not been for the earnest wish of the President and his colleagues Mr. Taylor would then have resigned. It was his (the Vice-President's) privilege, together with other members of the Council, to pay a last mark of respect to Mr. Taylor by travelling to Bolton to attend his funeral. While at Bolton it was his privilege to listen to one of the most eulogistic testimonies of Mr. Taylor's worth that he had ever heard—the testimony of the minister of the church to which Mr. Taylor belonged. The minister spoke of the good work done by Mr. Taylor in many ways, quite outside pharmacy, and it was perfectly evident that the memory of his work in Bolton would live as long as the present generation, for, judging from the number of young people present at his funeral, he seemed to have won his way into the hearts of hundreds of young people in Bolton. The resolution he (the Vice-President) had to move was:—

> That the members of this Council receive with the deepest regret the intelligence of the death of John Taylor, who for the past three and a-half years has been a valued and esteemed colleague and fellow-worker. His services as a Councillor have been marked by that earnestness, sincerity, and manliness which characterised all he did, and the sterling nobility of his individuality was beautifully exemplified by his patience in the time of difficulty and his heroic fortitude in the hour of death. The character and example of John Taylor will live long in the hearts of his friends, and deserve affectionate preservation in the memories of his fellow-chemists. The Council desires to tender its sincerest sympathy with the family of Mr. Taylor, and orders that a copy of this resolution be forwarded to Mrs. Taylor.

The Treasurer (Mr. Walter Hills), in seconding the motion, said he wished to associate himself very closely with all that the Vice-President had so eloquently said and with all that their colleague Mr. Rymer Young has written about their departed colleague. Only since his connection with the Council had he the pleasure of acquaintance with Mr. Taylor, but that short time had been ample to convince him that the Council and the Society had lost by his early and deplored death a very valued member, and to convince him also that the Council had lost a man with a clear head, an unprejudiced mind, generous heart, and very exemplary character.

Mr. YOUNG, in supporting the motion, expressed regret that, owing to illness and the rapidity with which the end came, he was unable to carry out a promise made to Mr. Taylor to visit him again after telling his colleagues of his precarious condition.

Dr. SYMES, as one of those who attended the funeral of Mr. Taylor, said that what he heard there convinced him that Mr. Taylor was not only a valued member of the Society and Council, but was most deeply respected by an immense number of persons in his own town. He recalled a conversation some years ago with Mr. George Woolley, of Manchester, who said that if ever the Society had Mr. Taylor on the Council they would have a good man. Events had shown that Mr. Taylor was a man of strong character, and while holding strongly to his own opinions, had regard for the feelings of others who might be of a different opinion.

The resolution was then put and carried in silence, each member of the Council rising in his place.

It was resolved to postpone the appointment of a member of Council in place of Mr. Taylor till the March meeting.

Government Visitor's Report on the Examinations in Edinburgh.

The VICE-PRESIDENT said a letter had been received from the Privy Council office, enclosing the report of the Government Visitor on the examinations of the Society held in Edinburgh during the year 1903. (See *ante*, p. 119.)

The Secretary was instructed to forward a copy of the report to the Boards of Examiners.

Retiring Councillors.

The SECRETARY reported that the following members of Council will retire in rotation in May next:—

ALLEN, CHARLES B.
ATKINS, SAMUEL R.
CORDER, OCTAVIUS.
CURRIE, WILLIAM L.
GIFFORD, RICHARD L.
NEWSHOLME, G. T. W.
ROBINSON, RICHARD A.

Restorations to the Society.

Several persons were restored to the Society upon payment of the current year's subscription.

Restorations to Register.

The following persons having made the required declarations, and paid the restoration fee of one guinea, were restored to the Register of Chemists and Druggists:—

Colling, Herbert ; 5, Baker Street, Brighton
Hayes, Frederick ; 59, New Briggate, Leeds
Heslop, George ; 36, The Gardens, East Dulwich, S.E.
Marrow, Alfred Charles ; 6, Millbay Road, Plymouth
Rees, Rees ; Point Pharmacy, Durban

Election of Members.

The following persons having tendered their subscriptions for the current year were elected members of the Society:—

Adams, Frank R. ; Fulham
Arnold, Harry S. ; Cwmavon
Assinder, Leslie ; Walsall
Avery, Cuthbert J. ; Leicester
Bamforth, Cyril B. ; Linthwaite
Barltrop, Georgina E. ; Walthamstow
Baxter, Henry ; Dunfermline
Bayley, Arthur W. ; Brighton
Beach, William B. ; Bridport
Billington, John J. ; Birmingham
Bowen, Frederic T. ; Merton
Brand, Thomas H. ; Clapham
Briggs, Thomas S. H. ; Burslem
Bruce, John ; Edinburgh
Bullard, Archie ; East Dereham
Campbell, Robert S. ; Wimbledon
Cawkell, George A. ; Acton
Caws, Hilda B. ; Bloomsbury
Clarke, Arthur S. ; London
Crosdale, Robert M. ; Oldham
Cruickshank, George M. ; Larbert
Davie, George M. ; Dundee
Davies, Benjamin P. ; Stepaside
Daykin, Albert E. S. ; Clay Cross
Dinwiddie, Edward J. ; London
Downing, Eldred P. ; Chislehurst
Fereday, Ernest A. ; Bridgtown
Fletcher, Harold G. ; Eckington
Galbraith, Thomas H. ; Glasgow
Golightly, Alfred W. ; Sunderland
Gower, Percival T. ; Tunbridge Wells
Graham, Robert M. ; Blackpool
Griffiths, Morgan L. ; Greenheys
Gwatkin, Laurence ; Brighton
Haigh, William S. ; Wyke
Hawkins, Gilbert H. ; Dulverton
Hayes, Frederick ; Leeds
Hearder, Henry N. ; Plymouth
Henderson, Robert ; Edinburgh
Hill, William T. ; Chorley
Hitchen, Robert, jun. ; Burnley
Hough, Bernard G. ; Sale
Hume, Robert ; Glasgow
Hutcheon, John ; Edinburgh
Isaac, William ; Kidwelly
Ivimey, Harold E. W. ; Southampton
Jacques, Percy ; Manchester
Jenkin, Baldwin H. ; Helston
Johnstone, James H. ; Glasgow
Jones, Daniel T. ; Swinton
Jones, John E. ; Beaumaris
Jones, Thomas A. ; Pontardulais
Jones, Thomas C. ; Connah's Quay.
Jukes, Bernard C. ; Muswell Hill
Kendrew, William H. ; Southport
Kirby, Francis B. ; Bishopston
Kirby, William ; Scarborough
Leek, Percy J. ; Belgravia
Lester, George Henry ; Dunstable
Lund, Frederick A. ; Flaxton
Macdonald, Charles A. ; Hounslow
McPhail, John ; Newcastle-on-Tyne
Mangion, Joseph ; Valletta, Malta
Marrow, Alfred C. ; Plymouth
Nimmo, William ; Sunderland
Noddings, Arthur W. ; Leeds
Payne, William H. ; Clapham
Penman, David ; Lochgelly
Philpot, Philip H. ; Walsall
Pratt, George H. ; Lockwood
Ramsay, William A. ; Lochee
Rees, Alcwyn ; Lee Green
Rees, Rees ; Durban, Natal
Reid, Alexander S. ; South Shields
Rich, Edward T. ; Bridgend
Richards, John ; Swansea
Robb, William R. ; Aberdeen
Roberts, Haworth ; Manchester
Roberts, William G. ; Llanfairfechan
Roper, H. C. ; Newcastle-on-Tyne
Shaw, Edgar P. ; Birstall
Smith, Ernest H. ; Gosport
Smith, William H. ; Batley
Snell, James S. ; Accrington
Sowden, William ; Shipley
Stout, Harry ; Pendleton
Taylor, W. G. ; Tunbridge Wells
Thompson, George W. A. ; Fulham
Todd, James W. ; Sunderland
Tomlinson, T. McN. ; Poulton-le-Fylde
Trattles, William E. ; Whitby
Turnbull, William, London
Uttley, Walter ; Manchester
Wade, Alfred ; Harlesden
Wakeham, Horace N. ; Helston
Waldron, James J. ; Hanley
Walker, Fredk. G. C. ; Bloomsbury
Westmoreland, W. H. ; Chatham
Wilson, William ; Ossett
Witchell, Robert W. ; Blaenavon
Wood, Isaac ; Peckham
Yates, John ; Blackburn
Young, Arthur E. ; Leicester

Election of Student-Associates.

The following persons having tendered their subscriptions for the current year were elected student-associates of the Society:—

Adams, Hubert ; Shrewsbury
Arnfield, Thomas O. ; Harlesden
Baynes, Edward S. ; Harrogate
Beardsley, William J. ; Birmingham
Bell, John T. ; Newcastle-on-Tyne
Bernini-Palmer, George W. ; Exeter
Bosworth, S. McGregor ; Bedworth
Boultbee, Charles E. ; Sutton
Bowen, Thomas R. ; Ammanford
Bratley, Arthur L. ; Pontefract
Bromhall, Herbert J. ; Uppingham
Campbell, Jean M. ; Edinburgh
Clarke, Alfred W. ; Southampton
Cogan, Richard A. ; London
Cutajar, Charles ; London
Darmanin, Emmanuele ; London
Deacon, Walter ; New Swindon
Dobie, Robert F. ; Glasgow
Drake, Arthur M. ; Bradford
Fillingham, Bryan ; Grantham
Gallop, Frank ; Poole
Gibson, Eustace G. ; Burgess Hill
Hart, Herbert S. ; Birmingham
Harvey, Harold M. ; Dover
Holman, John E. R. ; Topsham
Horton, George ; Stratford-on-Avon
Jenkins, Lewis E. ; Portmadoc
Johnstone, James A. ; Bourne
Jones, William H. ; Hengoed
Joyce, Theobald U. S. ; Liverpool
Lenton, Gerald ; Thrapston
Liley, George ; Hanley
Marsden, Herbert A. ; Darwen
Mason, George John ; Welshpool
Morgan, Henry J. ; St. Clears
Morrill, George F. ; Sutton
Nichols, Edgar ; Northampton
Pierson, G. H. ; Tunbridge Wells
Ridges, Richard H. ; Wolverhampton
Ridley, James F. ; Rothbury
Rigg, Henry ; Wolverhampton
Robinson, Reuben ; Blaenavon
Salter, Joseph E. ; Herne Hill
Sanders, Richard V. ; Nottingham
Schramm, Felix J. ; London
Shelmerdine, Henry ; Manchester
Smith, Charles ; Hexham
Smith, H. A. ; New Wandsworth
Spouse, H. A. ; St. John's Wood
Sturton, David A. ; Cambridge
White, Henry P. ; Bournemouth
White, William H. ; Cheltenham
Whiteley, Frederick W. ; Ripponden.

Diplomas.

The undermentioned being duly registered as Pharmaceutical Chemists were respectively granted a diploma, stamped with the Seal of the Society:—

Chalmers, Edward
Cooper, Walter M.
Cranshaw, Walter W.
Gale, Percy
Harbordt, Paul H.
Ridehalgh, Lincoln
Sweetman, Robert V.
Watt, George G.

Registrar's Report.

The SECRETARY then presented his report on the Registers for the year 1903 (see page 151), and he also read the following—

SUPPLEMENTARY REPORT ON THE REGISTERS.

"The special efforts to keep the statutory Registers as free as possible from inaccuracies have been maintained, and every opportunity has been utilised to induce registered persons to take an interest in, and recognise the importance of, the correctness of these official lists, which are by Statute constituted legal evidence of qualification. Under Section X. of the Pharmacy Act, 1868, no fewer than 736 registered letters were last year sent out to chemists and druggists who have failed to keep the Registrar acquainted with their whereabouts; whilst, in addition, 555 special communications have been forwarded to persons whose change of address was discovered through the instrumentality of the divisional officers of the Society. The amount of detail work in connection with the maintenance of the Registers may be gathered from the following particulars of the transactions during the past year:

Summary.

Erasures from the Registers	584
Additions to the Registers	624
Alterations of Address	1,640
	2,848

"It might be pointed out that these figures refer solely to the statutory Registers, and do not take into account the very much larger volume of consequent erasures, re-entries, and amendments in the various records in charge of the Registrar.

"The figures given in the concluding portion of my report show an increase on those of the preceding year. The bald reporting of summaries does not, however, afford an adequate basis for realising the amount of detail work involved in maintaining the Registers, and I feel impelled to give one illustration of what lies under the surface. Take the item "Erasures from the Registers—584." The first stage in the process thus summarised in the report is the issue and forwarding of ten thousand extra copies of the Journal to registered persons not associated with the Society. Then comes the classifying and recording of copies returned through the post, endorsed "Gone away" or "not known"—usually between five and six hundred. The third stage consists of preparing, in duplicate, a list of the persons whose addresses are unknown, and carefully checking such list with the Register of members and the list of subscribers to the Benevolent Fund, with a view to avoid the erasure of the name of any person who has been in recent communication with the office. Those who are identified by this scrutiny are at once written to and asked for instructions respecting their registration addresses. In the fourth place I take the scrutinised and modified list and arrange for the preparation of the first issue of registered letters in pursuance of Section X. of the Act of 1868. In 1903 there were 457 letters in this first issue, and each one contained a written statement of the full name, address, and qualification of the addressee. Moreover, to comply with the Post Office regulations, a list (in duplicate) of the registered letters tendered for posting has to be prepared. Stage five comes six months later, when the second batch of registered letters is issued, and the procedure of the first posting is repeated as required by the Statute. The sixth operation is to classify the registered letters returned through the post, and to prepare a list of persons who are to be erased. When the list has been checked and scrutinised by the various departments in my office the actual names are struck out from the official Register, from the official interleaved printed copy of the Register, and from the printer's copy of the same book. The final stage is reached by the removal of the erased names from the classified card Register (kept for the purposes of local organisation), and my report that so many have been removed is prepared.

"Similarly, the 'Additions to the Register' involve at least eight operations for each addition, and every alteration of address necessitates six different entries. I may say that if I had the labour available further check entries might be made with possible advantage to the increased efficiency of the registration work.

"In Parliamentary organisation distinct progress has been made during the year under review. With the aid of information supplied by Divisional Secretaries and obtained from other sources, a Parliamentary Register has been compiled upon the card system, and a record now exists, properly classified, of every M.P. in Great Britain, with particulars of his party politics, his majority at last election, his views on the Pharmacy Bill, the name of the Divisional Officer for his constituency, and the name of any specially influential constituent who could, in case of need, approach him on our behalf. At the recent bye-elections in various parts of the country all the candidates were approached and asked to express their views in regard to the draft Pharmacy Bill, and in the event of a General Election our present Parliamentary organisation would, I feel confident, prove invaluable."

Mr. **Newsholme** moved that the Registrar's report be entered in the minutes and published in the *Pharmaceutical Journal*. He thought the members of the Council and the Society were to be congratulated very sincerely on the large increase of members during the past year. In addition to the figures before the Council, there was a considerable number of members and student-associates elected in January, and there had also been a large number elected that day. He did not know that it was necessary to say much about the increase, but he might say that members of the Council had for some years past been impressing upon the members of the craft the importance of becoming members of the Society, so that the Council would have behind it the majority of the chemists of the country whenever it approached Parliament for any amendment of the Pharmacy Act. There was one point to which he would like to direct attention; that was the increase in the number of student-associates. Some few years ago, when the Preliminary Examination was abolished, there was a tremendous falling off in the student-associates, and it was thought by some persons that they would never come back again. He was pleased, however, to note that the list of student-associates was steadily growing, and he believed that as the result of the new conditions regulating the entrance to the Society's examinations a better stamp of apprentices would be obtained. The report before the Council was gratifying in that there was not only a large influx to the Society, but also because of the fact that chemists were taking far more interest in the well-being of the craft than ever before.

Mr. **Harrington** seconded the motion.

Mr. **Carteighe** congratulated the Registrar and the executive officers of the Society on the admirable results of their co-operation and work. It had been his duty on many occasions to remind members that a large part of the work of the Society was administrative, and the work that had been done from the London and Edinburgh offices was of a highly administrative order. The large increase in the number of members was due to the efforts of the Secretary and his staff and the Assistant-Secretary in Edinburgh. There was also one other officer—the Editor—who was partly responsible for the increase. He believed that the rearrangement of the Journal, the changes in the Journal staff, and the production of the 'Formulary,' which was now very nearly ready, had produced an extremely good effect among the members of the trade at large. Of course, the old feeling that the Council should not touch matters on the border-line of trade must die out. In the early days they were afraid of touching the interests of other bodies, but it was now felt that if the Society, as a corporate body, did not look after the individual interests of its members, those members might one day come to live on the body corporate. The Society did for Great Britain what in almost every Continental country was done by the State directly, and the Society was, therefore, practically a department of the Government, and he thought its actions merited the approval of all right-minded men. But every individual unit must be represented on the Council, and it was not only subscriptions that were wanted, but the power, in addition to the subscriptions, of the men behind them.

Mr. **Wootton** said he thought the list of names of those to be struck off the Register should be published as formerly.

Mr. **Newsholme** said he omitted, when moving the adoption of the Registrar's report, to give the figures showing the position as compared with the previous year—there was an addition at the present time of 409 members, which might be said to be an increase upon an increase, as there was an increased membership last year.

Mr. **Park**, referring to the list of prosecutions under the Pharmacy Act, said that most of the cases were taken under Section 15, and he regretted that there were not more cases under Section

17. He felt sure that if more cases were taken for offences against Section 17 by drug companies it would result in an increased membership. One of his former assistants had recently written to him, giving particulars of a business which was at one time conducted by a qualified man, but was now under the control of an unqualified manager. He thought proceedings should be taken in such cases, and means taken to bring them to the notice of the craft.

Dr. SYMES asked if the assistant referred to had informed the Registrar, because many people spoke of unlawful acts going unpunished who never took the trouble to inform the Registrar about matters which came to their notice.

Mr. PARK said the assistant had probably written to him with a view to his bringing the matter before the proper authorities.

Dr. SYMES: We want to induce people to communicate with the Registrar.

Mr. CURRIE said he had read the report of the Registrar with considerable interest, and—it was perhaps another Scotch grumble—he thought they felt rather aggrieved in the North that whenever any Scotch cases arose they were always exposed in the public courts, whereas in England an offender had the opportunity of paying the penalty without going into court. He thought it was hardly fair that the Pharmacy Act should apply in different ways in different parts of Great Britain. "I know," said Mr. Currie, "that it causes a considerable amount of ill-feeling that we poor people in the North have got to be exposed, while you in the South can pay £5 and escape the exposure."

Mr. CARTEIGHE: You say "we." We do not break the law; or, if we do, as Chairman of the Law Committee, it will be my duty to take action.

Mr. CURRIE said he meant those who broke the law. Continuing, he said it was very unfortunate that sometimes—and here again it applied more particularly to the Scotch courts rather than the English—when action was taken the cases were not followed up. He instanced the Hamilton case, in which the Sheriff held that the name of the informant should be divulged. That case had given rise to considerable dissatisfaction, and he thought that the Council ought to have gone on with that action. He maintained that the Sheriff had no right to insist on the source of the information being made public. He did not know whether anything could be done to make the 1868 Act apply in Scotland as in England, but in the event of a new Act he thought an attempt should be made to make its provisions apply alike in all parts of the country.

Mr. CROSS expressed surprise that it was a grievance with the people of the North that offenders against the Pharmacy Act in England could avoid public exposure by paying the penalty. He had always regarded it as an English grievance that unqualified people in England could break the law continuously without the public knowing anything about it. He considered that was one of the enormities of the Pharmacy Act which needed amendment. He must say that he sympathised with Mr. Park in advocating that more cases should be taken under Section 17, so that the offenders would be hauled to the police-court, instead of to the county-court, where only civil actions were heard, and sometimes were not made public. He congratulated the Registrar upon the great increase in the student-associates. It used to be that the first thing an apprentice did was to become connected with the Society, and in that way much subsequent grumbling was avoided in regard to the acceptance of certificates. He was pleased to see that the son of a chemist in Shrewsbury had that day followed the old plan, and had been elected a student-associate.

Mr. HILLS said he was sorry Mr. Park had spoken in the way he had, because he had made a general charge, and the information he had might very well have been brought before the Law Committee, when every particular would have been fully considered. He had been a member of the Law Committee, and also of the General Purposes Committee, which formerly dealt with legal matters, and every case was considered very fully and impartially in every way. It was very difficult to define what was meant by "stores" and "companies"; the question was whether, in the opinion of the Law Committee, the law had been broken, and, if so, in what way the offender could be punished for the good of the public. He hoped that the information Mr. Park possessed would be put before the Law Committee.

Mr. YOUNG said there was really nothing in the Pharmacy Act, 1868, which made any difference in its application in Scotland and in England. If there was anything different, it was due to the peculiarity of the Scotch law, and the Council had often regretted that it could not take cases in Scotland as would be done in England. But he thought it was much better to make all cases public than to have penalties paid secretly. If Mr. Currie had a grievance it was not against the Pharmaceutical Society or the Pharmacy Act, but against the common law of Scotland.

Mr. CARTEIGHE said the common law of Scotland was definite, and the way in which penalties were to be recovered was specified. The Scotch law very properly said that where penalties were to be recovered the person must appear in court, and he thought it would be a very good thing, not only in regard to penalties, but also in the matter of debts, if that applied in England. Indeed, he had risen to congratulate Mr. Currie that the law in Scotland brought offenders into the courts; also to protest against the observation that there was any differentiation between the administration of the Act in Scotland and in England. The recovery of penalties was different.

Dr. SYMES: We get much larger penalties in England than in Scotland.

Mr. CARTEIGHE, continuing, admitted that larger penalties were obtained in England, and he doubted whether sheriffs in Scotland would allow expenses as they were allowed in England. He thought that when a member of the Council was present when the report of the Law Committee dealing with the particular case mentioned was adopted—he was not quite sure whether Mr. Currie was present on that occasion—and the Council thought that the judgment of the Law Committee was right, it was not for that member to get up afterwards in open Council and express doubts. Because someone in Scotland had complained, it was not for a member of the Council to come there and blurt out that something that the Council had decided was wrong. With regard to Mr. Park's remarks, the trouble was that in nine cases out of ten it was not Section 17 that was broken, and unless there was an offence how could proceedings be taken? Such matters were too trivial, and the open Council was not the place to discuss them. While the Council had powers to prosecute, those powers could only be exercised as a department of State, and with due regard for the protection of the public. If anything was done to depart from that and any vindictiveness was shown, the Council would lay itself open to the charge that it was not fit to have the administration of the Pharmacy Act.

The Registrar's report was then formally adopted.

Finance Committee Report.

The report of this Committee was as follows:—

January 27, 1904.

Mr. Robinson in the chair.

Present:—Messrs. Allen, Atkins, Carteighe, Harrington, and Hills.

1. The Secretary submitted the following statement of the accounts:—

General Fund:—	£	s.	d.	£	s.	d.
Balance (December 30) ..				1,477	14	9
Receipts:—						
Penalties and costs ..	92	15	6			
Restoration fees ..	7	7	0			
Subscriptions	1,813	17	6			
Registration fees ..	113	8	0			
'Pharmaceutical Journal Formulary' Subscriptions, On account of..	450	0	0			
School fees	67	17	0			
Rent — 15, Bloomsbury Square..	54	17	4			
Transferred from Deposit Account	2,000	0	0	4,600	2	4
				6,077	17	1
Payments authorised by the Council ..				2,690	12	9
Balance..				£3,387	4	4

General Fund:—
Amounts recommended for payment:—

	£	s.	d.
Examinations	482	11	7
On behalf of the Journal	479	5	4
School	38	14	2
House	210	16	7
Calendar	21	0	0
Law charges..	34	3	1
Stationery, etc.	54	10	8
Salaries	172	18	4
Current expenses..	350	0	0
Museum and Library	22	15	8
	£1,866	15	5

Benevolent Fund (Current Acount):—						
Receipts:—						
Subscriptions				640	13	11
Ground rents and dividends				221	11	7
				862	5	6
Adverse balance (Dec. 30)	£255	9	5			
Payments—Grants ..	96	0	0	351	9	5
Balance..				£510	16	1

Benevolent Fund—Amounts recommended for payment—			
Printing	2	10	0
Receipt Books	8	11	6
	£11	1	6

Benevolent Fund (donation account):—	5	5	0
Balance (December 30)	£219	13	6
Donation			
Balance..	£224	18	6

Orphan Fund Receipts:—			
Balance (December 30)	£86	13	5
Subscriptions	1	16	6
Balance	£88	9	11

The Committee ordered the sum of £2,000 to be placed on deposit account at the bank.

(2) The Committee examined the accounts and found them to be correct, and in accordance with the foregoing statement.

Recommended.—That the Treasurer be requested to pay the amounts indicated.

R. A. Robinson (Chairman).

Mr. Carteighe, in the absence of Mr. Robinson, moved that the report and recommendations of the Finance Committee be received and adopted.

The Secretary reported that immediately after the last Council meeting he had addressed a circular letter to every Divisional Secretary directing attention to the condition of the Fund as disclosed by the statement of the Chairman of the Benevolent Fund Committee, and had urged each one of them to endeavour to obtain subscriptions from the 10,000 registered persons who are non-subscribers. Referring to the balance in hand on the Benevolent Fund account he said it must not be attributed to that circular as there had not been time for its effect to be felt. The comparatively large amount which had been received during the last month was due to the fact, that 1,630 members had paid their annual subscriptions to the Society and the Benevolent Fund as against 1,052 last year. Assuming that the contributions to the Fund would bear the usual ratio to the amount of members' subscriptions, £392 would have been received for the Fund, with those 1,630 membership subscriptions last month. As a matter of fact, £640 had been received, but as that amount included two special subscriptions of 100 guineas each from two individuals, he thought he might regard the amount received as £430, only £38 in excess of the amount that would have been received under normal circumstances, and this increase was to a large extent due to contributions from persons who were old subscribers, and not from those whose sympathies he was anxious to enlist. A good portion of the money already received was what might be called prospective income, inasmuch as it had been sent in earlier than usual, and there was, therefore, every reason why there should be no relaxation in the efforts to secure more subscribers. He wished to acknowledge the assistance that Mr. J. Rutherford Hill had rendered in response to his request. Mr. Hill had taken an active part in obtaining subscriptions, and had forwarded a subscription list amounting to £46 14s. In addition to the subscription of one hundred guineas announced last month, they had received one for a similar amount from Mr. H. S. Wellcome, and several subscribers had sent in special contributions in addition to their subscriptions. The following amounts had also been received from local associations:—

	£	s.	d.
Western Chemists' Association (of London)	8	8	0
Cardiff and District Pharmaceutical Association...	2	13	0
Edinburgh Chemists' Trade Association	2	2	0
West Ham and District Chemists' Association ...	2	0	6
Stockport Chemists' Association	1	1	0
Barnsley and District Chemists' Association	1	1	0
North Staffordshire Chemists' Association	1	0	0
Chemists' Assistants' Association	0	17	5

Mr. Harrington said, in regard to the Western Chemists' Association, it was reported that at the smoking concert where the eight guineas were collected there was "an exceptionally large attendance." The actual number of persons present was twenty-three, and several of those were visitors. He wished there had been a larger attendance, because those who contributed had already subscribed to the Benevolent Fund, but in response to an appeal made by Mr. H. Cracknell that they should follow the excellent example set by Mr. Carteighe, the amount mentioned was raised.

Mr. Corder seconded the motion for the adoption of the report, and it was carried unanimously.

Benevolent Fund.

The report of this Committee included the recommendation of grants to the amount of £115 8s., in the following cases:—

Widow of a chemist and druggist subscriber. 41. Oxford. Had a previous grant.

Widow of a pharmaceutical chemist. 65. Clapham. Had previous grants.

Member and former subscriber. 68. Twickenham. Had a previous grant.

Widow of a chemist and druggist. 56. Lower Edmonton. Had previous grants.

Widow of a chemist and druggist who had grants previous to his death. 70. Bradford.

Widow of a chemist and druggist subscriber. 73. Manchester. Had previous grants.

Former member and subscriber. 57. Ipswich. Had previous grants.

Widow of a chemist and druggist subscriber. 75. Glasgow. Had a previous grant.

Widow of a chemist and druggist. 39. Greenock.

Widow of a member and subscriber. 67. Harleston. Had a previous grant.

One case was not entertained.

The Vice-President moved that the report and recommendations of the Committee be received and adopted. He emphasised the remarks of the Secretary as to the necessity for every effort being made to increase the number of subscribers to the Fund, and again pointed out that it is subscriptions, and not large donations, that are required most at the present time.

Mr. Newsholme seconded the motion, which was carried unanimously.

Library, Museum, School and House Committee Report.

The report of this Committee was as follows:—

January 13, 1904.

Mr. Atkins, President, in the chair.

Present—Messrs. Carteighe, Harrington, Hills, and Robinson.

1. The Committee received the usual monthly statements respecting the Society's Libraries and Museums in London, and particulars of these are published in the *Pharmaceutical Journal* for January 16, 1904.

Messrs. Parkinson and Son's account for £44 12s. 6d., for work done during the month, was submitted, approved, and referred to the Finance Committee.

3. The Committee authorised the purchase of a duplicate series of opium-smoking appliances for the Museum.

4. School.—The staff attended and reported. The Dean reported that he had selected Mr. J. T. Cart to succeed Mr. Bennett as Demonstrator in Pharmaceutics. The Committee recommends that Mr. Cart be appointed accordingly.

The Committee authorised the provision of a cupboard under the distillation table in the Laboratory for the purpose of storing volumetric stands.

The question of the proposed Board of Studies in Pharmacy in connection with the London University was further discussed, and the staff indicated the terms of a further communication which might appropriately be addressed to the Senate. The staff was requested to draft the suggested communication, and submit it to the President.

5. Remits.—Consideration of the two remits from the Council, respecting the Society's requirements in Preliminary Knowledge, was deferred.

6. Calendar.—The Committee recommends that the usual honorarium of twenty guineas for work done in connection with the editing of the Calendar be paid.

S. R. Atkins (President), Chairman.

On the motion of the Vice-President the report of this Committee was adopted.

Appointment of Council Prizes Examiners.

The following gentlemen were appointed to conduct the Pereira Medal and Council Prizes Examinations in April:—Professor Harvey-Gibson, Professor Jackson, and Mr. R. Wright (Buxton).

Report of Examinations.

The following report on the January Examinations was presented:—

	Candidates. Examined.	Passed.	Failed.
England and Wales.			
Major	20	8	12
Minor	293	116	177
	313	124	189
Scotland.			
Major	1	0	1
Minor	123	38	85
	124	38	86

Certificates by approved examining bodies were received from fifty-four persons desirous of registration as apprentices or students.

Proposed Committee on Education and Examinations.

The Vice-President, in the absence of the President, brought forward a series of motions of which the President had previously given notice. He said he was sorry the President was not able to be present to deal with the matter personally, but, fortunately for him (the Vice-President), the subject was one of which he had some knowledge, gained in co-operation with the President. The Vice-President then explained that since Mr. Atkins had been President he had been impressed with the necessity for some means whereby the Council would be brought into closer contact with matters dealing with education and the examinations. He referred to the discussions which took place some time ago, when Mr. Newsholme was President, and a resolution was passed by the Council that a joint committee on education and examination be formed, consisting of four members of the Council, two examiners nominated by the Board of Examiners in London, and two by the Board of Examiners in Scotland, with the President and Vice-President as *ex-officio* members. It had been found that there was some difficulty in getting that "hybrid committee," as it was termed, to work satisfactorily, hence the President had given notice of his intention to move that that resolution be rescinded, and that a committee of the Council be appointed to consider all questions relating to pharmaceutical education and examinations, and to report to the Council from time to time. The Vice-President described the difficulties that had been found to exist, and in the course of an eloquent speech pointed out the advantages of such a committee as that proposed. The President had suggested that the committee consist of Messrs. Carteighe, Currie, Glyn-Jones, Hills, Robinson, Symes, Storrar, and the President and Vice-President.

Mr. Carteighe seconded the proposition. He thought the proposed committee would be able to do useful work, and he did not think that even their past-President, Mr. Hills, would have any objection to it, nor yet Mr. Newsholme, notwithstanding the fact that it was proposed to "rescind one of his babies." Mr. Carteighe went on to show how the conditions regulating the examinations have altered, and that a committee such as the one proposed was necessary.

Mr. Newsholme, while still of opinion that his scheme was workable and by far the best in the circumstances, expressed his willingness to abide by the decision of the Council, and to try loyally to make the proposed committee a success.

Mr. Hills also spoke in favour of the proposal. He thought that the committee, as an advisory body, might do some useful work.

Dr. Symes mentioned that this was not altogether a new proposal, because a similar committee was appointed in the days of Mr. Schacht, and it presented a report which was extremely valuable. If there was a necessity for such a committee in those days, when the percentage of failures was about 50, he thought there was much more need now that the percentage of failures was about 75.

Mr. Cross pointed out that the proposed committee would be a standing committee of the Council, and not a temporary committee, such as that referred to by Dr. Symes.

It was then unanimously agreed that the following resolution of the Council, passed at its meeting on July 2, 1902, be rescinded:—

> That a joint Committee on Education and Examinations be established, consisting of four members of the Council, two examiners nominated by the Board of Examiners in London, and two by the Board of Examiners in Edinburgh. The President and Vice-President to be *ex-officio* members of the Joint Committee.

It was also resolved that a committee of the Council be appointed to consider all questions relating to pharmaceutical education and examinations, and to report to the Council thereon from time to time, and that the committee consist of Messrs. Carteighe, Currie, Glyn-Jones, Hills, Newsholme, Robinson, Symes, Storrar, and the President and Vice-President.

Appointment of Divisional Secretaries.

The following gentlemen were appointed Divisional Secretaries for the divisions mentioned:—Mr. Murton Holmes for Croydon, and Mr. H. S. Cox for Northamptonshire East.

Forthcoming Sanitary Congress at Glasgow.

Mr. W. L. Currie was appointed to represent the Society at the forthcoming Congress of the Sanitary Institute at Glasgow.

Correspondence.

Letters were acknowledged from the Decimal Association in regard to the compulsory adoption of the decimal system, and from the Harrogate and District Pharmaceutical Association, conveying a resolution urging the Council to be as energetic as other bodies in their efforts to influence the Board of Inland Revenue.

Parliamentary Committee Report.

The report of this Committee was read as follows:—

February 2, 1904.

Mr. Michael Carteighe in the chair.

Present—Messrs. Allen, Hills, Gifford, and Wootton.

> The Chairman reported that he had had an interview with Mr. Lough, M.P., on Monday, July 25, on the subject of the introduction of the Pharmacy Bill into the House of Commons. He had been accompanied by Mr. Robinson, Mr. Wootton, and Mr. Holding, and as a consequence of the representations then made Mr. Lough had consented to again introduce the Bill.
>
> The Secretary reported that the efforts of the Executive of the North British Branch had resulted in the names of two Scottish Members of Parliament being added to the back of the Bill. The following are the names of the "backers" of the Bill:—
>
> Thomas Lough, M.P., West Islington.
> E. Marshall Hall, K.C., M.P., Southport.
> J. F. Remnant, M.P., Holborn.
> Ellis Griffith, M.P., Anglesey.
> J. L. Wanklyn, M.P., Bradford.
> J. Henniker Heaton, M.P., Canterbury.
> J. Reid, M.P., Greenock.
> G. Macrae, M.P., Edinburgh East.

Mr. Carteighe said the report was simple a statement of what has been done to carry out the resolution passed by the Council that steps should be taken to introduce the Pharmacy Bill into Parliament. Members of the Council would be pleased to hear that Mr. Lough, both at the meeting referred to in the report and at the recent dinner of the London Chemists' Association, promised to give the Bill his active support. Mr. Lough was one of those men who had a backbone, and he was capable of fighting, if necessary. In these days it was useful to have someone possessing those qualities, because there was a tendency on the part of members of Parliament to be amiable men and to sit still. Mr. Lough was a "fighting man," in the sense that he had the courage of his convictions, and the ability to express them; he was also a man of business, a man of affairs, and a thoroughly earnest man. He thought the Council was to be congratulated on having got Mr. Lough to give the Bill his support. Before he sat down he would like to express the obligation of the Council to the London Chemists' Association for the assistance they had given to the Society by securing the interest of so many members of Parliament in the Pharmacy Bill; also to the Executive of the North British Branch in getting the support of the two Scotch members.

The Vice-President was about to declare that the public business was concluded, when

Mr. Cross said that it had been Mr. Gifford's intention to bring forward the matter of the appointment of an organising secretary, but he had been obliged to leave for home on account of indisposition.

TEES-SIDE CHEMISTS' ASSOCIATION.

ANNUAL DINNER.

Wednesday, January 27, 1904, at the Royal Hotel, Stockton-on-Tees, the President, Mr. R. R. Bainbridge, in the chair, supported by the Mayor of Stockton-on-Tees (Ald. J. Harrison), Ald. Clarkson (West Hartlepool), Mr. G. T. W. Newsholme, ex-President of the Pharmaceutical Society, and others.

The loyal toast having been honoured, Mr. W. R. Brackenbury proposed the toast of

The Pharmaceutical Society.

No chemist, he said, could now reasonably say that his interests were neglected by the Society. They could congratulate it on the way it had tackled the new medicine stamp regulations. They were all anticipating with keen interest the publication of the 'Pharmaceutical Journal Formulary.' They were still further interested in the forthcoming Compendium of Medicines which would be published in due course, and they believed that that work would meet a long-felt want. Of the *Pharmaceutical Journal* he need hardly say any more than that it was the best journal that was offered to chemists, and if a chemist took it he might go so far as to say that he required no other. With regard to the Pharmacy Bill, from which so much was expected, he regretted that its progress in the House of Commons had been so slow; no doubt there were some gentlemen present who thought it would never get through till they got a new Government. They could not help but admire the way the promoters of the Bill were sticking to their guns, especially over the much-disputed qualified directors' clause. He regretted the state of the Benevolent Fund. He trusted every chemist would do his part to help to replenish the empty coffers of the Fund. He had great pleasure in coupling with the toast the name of Mr. Newsholme.

Mr. Newsholme thanked the Vice-President for the kind manner in which he had proposed the toast, and those present for the hearty way in which they had received it. For a considerable time he had taken the keenest interest in provincial associations, and he was glad to find that on Tees-side in such a flourishing condition. If chemists were to advance at all it must be by union, and it had been most gratifying to him during the past few years to see the great increase in associations throughout the country. They had before them a very great task. They had never had anything approaching their rights as educated men. There was no class of educated men who had greater obstacles to overcome, or had succeeded so little as the chemists of this country. When they considered the responsibility that lay upon every individual pharmacist they knew perfectly well that they did not get that recognition that they were entitled to. They had hitherto done a great deal of work in objecting to and preventing obnoxious legislation, not only obnoxious to themselves, but of great disadvantage to the public at large. For instance, they had prevented obnoxious legislation which he thought probably ere this would have come about in reference to the Poison Committee's report. But it was not well for them to be always trying to obstruct legislation. What they wanted to be prepared to do was to go in for some constructive legislation. Unless all chemists belonged to the Pharmaceutical Society, and put it in the position it should occupy there was no hope or chance of them improving their position at all. It was an unfortunate thing they had only about one-third of the craft as members of the Society. [Now almost two-fifths.—Ed. *P.J.*]. It was true the membership was increasing, but they were not making the strides they ought to do. They were told over and over again when they interviewed members of Parliament with respect to the Pharmacy Bill that they did not represent the chemists of the country, but they replied: "We represent the best chemists of the country." He appealed for a greater interest in the Benevolent Fund. He asked for both money and energy for the work. The *Pharmaceutical Journal* had been referred to by the Vice-President, and he concurred with what he said of it. He was pleased with the Journal at the present time. It was always more or less a good journal, but in the past it was devoted, perhaps, too much to scientific affairs, rather than to the requirements of the craft. Now they had got not only the scientific affairs dealt with, but also the requirements of the craft. With regard to the question of the Compendium, it was the intention of the Council to have the work brought right up-to-date. He thanked them again, in conclusion, for the kindly reception they had given him.

Other Toasts.

Mr. J. Gregory proposed "The Medical Faculty," and Dr. Miller replied. Ald. Clarkson gave "The Stockton and Middlesbrough Corporations," to which the Mayor of Stockton responded, and the toast list concluded with that of "The Tees-side Chemists' Association and Kindred Associations," which was proposed by Mr. Gibson (West Hartlepool), and acknowledged by Mr. A. Lee and Mr. A. Timmins.

Admirable arrangements for the comfort of the guests were made by the Honorary Secretaries, Messrs. W. Finlayson and Mr. E. Dennis Owen.

SOCIETY OF CHEMICAL INDUSTRY: LONDON SECTION.

ORDINARY MEETING.

Monday, February 1, 1904, at Burlington House, Piccadilly, W., Mr. Walter F. Reid in the chair.

Mr. Julian L. Baker gave a *résumé* of the report of the Royal Commission on

Arsenical Poisoning.

This commission, it will be remembered, was appointed in 1901 in consequence of an epidemic which occurred during the previous year from the consumption of arsenical beer, particularly in the Manchester district. The final report was issued in December last, and an abstract duly appeared in the *Pharmaceutical Journal* [4], **17,** 873.

Mr. Baker, in the course of his paper, touched on the question of the elimination of the poison from the system through the hair, and the suggestion that the tropical disease known as "Beri-beri" might be due to arsenical poisoning. Methods of estimations, manufacturers' precautions, and the effect of fuel were other points briefly dealt with.

During the discussion which followed, Dr. Thorpe stated that though the electrolytic method for the detection of arsenic had become the method employed in the Government laboratories, it was not the official method. He recommended this method as a very suitable one where lawsuits were involved; the zinc and acid method was liable to so many doubts, and was open to so many attacks in a court of law. For everyday purposes there was little to be said against the intelligent use of this latter method. As regards materials used in brewing, he was convinced that the sugars employed for this purpose were, to all intents and purposes, free from arsenic. The invert sugar and glucose were manufactured in bond under the supervision of a representative of the Inland Revenue authorities. Referring to malt, he said that immediately after the 1901 scare there was no doubt that malts were prepared of a high degree of purity; since then, however, varieties of malt had come into the market which were not so free from arsenic as they might be. The amount of arsenic present was not very large, but he had met with samples which contained more arsenic than that which was allowed by the Commission—namely, 1/100 grain per lb. Later in the evening (on the question of the purity of foreign materials arising), Dr. Thorpe mentioned that even imported glucoses were tested.

Mr. Gordon Salamon referred to his experiences of the Manchester inquiry. What was required during the epidemic was not necessarily the most delicate test that could be devised, but one which would be sufficiently delicate to discover the presence of arsenic in dangerous quantities, and at the same time capable of ready and certain application. Reinsch's test answered these requirements. Turning to the consideration of the recommendations of the Royal Commission, he wished it had seen its way to insist on the de-arsenication of sulphuric acid prepared from pyrites. He also spoke in favour of the substitution of anthracite for coke in the drying of malt; the utmost care, however, should be used in the selection of anthracite.

Mr. Grant Hooper, referring to the fuel question, suggested that manufacturers should be induced to cure malt by some method whereby the malt need not be attacked by the fumes from the fire.

Dr. Friswell added to the interest of the discussion by describing the results of experiments on sewage, soot, and London air some thirty years ago.

Dr. Thorne considered the Marsh-Berzelius test a very reliable one, especially if zinc, properly purified, is used. He also urged the importance of selecting anthracite free from arsenic.

Mr. Pearce, in the course of a few practical remarks, said that whilst the standard of not more than 1/100 of a grain of arsenic per lb. might be a desirable limit for foodstuffs, he did not think it either practical or necessary in the case of other materials. He did not think the Legislature would put manufacturers to the trouble of purifying certain chemicals to such an unnecessary degree.

Dr. Hehner, being pressed by the company to give his views, rose somewhat reluctantly to his feet. The matter had been under discussion, he said, for about four years, and he did not think that anything new remained to be said. Speaking of the electrolytic method, he said it was very excellent in theory, but theory was not what they wanted. It was very nice of people to say patronising things about the zinc and acid method; but there was no need "to pat it on the head and allow it to live, for it will live."

The Chairman having made a few brief remarks, Mr. Baker touched on one or two points which had been raised, and the meeting adjourned.

THE ANNUAL GENERAL MEETING

will be held in New York on September 8. The programme of arrangements, together with other particulars, has already been issued. From September 7 to 12 will be occupied in the vicinity of New York. On September 12 the party leaves New York for Philadelphia. Washington will be the next place visited, and then Pittsburg. Five days will be passed at St. Louis. The itinerary further includes Chicago, Detroit, Niagara Falls, Buffalo, and Boston. The estimated cost per member will be about £50, not including the transatlantic voyage.

INSTITUTE OF CHEMISTRY.

JANUARY EXAMINATIONS, 1904.

At the Intermediate Examination of the Institute of Chemistry, fifteen candidates presented themselves, of which number eleven passed, namely :—S. W. Collins, D. C. Crichton, Harold Deane, B.Sc. (Lond.); C. Dickinson, B.Sc. (Vict.); J. A. Goodson, H. W. Goodwin, A. G. Holborow, C. James, H. E. Laws, R. Park, and E. Rhodes, B.Sc. (Vict.).

At the final examination for the Associateship (A.I.C.), four candidates presented themselves in branch "E"—the analysis of foods, drugs, and water, with an examination in therapeutics, pharmacology, and microscopy—and the following three were successful :—J. H. Ball, B.Sc. (Vict.), H. S. Shrewsbury, and H. E. Watt, M.Sc. (Durham). In mineral chemistry, four candidates passed out of six, and in organic chemistry, six out of eleven.

For the Fellowship, three candidates were examined, and two passed, namely :—H. Hibbert, M.Sc. (Vict.), in organic chemistry; and E. W. Lucas in the analysis of food and drugs, etc.

A final examination in all branches, except that of biological chemistry, will be held at the laboratories of the Institute, commencing on April 12, 1904, provided that a sufficient number of candidates enter their names for the same. Applications should be forwarded to the Registrar, Institute of Chemistry, 30, Bloomsbury Square, London, W.C., not later than February 23.

WAKEFIELD AND DISTRICT CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Tuesday, February 2, 1904, at the White Horse Hotel, Wakefield, Mr. Whaley in the chair.

Mr. F. Pilkington Sargeant, of the Leeds College of Pharmacy, read a paper on

Division of the Minor.

He said it was not sufficient that the pharmacist should have a superficial knowledge of the drugs and chemicals which he handles. He should possess the whole halo of knowledge which surrounds detail. The grocer sells washing soda; he knows its price and its appearance. Can he say why it will not remove inkstains? Can he discuss its preparation and purification, its commercial uses, and its hundred and one domestic applications? Could he, in other words, enlighten a moderately-intelligent working-man on any point which might arise concerning this commodity? He could not, and yet he is prepared for "complete living" as a grocer because no moderately intelligent working-man would question a grocer about anything but purely trade topics. It is here where the great difference exists between the tradesman and the chemist. The chemist is not prepared for "complete living" unless his knowledge is comprehensive. In advocating a division of the Minor Examination it is not intended to advocate a lowering of the standard of the examination, or a relaxation of the stringency, but simply a more equitable means of ascertaining the value of the education of the candidate. The examiners who conduct the Minor Examination have a most onerous task, but to the candidate must go the bulk of our sympathy. Two practical subjects and five theoretical subjects must be passed in one week. The candidate is kept in the highest possible state of tension during the intervening days, and more often than otherwise concludes his examination in a state of nervous prostration. The examination, as at present conducted, does not fulfil its function; it does not weed out the unfit nor does it select the fit. Fit and the reasonably unfit are almost indiscriminately selected. For this state of affairs the system of examination is solely to blame. The ability and fairness of the examiners are above suspicion. A divided examination would prevent to some extent the alternate passing and failing of a candidate in one subject by the same examiner—a truly Gilbertian proceeding. If it were considered desirable to retain an examination having a duration of two days the division could take place in such a manner that on the first day the candidate should be examined in pure science—say practical chemistry in the morning and theoretical chemistry, botany, and physics in the afternoon. Having once successfully negotiated this he could proceed in not less than three or six months to be examined in applied science and technology—say practical pharmacy and dispensing in the morning, pharmaceutics, materia medica, and prescription reading in the afternoon. Such a division of the Minor Examination would benefit the Pharmaceutical Society by removing a source of discontent which has a lasting effect. It would benefit the examiner, who would meet candidates more thoroughly prepared, and having a sounder education. It would benefit the candidate, to whom the ordeal should not be so trying, and whose knowledge would be more real, not consisting, as it often does at present, of a "miserable mass of mere memoranda."

Mr. Chaplin said that the course shadowed by Mr. Sargeant might enhance the expense of preparation, but it was well worth serious consideration.

Mr. Duffin asked if Mr. Sargeant did not consider that the professional examination accounted for a large amount of the failures?

Mr. Pickard (Ossett) considered that a contributory cause to the long list of failures was the system of cram. He was of opinion that when a student had passed in one subject he should not be required to again do so.

Mr. Peacock and Mr. Jackson approved of Mr. Sargeant's suggestions.

Mr. Whaley was doubtful about the wisdom of dividing the examination. It might, however, be made optional for a student to be examined in certain subjects, and his passing in them should stand to his credit.

Mr. Sargeant, in replying to the various points raised, said that the expense of the examination would be greatly reduced if young men were not so foolish as to leave the facilities offered by the technical schools unutilised. He considered it was the duty of every chemist to impress upon his apprentices the fact that regular attendance at the technical school would make the task of passing examination easier and more economical. With regard to the professorial examiners, he said that all he had known were perfectly fair, and he was opposed to replacing them by pharmacists.

On the motion of Mr. Judson, seconded by Mr. Glyde, a hearty vote of thanks was accorded to the reader of the paper.

Mr. Sargeant suitably acknowledged the compliment. He afterwards exhibited a specimen of radium blende, and gave an interesting dissertation on this latest scientific discovery.

CHEMISTS' ASSISTANTS' ASSOCIATION.

ORDINARY MEETING.

Thursday, January 28, 1904, at 73, Newman Street, London, the President, Mr. A. B. Britton, in the chair.

Mr. Lownsbrough (Recorder) mentioned several recent additions to the pharmaceutical products on the market, and changes in the names of various articles handled by chemists.

A Talk to Chemists.

Dr. C. A. Swan then addressed a few pertinent and common-sense remarks on the subject of "first-aid" by chemists. He said there were certain little practical details in life which applied to chemists and doctors alike, but particularly to chemists, who were often called upon to assist in emergencies. Therefore he thought he might place before those present a few points which he had found practicable. Of course, it might be said that the ordinary accidents of life ought to go to the hospital, and not to the chemist, but experience showed that many cases were taken to the chemist pending the arrival of a doctor, and the first canon he would lay down was, "Be careful to do no harm."

Poisoning Cases.

Corrosive Acids.—Referring to cases of poisoning by corrosive acids, such as sulphuric, nitric, and hydrochloric acids—which could usually be detected by the marks around the mouth—the best thing to do was to prepare a mixture of magnesium carbonate and olive oil, and make the patient drink it. On no account must the patient be laid down, because the acid would get on the posterior surface of the stomach, where it would afterwards be difficult to get at it. For poisoning by acids such as oxalic and tartaric, magnesia was good. The great thing in poisoning cases of this kind was, if possible, to prevent collapse, because death generally occurred from pneumonia, due to shock to the system; another point was not to mix the magnesium or sodium carbonate with any other liquid than oil. With regard to carbolic acid, the nature of the poison could, as a rule, be detected by the smell, but if a very dilute solution had been taken, or if the person had been drinking, the characteristic smell was difficult to detect. But there was one interesting feature about poisoning by carbolic acid, and that was the fact that it was accompanied by all the signs of opium poisoning with collapse, while vomiting and pain were often absent. For carbolic poisoning, olive oil and magnesia.

Caustic Alkalies.—In cases of poisoning by caustic soda or caustic potash, the best thing to give was vinegar.

Mineral Poisons.—The safest antidote for poisoning by arsenic was a strong dose of ferric hydroxide, while for antimony poisoning he had found that ten minim doses of opium and tincture of cinchona given to a child suffering from the effects of teething-powders containing antimony would save its life, if it were made sick afterwards. For mercury—calomel—poisoning white of egg was the antidote usually recommended, but as eggs were not part of the stock of the pharmacy, the chemist might very well give a solution of potassium iodide, preferably in milk. In the event of pure mercury being swallowed, it was absolutely harmless, because there was no absorption, and it would go through the system; but people generally got terribly alarmed if mercury was accidentally swallowed, and the best thing to be done was to calm them by stating there was no immediate danger, and recommending a visit to a physician. With regard to lead poisoning, the trouble could be got over by administering a solution of magnesium sulphate.

Opium.—The amount of opium which might be taken without harm by some adult persons was enormous, but in dangerous cases of opium poisoning he had found that the best antidote was a strong hypodermic injection of caffeine and strychnine, followed by keeping the patient on the move.

Chloroform.—If a chemist was consulted in regard to a case where chloroform had been swallowed up to one ounce there was little or no danger, the only effect being to make the patient drunk; but in cases where chloroform had been taken with more serious results artificial respiration should be resorted to and kept up until the patient recovered; a hypodermic injection of strychnine should also be given.

Chloral and Cocaine.—Referring to chloral poisoning, Dr. Swan said they all knew of the deplorable state of the law in regard to the sale of poisons. It was possible for a person possessing a prescription ordering chloral to obtain any quantity of the drug, consequently a chemist might often be asked to act in a case of chloral poisoning. In such a case the worst possible thing to administer was ammonia, because, in some way which he was unable to explain, ammonia accelerated the effect of chloral. He had found that a hypodermic injection of digitalis and strychnine was the best antidote, and the same remedy applied to cocaine poisoning. The reason for administering a mixture of digitalis and strychnine was that collapse usually followed cocaine poisoning, and if strichnine was given alone, though it had a momentary effect, it accelerated the exhaustion and death followed quickly; but the digitalis helped to steady the heart's action, and was extremely beneficial.

The chief points he wished to impress upon those present were:—(1) Be careful to induce vomiting even before the arrival of a doctor; (2) try to neutralise the poison; (3) use common sense; (4) try to stop the person dying and await results.

Unconsciousness.

In cases where persons are brought to the pharmacy in an unconscious condition, Dr. Swan said: "Do not give stimulants; they may do harm. A cold-water bandage on the head will do more good."

Fits.

With regard to people brought in apparently in a fit, it might be that the person was shamming; if so, that could easily be ascertained by inserting the tip of the finger into the patient's eye. If the person was an impostor he would flinch, but if it was a genuine case the patient would give no sign of feeling. In that case hypodermic injection of strychnine should be given.

Hæmorrhage.

In cases of internal hæmorrhage the chemist could do very little, but the bleeding of cuts and wounds could be stopped by pressure of the finger on the wound, or a pad might be put over it and pressure applied till the arrival of a doctor.

Broken Limbs.

The chief thing to remember in dealing with broken limbs was that the muscles were normally in a state of tension, and when a bone was broken the two ends overlapped. Hence the limb must not be moved, otherwise a simple fracture might become a compound fracture. The thing to be done, therefore, was to extend the limb to its normal position, and to keep it so extended. The best splint for a broken leg was the other leg, and in the case of a broken arm it should be pulled out and kept in that position till the arrival of a doctor.

Matter in the Eye or Ear.

If asked to remove any foreign matter from a person's eye, the chemist should make the patient sit down; stand behind him, pull the head back, and drop a little cocaine in the eye; then evert the eyelid and carefully apply a camel-hair brush previously washed in water. In the case of insects getting into the ear, the most effective means of removing them was to place a little chloroform on cotton wool and hold it to the ear. The chloroform would kill the insect, which might then be removed by careful syringing along the posterior wall of the canal of the ear. Next, be careful to thoroughly dry the ear.

In the course of an interesting conversation which followed Dr. Swan's remarks, the subject of repeating physicians' prescriptions was discussed, and Dr. Swan said that, after hearing what had been stated, he should make it a rule to mark all his prescriptions containing morphine, chloral, cocaine or strychnine, "Not to be repeated." He suggested that chemists should speak to all medcal men with whom they were familiar, pointing out the desirability of ordering their prescriptions not to be repeated.

A vote of thanks to Dr. Swan terminated the proceedings.

LIVERPOOL CHEMISTS' ASSOCIATION.

ANNUAL MEETING.

Thursday, January 28, 1904, the PRESIDENT, Mr. R. C. Cowley, in the chair.

Mr. Edwin Thompson, Croxteth Road, of Messrs. Thompson and Capper, was unanimously elected a member of the Association.

The retiring members of the Council were all re-elected.

Miscellaneous Communications.

The report of the Secretary was read and the Treasurer's statement received. These being satisfactory, were unanimously adopted.

The PRESIDENT announced that the catalogue of the Library of the Association was being reprinted, and would soon be in the hands of each member of the Association.

Mr. BUCK announced that he had pursued his investigations with the mixture containing syrup of squills, dilute nitric acid, and solution of morphine, and had been able to make a good mixture.

Mr. LENTON also mentioned that he had conducted some experiments on the same prescription.

Mr. COWLEY showed a bottle containing a large deposit of silica consequent upon dilution of dilute phosphoric acid contained in it. He had never remarked such a large deposit of this kind before, and no information was forthcoming either as to the history of the acid or the reason for so large a deposit.

The PRESIDENT then called upon Mr. Wyatt to give his lecture on

A Journey in Spain.

Mr. WYATT proceeded to give his experiences during a journey to Vittoria, in the province of Alava, in Northern Spain. Travelling from Liverpool by way of Bordeaux, and thence by rail through the Pyrenees, the incidents of the journey were described and the highly picturesque character of the countries traversed was dwelt upon. The town of Vittoria, besides its associations of the Peninsula War period, contained many features of historic interest to commend itself to travellers, and the hospitable disposition of Spaniards generally was such as to render a visit to any part of their too-little-known country an uncommonly agreeable treat. In the older part of the town the various trades were seen to be grouped each in a separate street, as was the custom in England with the guilds in mediæval times, and the numerous churches, convents, and other historic buildings, in addition to the old houses themselves, were found to be filled with choice architectural details and evidences of the craftsmanship of the wood and stone carvers of bygone days. The beaten ironwork of some of the old oaken doors, the iron knockers, bell-pulls, and window gratings, or "rejas," in some instances showed most beautiful artistic conception and execution. As the period of the visit included the feasts held annually in August, the visitor was enabled to see the Spaniards' mode of enjoying themselves, which, so far as the absence of drunkenness and quarrels was concerned, was certainly superior to the English. Agriculturally speaking, Spain is behind the age; the methods are slow and not very scientific—in the north at any rate; but, taking the lack of railways and means of disposing of produce into account, they are equal to the demands made upon them. Glancing at the exterior evidences of the state of pharmacy, the lecturer believed that the "farmacias," or "boticas," were more professionally conducted than in England, though there were "droguerias" to be seen in which the sidelines seemed to overshadow the legitimate main portion of the business. Excepting a few of the mainstays of our house specialty business, English patent medicines were not plentiful—happily for the chemists; but that there was room for business in packed goods of British origin there could be no doubt when one saw the hosts of French and German productions of that class in regular demand. British makers of counter adjuncts, veterinary medicines, soaps and perfumery should have more share in Spanish trade than they enjoy at present, particularly as the name "British" is synonymous in Spain with all-round excellence. Now that the country has lost her colonial possessions, a good deal of capital has come back to Spain, and what was formerly lying at their feet unworked and unexploited is beginning to receive the attention of the Spaniards, so that, given a period of political stability and rest in the Peninsula, one may reasonably expect its buying and consuming power to rise steadily. For these reasons he regarded Spain as worthy of the careful attention of our home manufacturers and exporters.

A number of photographs taken by the lecturer were exhibited and created great interest.

The President having to leave early, Mr. A. C. ABRAHAM moved and Mr. WELLINGS seconded a vote of thanks to Mr. Wyatt. The latter having replied, the proceedings terminated.

BARNSLEY AND DISTRICT CHEMISTS' ASSOCIATION

MONTHLY MEETING.

Thursday, January 28, 1904, at the Royal Hotel, Barnsley, the PRESIDENT, Mr. H. B. Billington, in the chair.

The SECRETARY read a circular from the Reading and District Chemists' Association, asking for co-operation in an endeavour to induce the proprietors of several medicines, named in the circular, to place their respective preparations on the P.A.T.A.

It was unanimously agreed that the Secretary be instructed to write on behalf of the Association to these proprietors in the way suggested in the circular.

A letter from the Pharmaceutical Society, containing an urgent appeal for subscriptions or donations to the Benevolent Fund, was read, and the Secretary instructed to send a donation of £1 1s. from the Association's funds.

Invitations from the Halifax and the Dewsbury Associations to their annual dinners were read, and Messrs. Bellamy and Norwood were chosen to represent the Barnsley Association—Mr. Bellamy for Halifax, Mr. Norwood for Dewsbury.

Mr. W. A. BELLAMY read the following paper:—

How Do We Stand? A Brief Review of the Chemist's Position.

That the chemist's position to-day is not what it was thirty, or even twenty, years ago, seems a generally accepted statement. His social position, speaking generally—for of course the individual may attain to the giddy heights of Society—is not equal to that of his forbears; his income is not so sure; his time for relaxation of thought and energy has practically disappeared; his individuality and independence are wanting, and the pharmacy, pure and simple, is almost a thing of the past. In his place we have the machine—the general trader, the hard-worked, ill-remunerated dabbler in many trades besides his own. Many, if not all, appear to have taken a leaf from the stores' book, and are running sidelines of diverse kinds, which probably bring more grist to the mill than does their legitimate vocation. It is not of much use to complain of other traders trespassing on our domain when we find chemists carrying on the businesses of book dealers, drapers, ironmongers, grocers, tobacconists, bric-à-brac, leather goods, toys, and what not.

The Degeneration of the Chemist.

It is a cause for regret that necessity has arisen for us to go so much outside the domains of our own business in order to eke out a somewhat precarious existence. This is a factor that may have something to do with the present apprentice difficulty; but more of this anon. One of the factors which have contributed to this degeneration of the chemist is the hold which quack nostrums have on the medical profession. There are signs that the chemist is waking up; he and his neighbour the grocer have discovered that profitless trading contributes nothing towards the working of a business, and, being unwilling to resort to shifty methods, they are seeking a way out of the difficulty. The P.A.T.A. has undoubtedly done a good work, and all chemists ought to support it. But there is yet a very large number of "patents" that do not come under the influence of the P.A.T.A., and unfortunately their number is increasing. It is unreasonable to expect us to act as agents for anything unless we receive some compensation for the work, and as there are now types of all the more or less efficient remedies in the P.A.T.A., if we unitedly "put our backs up" we can to a large extent drive out these unremunerative nostrums. Of course, one dealer cannot do it by himself, but if all the chemists of a district decided to cease stocking them they would soon be followed by others in other districts. Another reason for our complaints is the hold that companies have obtained—or, rather, that when the loophole was discovered which afforded those who could not satisfy the examiners as to their fitness to practise as chemists and druggists, an opportunity to set the Pharmacy Acts at defiance, the weakness was not at once remedied. The result is that these moral thieves not only practise our calling, but filch our title. We all have an earnest desire to see the present Pharmacy Bill become law, though we may doubt whether Clause 7 will be allowed to remain. It does afford some slight satisfaction to find that the Inland Revenue authorities recognise a distinction which the High Court, and even the House of Lords, would not admit. Other factors which have contributed to the present parlous state are machine production, specialised labour, unrestricted competition, the free distribution of disinfectants and other things by sanitary bodies, the removal of fever patients to sanatoria and the like. The first three have tended to eliminate the element of individual handicraft and have resulted in the formation of trusts and the introduction of factory-made articles, whilst the handicraftsman has developed—or degenerated—into a mere distributor.

The Apprentice Difficulty

does not seem any nearer solution, and really, when we come to consider the conditions of our trade, we cannot wonder that youths fight shy of it. The very varied character of our business, the prominence given to alien sidelines, the long hours, the fatiguing study, the sense of responsibility, the inadequate remuneration, and, in very, very many cases, the absence in a pharmacy of any opportunity for practise of the craft, and the consequent inability on the part of an employer to fulfil the obligations set forth in an indenture, would make any youth pause before embarking on such a career. In how many pharmacies does an apprentice see the whole of the B.P. processes performed, estimations made of sweet spirit of nitre, or the extracts, or the making of tinctures, pills, liquors, lozenges, or the dispensing of anything but simple mixtures? "I sometimes wonder that the apprentice does not bring an action against his master for failing to carry out his portion of the agreement."

Medicine Stamp Duty.

The authorities of the Inland Revenue should withdraw the concession of allowing stamped packages to be opened and the contents sold in small quantities. At the present time a chemist may sell Fenning's or Stedman's powders in pennyworths or two-pennyworths, but is debarred from selling his own proprietaries in like quantity. Of course the man who has a good wholesale business does not mind this restriction very much, for if his goods cannot be obtained over his own counter they may be got at his neighbours', but it handicaps very considerably the man who depends on his own sales for his living. Another point is the fact that there is in the Barnsley district a large number of small shopkeepers who sell proprietary articles in small quantities, but who have not taken out the necessary P.M. licence. Most of them have the impression that by breaking bulk they can dispense with the licence. There is no doubt that one or two convictions would have a very salutary effect, and if the wholesale dealer were made responsible, too, this form of unfair competition would promptly disappear.

Standards for Drugs.

Then our position in relation to the Sale of Food and Drugs Acts is by no means satisfactory. Vexatious prosecutions frequently occur and convictions are recorded which never should be, and the reputation of many men is seriously damaged because of the paltry and unreasonable attitude of public analysts and the admittedly unsatisfactory state of the law as regards standards. At an evening meeting of the Pharmaceutical Society in December, 1902, Professor Attfield said:—"In some cases the high drug standards of the Pharmacopœia may serve as, or may point to, data for convicting a vendor of adulteration. But in most cases a large number of experiments must be made, as was necessary with milk, before drug standards can be fixed which shall with certainty aid in the protection of the honest and conviction of the dishonest vendor of raw drugs, or the dishonest maker and vendor of drug preparations. How far does a drug or its preparation alter under the ordinary conditions of store or sale? Alter by absorption of moisture, loss of moisture, evaporation of solvent, absorption of oxygen or of carbonic acid from the air, and so on? Again, if a vendor of drugs is asked for an article by a name which occurs in the Pharmacopœia, is he alone, of all vendors of the article, to be debarred from selling at appropriate prices good and useful qualities other than the official." A little later he said: "The Pharmacopœia is not, cannot be, never has been, legally recognised by a high authority, as a collection of drug standards, under the Sale of Food and Drugs Acts." And yet we all know of the mercurial ointment case—and for the vast majority of Food and Drugs Act cases we are at the mercy of the lay judicial authority. It is very unjust, too, that defendants should be required to show magistrates that public analysts are wrong in saying that carbonate of soda of the public is not the bicarbonate of the B.P., and that cream of tartar, sold by the chemist, should differ from preparations sold by the oilman and grocer. Another result of the need for reasonable recognised standards has just been shown. There was recently published a test which, it was stated, was useful for the detection and estimation of yeast extract in meat extract, and in several places samples of the latter have been taken, followed by prosecutions as a result of analysis based on this test. Now, we gather from a note on it in last week's

Pharmaceutical Journal that the test is unreliable, that with the same extract it gives varying results, yet there have been convictions of fraud based on it—how pleasant for those who have had to pay.

The Brighter Side of the Picture.

Of late years there has been a disposition amongst chemists to fraternise more freely—to shake off the idea that they were mortal enemies, each seeking to encompass another's downfall—and the spirit of comradeship is becoming more and more pronounced. Nearly all local associations have some kind of arrangement for buying, and in many cases even the Sunday and Bank Holiday duty is divided among them. The objection might be raised that one member might be so unfortunate as to have an unsaleable stock, but it is not of much importance. No member would stock anything until he received the sanction of a majority of the members. Country members need not be left out in the cold, for some arrangement might be made whereby they might participate in such a scheme. The suggestion which Mr. Priestley made some fourteen months ago—that for the purposes of buying, manufacturing, and testing goods more economically there should be a much further extension of the co-operative principle—is perhaps too revolutionary for most of us to-day; yet there was much in his paper that might profit us to adopt—or adapt. The idea of a wholesale co-operative drug society is not new, and has even been put into practice, though it was not a success. Times, however, have changed, and ideas with them, and the probability is that, were it given a trial now, it would go. What is to be the outcome of the present state of affairs? Mr. Newsholme, at our last dinner, said that our business was going through the fire, but he believed it would come out more the business of a pharmacist than a general store, as it is to-day. Most of us fill cordially say, "Please, let it be soon."

Mr. Billington, while congratulating Mr. Bellamy upon his paper, thought he had painted the picture rather too black—he was inclined to regard the position with optimism—we should not lose sight of the fact that all other trades were depressed, and that grocers and others were feeling the pinch of competition and overcrowding. In regard to the apprentice difficulty, he thought this would be to the ultimate advantage of chemists; it would, at all events, prevent, or at least mitigate, the evil of overcrowding.

Mr. A. R. Tomlin said he was in accord with Mr. Billington's views. He thought individuality would continue to play a great part in the carrying on of a chemist's business.

Messrs. Mathew, Norwood, Nash, and Rigby continued the discussion, after which a vote of thanks was accorded Mr. Bellamy for his paper.

It was decided to ask Mr. Maud, of Pontefract, to read a paper on "Co-operative Buying" at the next or a subsequent meeting.

BRITISH PHARMACEUTICAL CONFERENCE.

Meeting of Executive Committee.

Monday, January 25, 1904, at 16, Bloomsbury Square. Present—Mr. N. H. Martin (Vice-President), in the chair; Messrs. Holmes, Naylor, and Ransom (Vice-Presidents), Mr. J. C. Umney (Hon. Treasurer), Messrs. Peck and White (Hon. General Secretaries), Mr. Bird, and Professor Greenish. Apologies for absence were received from Messrs. Attfield, Atkins, Beggs, Boorne, Dott, Druce, Gadd, Payne, and Squire.

After the minutes of the last meeting had been read and confirmed, a letter was read from Mr. Carteighe, Chairman of the Compendium Committee of the Pharmaceutical Society, in answer to that sent by the Executive on November 14, 1903; and after a somewhat lengthy discussion, a reply was drafted, the Hon. Secretaries being instructed to forward the same.

Two gentlemen, having been duly proposed and seconded, were elected to membership.

EDINBURGH CHEMISTS', ASSISTANTS', AND APPRENTICES' ASSOCIATION.

ORDINARY MEETING.

Wednesday, January 27, 1904, in the Pharmaceutical Society's House, 36, York Place, Edinburgh, Mr. Archibald Currie, President, in the chair.

A letter was read from Mr. A. E. Kelly, Vice-President, resigning his office on account of having received an appointment in England.

On the motion of the Chairman, seconded by Mr. Hill, it was agreed to accept the resignation with regret, but wishing Mr. Kelly all success, and thanking him for the valuable services he had rendered to the Association.

Mr. W. B. Cowie then gave an interesting lecture and practical demonstration of a simple method by which an ordinary dispensing balance could be adapted for taking specific gravities on the principle of the Westphal balance. He then gave a practical demonstration of Boyle's Law by means of a special apparatus in which sulphur dioxide gas was compressed by a column of mercury, which could readily be increased or diminished. By means of a freezing mixture of salt and ice and a pressure of about four atmospheres, the gas was made to pass the critical point and assume the liquid form. He also explained how the specific heat of a metal could be readily determined and its value in determining the actual atomic weight.

On the motion of the Chairman, seconded by Mr. E. O. Rowland, a cordial vote of thanks was awarded to Mr. Cowie.

GRIMSBY AND DISTRICT CHEMISTS' ASSOCIATION.

GENERAL MEETING.

Tuesday, February 2, 1904, at the Oberon Hotel, Grimsby, Mr. C. Willson, Vice-President, in the chair.

Mr. H. W. Colley, Hon. Secretary, read the correspondence received since the last meeting. He had also received 'The Year-Book of Pharmacy,' 1903, from the British Pharmaceutical Conference, for the library. An appeal was made on behalf of the Pharmaceutical Benevolent Fund, members being asked to send in their subscriptions early and to make them as large as possible.

The Secretary said that he had been asked to bring forward the question of

Co-operative Buying,

and that he had written a short paper on the question. He was sorry that there was so small an attendance of those who wanted the question brought forward. He had divided his paper into three parts—first, to show the present need for such an object, then to point out the different ways of working, and finally to show the method which he thought most suitable for that district. The average chemist, with his special training, was apt to regard himself as a privileged person, but in distributing proprietaries he was simply a trader, and it was to his advantage to follow closely and to apply the methods of successful traders to his own business. The chemist was now being steadily ousted from his legitimate business to become a mere distributor of packed goods. The best, if not the only, remedy was combination, together with a system of co-operative buying. While central distributing premises had much in their favour and had been started in several districts in small centres, probably an arrangement by which each member should stock one particular article, and distribute to the others at cost, would best suit the circumstances of the case, together with the special purchase of other articles as required, which could be bought by arrangements made at the ordinary meetings of the Association.

Letters were then read showing what other associations were doing in regard to co-operation.

The Chairman thanked the Secretary for his paper on the subject before them, and after the discussion, in which all present took part, it was resolved that the question be submitted to the Committee, and that they try to have a workable scheme suitable for the district ready for the consideration of the members at the coming annual meeting.

EXETER ASSOCIATION OF CHEMISTS AND DRUGGISTS.

ANNUAL DINNER.

Wednesday, February 3, 1904, at Messrs. Palmer and Edwards' Restaurant, High Street, Exeter, Mr. F. W. Vinden, President, in the chair.

The loyal toasts, submitted from the chair, were musically honoured.

Mr. F. W. Kitts proposed the toast of

The Exeter Association of Chemists and Druggists.

One useful thing which the Association had done was to make an arrangement whereby members undertook Sunday work in rotation. He should like to see the chemists follow the example of other traders and close on week days at a reasonable time.

The Chairman, in reply, said there was no doubt that the Association had done very good work. There were represented that night firms who were associated with the Pharmaceutical Society from its commencement. He desired to thank Mr. H. Wippell Gadd for the able and courteous way in which he had assisted him during the past twelve months. He had pleasure in proposing his health.

Mr. T. C. Milton seconded.

The health of Mr. H. Wippell Gadd was heartily drunk, and Mr. Gadd suitably acknowledged the compliment.

Alderman H. Gadd proposed the toast of

The Pharmaceutical Society.

He said the three businesses represented that night which had supported the Society from the beginning were those of Mr. Tanner, Mr. Evans, and Mr. Palk. Exeter had always been loyal to the Pharmaceutical Society. They were indebted to the Pharmaceutical Society for many things. Chemists had only to thank themselves that the Pharmaceutical Society was not better than it was. If every town had loyally supported the Pharmaceutical Society like Exeter the state of affairs would have been very different, and anomalies which had existed would not have been allowed to continue. So far as chemists and druggists were concerned, he was a very strong protectionist. But if they wanted the Society to protect them and to remove their grievances they should support the Pharmaceutical Society. If they were not satisfied with the Council, they could sweep the whole lot away and elect who they thought best represented the trade.

Mr. D. Reid, who replied, said he was one of those 6,000 or 7,000 men who believed that the Pharmaceutical Society had nothing to be ashamed of. It had made mistakes, but it had justified its existence. During the past five or six years since the Council was put upon a more democratic basis, it had certainly won a great deal more favour in the eyes of the chemists and druggists of the country than it previously did. In addition to its protective policy, it had three other great objects. First of all, its object was education, and the research laboratory in London was one of the finest institutions of its kind in the country. Another object was examination. At the present moment that was a difficult question, but there was no doubt the Society had done well in that direction. Then, again, there was the great question of benevolence. The Benevolent Fund was in a very low state at the present moment. It had had very many calls made upon it lately, and the Secretary had sent out an earnest appeal. Another gratifying feature was the improvement in the membership of the Pharmaceutical Society during the past year. Over 400 additional members joined during last year. The present was a crucial time, and a time when every chemist and druggist and apprentice should join the Society. He was sure there were signs of better times. They had only to look at the dinners and meetings which were taking place throughout the country and note the earnestness and high tone of speech to feel that the pulses of the chemists and druggists were beating fast. He should not feel satisfied until every man in business in Exeter was subscribing one guinea a year to the Pharmaceutical Society, and 2s. 6d. at least to the Benevolent Fund. He desired to point out how economically the Benevolent Fund was managed. All the money subscribed went direct to the beneficiary; not one penny was used for clerical work or for distribution. The permanent staff managed the clerical work, and the Divisional Secretaries the disbursement.

Mr. Gadd said they ought to associate also with the toast the name of Mr. Tickle, who was educated as a chemist in Exeter, who went to London and passed all his examinations with distinction, then entered the research laboratory, and had now become one of the examiners of the Pharmaceutical Society.

Mr. Tickle said he should like to express what was very strongly felt by the Board of Examiners at present, and that was the need for a better system of education than they had at present. Their examinations were too easy and too hard. What was desired was a curriculum in which a man should obtain a proper training, so that the examination should become a fairer test.

Mr. Eric Lemmon, in eulogistic terms, proposed "The Visitors."

Mr. A. D. Breeze (Plymouth) responded, and expressed the regret felt by the Chairman of the Plymouth Association at not being able to be present. He was glad to hear the remarks made in regard to the closing question. If the trade, as a whole, took up the question and dealt with it, he believed, sooner or later, it would bring about a good result.

NEWCASTLE-ON-TYNE CHEMISTS' ASSOCIATION.

SMOKING CONCERT.

Wednesday, February 3, 1904, at the Hôtel Métropole, Newcastle-on-Tyne, the President of the Association (Mr. Foggin, of Bedlington) in the chair. There was a large and representative attendance, the gathering being in every respect one of the most successful in the history of the local

Association. During the evening the President made an appeal on behalf of the Benevolent Fund, and Mr. T. Maltby Clague replied on behalf of the Fund. Both gentlemen dwelt upon the great amount of good which the Fund was doing, and emphasised the fact that it was most economically administered. It was pointed out that all the money subscribed went to the recipients, and that owing to the kindness of the Divisional officers of the Society in doing the necessary work there was practically no expense in regard to administration. A collection was made during the evening on behalf of the Fund, which produced a liberal response, the sum subscribed amounting to about £4. There was an excellent musical programme, and the proceedings were very enjoyable.

FRENCH NEWS.

ENGLISH CHEMISTS' ASSISTANTS' ASSOCIATION, PARIS.

Saturday, January 30, 1904, at the Café Favart, Rue Favart, Mr. Stevenson in the chair. The following members were present: Messrs. Shrive, Le Bosquet, Morris, Fothergill, Fardell, Ashton, Kelsey, Spafford, and Lloyd.

Election of Officers.

The following were elected as officers for the ensuing year:—President, Mr. Ashton; Vice-President, Mr. Fothergill; Treasurer, Mr. Stevenson; Secretary, Mr. R. E. Lloyd.

This Association (which will in future be known as the "Galen Club"), it may perhaps be remembered, was the direct outcome of the visit of the President of the Pharmaceutical Society of Great Britain to the Centenary festivities of the Société de Pharmacie de Paris last autumn, when a number of the English chemists' assistants met together to welcome the President and Mr. Idris. Primarily the object of this Association is to foster a friendly feeling between the English assistants of the Paris pharmacies. Upon the initiative of one of the present officers of this young Society, several assistants met to make the acquaintance of the President, and also upon the same occasion met others of their compatriots whom they had not known before. The suggestion to form an Association was welcomed by those present upon that memorable occasion, and no effort has been spared to consummate the idea. The members are confident that nothing but good can accrue from the formation of this body, and it is reasonable to suppose that it may grow in strength and usefulness as time progresses, and its founders in years to come earn the gratitude of future members whose needs will have been provided for. The Association deserves the support of every British assistant upon the Continent, all of whom are eligible for membership.

After the nomination of officers, Mr. Charles Ross, Continental representative of Messrs. B. W. and Co., was elected a member of the Society. He, like most of the members, has had considerable Continental experience in pharmacy, and is fully alive to the needs of the moment. Messrs. Ashton and Lloyd each promised a donation of £2 2s. to the Society, and other members have kindly intimated their willingness to contribute.

It is confidently hoped that at no very distant date the Society may have premises of their own, where members may assemble together and pass their spare time as they choose. Moreover, British *confrères* visiting Paris will have a cordial welcome and every help that can be afforded them.

Eucalyptol β-Naphthol.

This compound, $C_{10}H_{18}O \cdot C_{10}H_8O$, has been obtained by E. Liotard, in the form of white, silky needles. It differs somewhat in solubility from its components, and the colour reactions of the contained β-naphthol are modified.—*Nouveaux Remèdes*, **19**, 241.

LEGAL INTELLIGENCE.

Pharmacy Act, 1868.

Proceedings Under Sections 15 and 17 at Ayr.

Pharmaceutical Society v. McQuiston.

On Tuesday, February 2, 1904, at the Sheriff Court House, Ayr, before Sheriff Campbell Shairp, Messrs. H. and T. McQuiston, ironmongers, Cassilis Road, Maybole, were charged, at the instance of the Registrar, with selling corrosive sublimate as an ingredient in a bottle of Cuff's Fly, Scab, and Mange Oil or Maggot Lotion, in contravention of Section 17 of the Pharmacy Act, 1868, in respect that—(1) the poison was sold to a person unknown to the seller and not introduced; (2) the seller failed to enter the sale in a poison book or take the signature of the purchaser; and (3) the bottle was not labelled with the name and address of the seller.

Mr. Peter Morison, jun., S.S.C., appeared for the prosecutor.

Mr. Hugh McQuiston, one of the partners, appeared for H and T. McQuiston, and pleaded guilty.

The Sheriff: A curious point arises in this complaint. You specify three different offences, any one of which would involve the penalty, and apparently all three may be committed at the same price.

Mr. Morison: Your Lordship will see we only charge one offence—namely, a contravention of the section—and we recite the three particulars in order to let the respondent know what charge he has to meet. It is quite true that if we proved only one of the three forms of the contravention specified we would secure the same penalty as if we proved all three.

The Sheriff: So that you might have caught him on any of the three, but he can commit them all at the same price?

Mr. Morison: Yes. Your Lordship will remember that some months ago there was a case in this Court in which an ironmonger at Girvan was charged with selling poison. In that case the offender and the other ironmongers at Girvan voluntarily came under an obligation to give up the sale of poisons, and the Registrar felt it to be consistent with his public duty to withdraw the charge, it being the first of the kind within your Lordship's jurisdiction. In doing so, however, it was publicly intimated in Court that, should any other complaint arise within the Sheriffdom, such a course would not be adopted. Apparently, the illegal sales of poisons, notwithstanding that warning, have been continued, and this having come to the knowledge of the Registrar, these four cases have been brought. Continuing, Mr. Morison said that it was very necessary that when such poisons were sold there should be some means of tracing the vendor, but the bottle bore no indication of where it had been purchased. He also showed a bottle of clear liquid, obtained by shaking up some of the fly oil with water, allowing it to stand, and pouring off the clear liquid, which contained a large quantity of the poison in a very dangerous form. This showed how readily the poison could be separated by any person who desired to use it for an improper purpose. The law provided that these dangerous poisons should be hedged round with restrictions to ensure public safety in the selling of them. Had this been sold by a chemist, he would have required to know the purchaser or have him introduced, and he would have had to take the signature of the purchaser and record the sale and purpose for which the poison was required. In the case of unqualified persons like the accused, all these precautions were omitted. The Registrar therefore felt it necessary to bring these cases into Court in order that such looseness in the sale of powerful poisons should be put a stop to. In addition to the penalty, he had to ask that the respondents should be found liable for the costs of the prosecution.

Mr. McQuiston said he had been selling this article for twenty years, and never knew it was an offence to do so. He believed that eighteen out of every twenty ironmongers in the country were selling it to-day. It was of little consequence to him, as the profits on the sale would not come to much more than 10s. a year. The article was in sealed packages, and he sold it just as it came from the maker. He would undertake to give up the sale entirely now that he knew it was unlawful.

The Sheriff: Did you never get any notice from the manufacturer that it was unlawful?

Mr. McQuiston: No.

Mr. Morison: Your Lordship will see that the manufacturer labels it "Poison," both on the wrapper and on the label. That is distinct notice.

The Sheriff said his view was that it was very important, in the public interest, that these powerful poisons should not be easily obtained, and that was the ground on which this whole legislation—which was very good legislation—proceeded. It was quite possible that, in enforcing the law, hard cases might arise, and this might be one, where the offender did not know that he was committing an offence. At the same time, he must impose some penalty to stop such sales of these articles, which should only be sold by qualified chemists. He would treat the case as a first offence, but if any subsequent cases came up, and these offences were continued, he gave warning that the penalties would be increased. The penalty would be £1, and £1 5s. of expenses.

Pharmaceutical Society v. Cuthbert.

John Cuthbert, assistant in the shop of the above H. and T. McQuiston, was charged with a contravention of Section 15 of the Pharmacy Act, 1868, in selling the corrosive sublimate in the bottle of Cuff's Fly, Scab, and Mange Oil or Maggot Lotion, above mentioned. He pleaded guilty, and explained that he was in ignorance of the fact that he was committing an offence.

Mr. Morison explained that it was necessary to proceed against the assistant, because it had been held that the actual seller was responsible under Section 15.

The Sheriff said accused must beware in future not to offend. In this case he would impose a penalty of 10s. and £1 5s. of costs.

Pharmaceutical Society v. Cameron.

John Cameron, ironmonger, 84, High Street, Maybole, was charged with selling corrosive sublimate in contravention of Section 17 of the Pharmacy Act, under circumstances identical with those in the case of H. and T. McQuiston.

Accused pleaded guilty, and made an explanation similar to that of Mr. McQuiston. He kept it in a lock-fast place, and had stocked it at the request of some of his farmer customers, who said they could not get it in the town. He had some of it still in stock, and asked if his Lordship could allow him some time to dispose of it.

The Sheriff: I am afraid I cannot give you that liberty. You should ask the maker to take it back. The penalty in this case will also be £1 and £1 5s. of expenses.

Pharmaceutical Society v. Cameron.

John Cameron, jun., assistant in the shop of the above John Cameron, was charged with selling the corrosive sublimate above mentioned in contravention of Section 15, and was fined 10s. and £1 5s. of expenses.

The penalties and expenses were paid at the bar.

High Court of Justice, Chancery Division.

The "Absorbine" Case.

On Monday, February 1, 1904, Mr. Justice Joyce delivered his reserved judgment in the action brought by Messrs. Thomas Christy and Company, and Mr. W. Fenelon Young, of Springfield, Massachusetts, for an injunction to restrain Messrs. Tipper and Sons, of the Veterinary Chemical Works, Birmingham, from selling or offering for sale any embrocation under the name "Absorbine," or any other name which would lead to the belief that their preparation was the embrocation sold by the plaintiffs. The defendants asked that the trade mark of the plaintiffs might be removed from the register.

Mr. Justice Joyce, in giving his decision, said in November, 1901, the plaintiff W. F. Young applied for and subsequently obtained the registration as a trade mark of the word "Absorbine" in Class 2, in respect of chemical substances prepared for use for agricultural, horticultural, veterinary, and sanitary purposes, and in Class 3 in respect of chemical substances prepared for use in medicine and pharmacy. The use of the word appeared to have been solely in connection with a liquid preparation professing to be especially prepared to absorb and remove wind-puff, capped backs, enlarged glands, etc. The defendants were well-known manufacturers and vendors of veterinary preparations, and they had previously sold ointment under the name of Tipper's Absorbent Ointment, for application in cases similar to those for which the plaintiffs' remedy was advertised to be specially prepared. At a date practically contemporaneous with the plaintiffs' application for their trade mark "Absorbine," the defendants —who, in his opinion, were beyond all question perfectly honest and honourable traders, without any knowledge of what the plaintiffs were doing—changed the title of their "Absorbent" into "Absorbine," and they had sold the same under the title "Absorbine" ever since. The plaintiffs, on March 30, 1903, instituted an action not only for the usual relief in respect of the trade mark, but also for an injunction to restrain the defendants from passing off, or enabling others to pass off, their veterinary ointment as and for the plaintiffs' liquid remedy. Defendants replied with a motion to expunge "Absorbine" from the register. At the conclusion of the trial it was virtually admitted by the plaintiffs—and he (Mr. Justice Joyce) now decided it—that if "Absorbine" be allowed to remain on the register the action for passing off, as distinguished from the action for infringement of trade mark, was unnecessary. It was quite clear that the word "Absorbine" had obvious reference to the character or quality of the goods, and it could only be registered, if at all, as being an invented word. Whether or not it was within the meaning of that term in the Statute was the single question that remained for him to decide. The first two syllables of the word formed the common English word absorb, and he was not told how the word absorbine was invented. If it were a mis-spelling of the present participle of the verb absorb, it was certainly incapable of registration in respect of such a preparation as plaintiffs'. The termination "ine" was found in many words designating chemical substances, such as chlorine, glycerine (*sic*) and the like, and it was found as a frequent termination of medicinal preparations known as proprietary articles, *e.g.*, maltine, brilliantine, phosphorine and sulpholine. When so used he was not aware that "ine" had any meaning at all as of itself; and here it was little more than a flourish to the word or expression to which it was attached, in order to make a euphonious name. In the "Solio" case it was decided, contrary to what had previously been held, that a word might be a good invented word although it might have some reference to the character or quality of the goods; and that "Solio" was an invented word. He knew of no authority which required him to hold that such a word as absorbine was an invented word. None of the syllables or parts with which the word was composed was invented, and he saw no invention in the combining of them so as to form a whole. In the circumstances he found himself compelled to hold that absorbine was not an invented word within the meaning of the expression in the Act, and must be expunged from the register. The action must be dismissed with the ordinary consequences.

High Court of Justice: King's Bench Division.

Arsenic in Beer.

On Tuesday, February 2, 1904, Mr. Justice Bruce gave judgment in the action brought by Messrs. Bostock and Co., Limited, manufacturers of brewing sugars, carrying on business at Garston, near Liverpool, against Messrs. J. Nicholson and Sons, Limited, chemists and manufacturers, of Leeds, to recover about £300,000 damages for alleged breach of contract in supplying them with sulphuric acid containing arsenic for use in making glucose and invert sugar used by brewers in brewing beer.

Mr. Justice Bruce traced the dealings between the parties since 1888, and said that he was unable to come to the conclusion that there had been any fraudulent representation. The defendants did not know the purpose for which the acid was required, nor did they know that the plaintiffs made brewing sugars. He did not think it reasonable to suppose that the defendants had any reason to believe that the plaintiffs required the acid for food products. In March, 1900, defendants had forgotten the previous correspondence, and thought they were entitled to send unpurified acid. They were wrong, but they had no intention of deceiving the plaintiffs. On the question of breach of contract, he was of opinion that, having regard to the dealings between the parties, the letters B.O.V. had come to mean acid purified from arsenic. He held that there had been a breach of the contract that the acid should be free from arsenic. He had been asked to say if the plaintiffs, by the exercise of ordinary care, might have discovered the presence of arsenic in the acid before using it. Mr. Cook, the plaintiffs' chemist, had stated that, having tested the defendants' acid for many years, he thought he might rely on its continuing to be free from arsenic, particularly having regard to the fact that he understood that it was made from brimstone. But he thought that if Mr. Cook had done his duty by his employers he ought not to have allowed himself to be lulled into security, and that he would have discovered the presence of arsenic in the acid. He further thought Messrs. Moritz and Morris, who were consulting chemists employed by the plaintiffs, ought to have discovered the presence of arsenic in the glucose and invert sugar manufactured by the plaintiffs. He thought that the change in the colour of the acid supplied after March, 1900, ought to have aroused suspicion.

It was arranged that any question as to damages and as to how judgment should be entered should stand over.

Sale of Food and Drugs Acts.

Compound Liquorice Powder.

On Thursday, January 28, 1904, at Sheffield Police Court, John Turner, a herbalist, of 778, Attercliffe Road, was summoned for selling a sample of compound liquorice powder which contained an excessive amount of sulphur. Mr. Wilson represented the defendant.

The powder was sold to Inspector Green on December 14, and on analysis was found to contain an excess of 6 per cent. of the sulphur.

At Mr. Wilson's request the case was adjourned in order that the sample might be submitted to Somerset House for re-analysis. The defendant had already sent his own up to London for analysis.

Cream of Tartar.

On Wednesday, February 3, 1904, at West Ham Police Court, Messrs. Leverett and Frye, Limited, grocers, of Colville Mansions, Notting Hill, were summoned for selling cream of tartar which was not of the nature, substance, and quality demanded.

Dr. C. Sanders, medical officer of health for West Ham, appeared in person for the prosecution, and Mr. Beck appeared for the defence.

On December 22 a quarter of a pound of cream of tartar was purchased for 4d. at the defendants' branch shop at Barking Road, and when analysed was found to contain lead in the proportion of rather more than one grain to the pound.

Dr. Bernard Dyer said that cream of tartar could be obtained practically free from lead.

By Mr. Beck: He could not say that cream of tartar always had some trace of lead. He had had a considerable number of samples in which he found no lead at all. Many samples did contain traces, which arose from the use of leaden vessels in its preparation, but the use of leaden vessels was not absolutely necessary. Cream of tartar without lead could now be obtained as an article of commerce. He would not consider one grain per pound of lead a "trace."

Mr. Beck, for the defence, said that no one suggested that the defendants were responsible for this lead in the cream of tartar. Its presence was explained solely by reason of the mode of manufacture, and the defendants were merely the victims of foreign manufacturers. Cream of tartar, as it had been known to the trade till the last few months, had been a cream of tartar known to contain some slight traces of lead; what was sold was the article usually known and sold as cream of tartar, and his submission would be that this being sold there was no offence.

Mr. Gillespie: You suggest you were justified in selling it with this lead in.

Mr. Beck: Without any knowledge that we were selling an article containing lead. What my friend is putting up is the standard of the 1898 British Pharmacopœia.

Mr. Gillespie: If a grocer sells chemists' goods he must take the necessary care to see that they are as they should be.

Mr. Beck observed that in the new Pharmacopœia cream of tartar was referred to as "purified cream of tartar."

Mr. Gillespie said he did not suppose for a moment that the defendants wilfully put lead into this cream of tartar, but on the evidence it was shown that its presence could be discovered with ordinary precautions.

He imposed a fine of £10, including costs.

White Rose Bouquet.

Spirit of rose, 16 fl. oz.; rose extract, 16 fl. oz. violet extract, 16 fl. oz.; jasmin extract, 16 fl. oz.; patchouli oil, 10 minims; alcohol, 90 per cent., 4 fl. oz.—*Spatula*, **9**, 547.

POISONING CASES AND INQUESTS.

The deaths by poisoning reported during the seven days ended Wednesday, February 3, 1904, numbered sixteen. The principal characteristic of the cases was the large number in which poisons were taken in mistake for other liquids in similar bottles:—

Poison.	Accident.	Suicide.
Belladonna Liniment	1	—
Carbolic Acid	2	4
Chloroform	1	—
Coal Gas	—	1
Laudanum	1	—
Potassium Cyanide	—	1
Salt of Lemon and White Precipitate	—	1
Strychnine	1	1
Other Poisons	1	1
Total	7	9

Belladonna Liniment.—A man at Northampton drank a quantity of belladonna liniment from an unlabelled spirit flask, thinking that it contained rum.

Carbolic Acid.—A Grimsby woman kept two bottles, similar in appearance, side by side. The one contained porter and the other carbolic acid. A draught of the latter, taken in mistake, caused death. Another fatal mistake was thought to have been made by a man at Liverpool, who took carbolic acid apparently in mistake for laudanum. Four suicides with the same substance are reported; a man at Cwmaman, a draper at Brynmawr, a girl at Stanton-by-Dale, and a tobacconist at Leicester.

Chloroform.—A child died at Islington under chloroform.

Coal Gas.—A young man at Romford committed suicide by poisoning himself with coal gas.

Laudanum.—A cabinet maker, at Barnsley, who was suffering from pneumonia, took an overdose of laudanum with fatal results.

Potassium Cyanide.—A printer at Lincoln, who was an amateur photographer, committed suicide by taking potassium cyanide. The police had, it was stated, made every inquiry of the chemists of Lincoln, but apparently none of the poison had been purchased for a considerable time.

Salt of Lemon and White Precipitate.—A woman died at Weston-super-Mare from the effect of taking a quantity of salt of lemon and white precipitate.

Strychnine.—A man at Newport was found to have died from strychnine poisoning. He had purchased sixpennyworth of rat poison. A child at Winchmore Hill is reported to have died from the effect of eating "strychnine tabloids."

Miscellaneous.—A shop-assistant in Paddington drank from a bottle containing a brown boot polish. The bottle was similar to a ginger-beer bottle, from which the man had intended to drink. A woman at Rushden was found dead, with a cup, which had contained "poison," by her side.

Attempts at Suicide.—A number of cases of attempted suicide by poisoning are reported, but present no features of special importance.

Strong Pack Thread.

A very strong pack thread or cord may be obtained by macerating the ordinary thread or string in a strong solution of alum, and then drying carefully. Threads thus treated are said to be practically unbreakable.—*Nat. Drugg.*, **33**, 39.

MISCELLANEOUS NEWS.

Divisional Secretaries and other Members of the Pharmaceutical Society are requested to assist the Editor by sending local newspapers containing items of interest to chemists and druggists.

Chemist's Will.—The estate of the late Mr. Geo. Forster Smith, druggist, of East Parade, Newcastle-on-Tyne, has been proved at £6,475 gross.

Chemist's Shop Burgled.—During the night of January 28, the premises of Mr. Frank Bingham, chemist and druggist, of Willgate, Rotherham, were visited by burglars, who ransacked the place.

Fellow of the Pharmaceutical Society.—The latest recruit to the ranks of daily journalism, Mr. Stead's *Daily Paper*, has discovered that evidence in the Maybrick case in 1889 was given by a Fellow of the Pharmaceutical Society.

Analyst's Report.—The Notts County Analyst reports that last quarter he analysed two samples of laudanum and three of sweet spirit of nitre, and the whole of them were found to be up to the B.P. standard of strength and quality.

Cambridge Pharmaceutical Association.—The Secretary of this Association writes to say that, owing to the indisposition of Mr. S. R. Atkins, the dinner, which was to take place on Thursday, February 11, has been postponed *sine die*.

Increasing Drug Bill.—At the meeting of the Rotherham Board of Guardians on Monday, details of the cost of drugs used in the workhouse for a period of years were presented, and it was stated that there had been a serious increase. It was decided to consider the matter fully at a future meeting.

Copper in Preserved Peas.—On Tuesday, February 2, 1904, several cases under the Sale of Food and Drugs Acts came before the magistrates at the Kensington Petty Sessions in respect of the sale of preserved peas containing various percentages of copper sulphate. The proceedings were taken at the instance of the Kensington Borough Council. The magistrates dismissed the summonses and consented to state a case.

Pharmacy Breaking.—At Rotherham, on Tuesday, two men, named John Sokell and Harry Cadman, were charged with breaking into the premises of Messrs. Humphrey Davy and Son, chemists and druggists, of Masbro' Street, and stealing a number of combs, brushes, baby pacifiers, and a quantity of Spanish juice. The premises were broken into on January 11, and some of the stolen goods were found at Sokell's lodgings. Both men were committed for trial.

Chemists' and Druggists' Society of Ireland.—The annual musical evening of this Society took place on Thursday, January 28, 1904, at the Ulster Hall, Belfast, Sir James H. Haslett, M.P., President, in the chair. An excellent concert was given, the arrangements for which had been carried out by a committee consisting of Messrs. S. Acheson, W. J. Gibson, R. A. Jameson, A. R. Hogg, J. Brown, S. Edgar Kee, W. J. Busby, W. J. Rankin, S. Suffern, and John Frackelton.

City of London Analyst's Report.—The report of the Medical Officer of Health to the City of London on the proceedings of the Sanitary Department between November 14 and December 31, 1903, shows that one hundred and three samples had been taken under the Sale of Food and Drugs Acts. These included ten of mercury pill, four of olive oil, and ten of compound tincture of rhubarb, all being certified as genuine with the exception of two samples of compound tincture of rhubarb. One of these was 23 per cent. deficient in extractive matter, while the other was 27 per cent. deficient in alcohol. The vendors in each case were cautioned.

Chemists' Wine Licence Refused.—At Bolton Licensing Sessions, on Monday, Mr. Wm. B. Rushton, chemist and druggist, of 77, Albert Road, Farnworth, applied for an off-wine licence. It was stated that only medicated wines would be sold, and letters were read from two medical men supporting the application, while Mr. Rushton put in a letter from a doctor asking for wine which he was unable to supply. He added that he was not anxious to push the wine trade. Evidence was given showing that the licence was a necessity for the neighbourhood, but the licence was refused. This decision will probably be appealed against.

The Kinninmont Prize.—The annual competition for this prize, which takes the form of a gold medal and books, will be held in Glasgow next June. The subjects are (*a*) botany, (*b*), magnetism and electricity. In the former subject the syllabus is considerably more comprehensive than the requirements for the Minor Examination, while the syllabus in magnetism and electricity is the same as the "Major" syllabus. Intending candidates will please send in their names before the end of April to the Secretary for the Committee, Mr. W. L. Currie, 223, Byres Road, Dowanhill, Glasgow, from whom all particulars may be obtained.

A Suggested Reform.—Alderman H. Gadd, J.P., speaking at the annual meeting of the Exeter and District Chamber of Commerce last week, said he thought there were many things which the Government could do for trade other than taxing the food of the people, and he suggested, as one reform, the remission of duty on spirit used for manufacturing purposes. England was the home of aniline dyes, which were first discovered in this country, and yet their manufacture had gone from us, and for this reason. Where in Germany the dye cost 4d., in England it cost 2s. 4d., which represented the difference between duty spirit and spirit duty free.

The St. Louis Exposition.—The list of European savants who have accepted invitations to deliver addresses at the International Congress of Arts and Science at the St. Louis Exhibition are the following:—In Department 9 (Physics): Professor Dewar, the Royal Institution, London; M. Becquerel, member of the Institute of France. In Department 10 (Chemistry): Professor Moissan, Paris; Professor Fittig, Strassburg; Professor Van t'Hoff, Berlin; Professor Kossel, Heidelberg; Professor Mendeleeff, Technical School, St. Petersburg. In the biological section the name appears of Professor Bower, of Glasgow, one of the examiners in Scotland to the Pharmaceutical Society.

Manufacture of Aerated Waters.—At the meeting of the London County Council on Tuesday, February 2, the following recommendation was received from the Public Control Committee:—"That a letter be addressed to the Local Government Board calling attention to the Council's letter of June 29, 1903, on the subject of the manufacture of aërated waters, and asking whether it is the intention of the Board to promote legislation in the forthcoming session of Parliament to enable sanitary authorities to register makers of aërated waters, to inspect premises upon which aërated waters are manufactured, and to prevent the manufacture of such waters under conditions likely to give rise to contamination." The recommendation was adopted.

An Antiquarian Discovery.—An interesting discovery has been made near Corbridge. While a field was being ploughed a large stone was discovered, which, when removed, revealed an early English burial place, or cist, a roughly-shaped oblong cavity (about four feet in length), lined with slabs of freestone, and containing three urns made of the clay. Two days afterwards Mr. J. P. Gibson, chemist, of Hexham, carefully examined the cist and its contents, but found only remains of charcoal, burnt bones, and bits of human teeth. These burials are of the later bronze age—about 500 or 1,000 years before Christ. The farm on which the discovery was made is the property of Mr. W. C. B. Beaumont, M.P., one of the members who has promised support to the Pharmacy Bill.

A Dishonest Employee.—At Exeter Police Court, on Saturday last, Albert Esworthy, a single man, was charged with stealing, during the last six months, from 97, Fore Street, various articles, value 13s. 6d., the property of Evans, Gadd, and Co., wholesale chemists and druggists. He pleaded guilty, and Mr. W. L. Brown, who appeared for the prosecutors, said defendant had been in the employ of the firm for eight years, and was assistant-stockkeeper. Articles had been missed, including bottles of panopepton. The prosecutors had no desire to press the case hardly against defendant, but they had a number of other employees, upon whom suspicion might have fallen. The Bench fined defendant 40s., inclusive of costs, or fourteen days' imprisonment.

A Horticultural Exhibition.—It is proposed that a grand horticultural and gardening exhibition shall take place in the month of June this year under the auspices of the Royal Botanic Society of London. It is intended that the exhibition shall be held in the new Exhibition Grounds of the Society, situated in the centre of their beautiful gardens in Regent's Park, the exhibition to be open for one week, or possibly longer. The proposed scheme embraces horticulture, forestry, botany, educational methods, nature study, and a special section for colonial produce. In addition to the exhibition, lectures, conferences, and conversazione are in course of arrangement. All communications respecting the gardens and exhibitions, etc., should be made to Mr. J. Bryant Sowerby, the Secretary.

Methylated Spirit Drinking in Aberdeen.—Robert Mitchell, retailer of methylated spirit, Commerce Street, Aberdeen, was found guilty on the 27th ult. of selling methylated spirit as a beverage. A police-inspector stated that after a public discussion of the evils of drinking methylated spirit last September the sale fell off, but had revived afterwards, and steps were taken to see that Mitchell, who had been selling more of this stuff than formerly, was using every precaution. The police had sent a man who had been addicted to drinking the spirit to make the purchase, and this man in the witness-box said he had undertaken the duty as he wished to stop the sale of such spirit for drinking. The defence was that the spirit was never sold except for manufacturing or lighting purposes. The fine imposed was £10, with the option of one month's imprisonment.

The Opening of Parliament.—The Fifth Session of the present Parliament was opened by the King on Tuesday last. It threatens to be an exciting session, fraught with highly important political issues. The peculiar character of the problems of fiscal policy which are likely to command attention, as well as the many grave questions of Imperial interest which must be considered, make it improbable that the more humdrum duties of domestic legislation will receive due regard. It is, however, gratifying to find that the Government have announced in the King's speech the intention to bring in a Bill to deal with the hours of employment in shops—a subject which certainly is sufficiently ripe for legislation to be no longer left in the hands of private members, however zealous and influential. A Bill to amend the law with respect to public health is also promised.

A Little Knowledge.—One of the humorous contributors to the columns of the *St. James's Gazette* has apparently acquired a little—a very little—information on the subject of medicine-stamp duty. Under the heading, "A Great Tragedy," he writes thus:—"Who does not remember when, in days whose happiness depended so much upon the tuck-shop, a certain brown sweet, a thin, corrugated oblong contrivance, tasting strongly of aniseed, was his supremest joy? Not a mother's son but has sucked satiety out of those cough-assuaging compounds. But the joy of boyhood is struck dead. The Government, wantoning in the agonies of the men of to-morrow, has stepped in and banned these drowsy drops. The sweets which all of us were wont to acquire at one-halfpenny the ounce are no more. Henceforth the aniseed tablet is a patent medicine, and that which we and our fathers bought for a halfpenny may not now be acquired unless upon the halfpenny packet there be a 2½d. patent stamp."

College of Preceptors Preliminary Examination.—In the Journal for August 29 last, at page 355, particulars were given concerning the College of Preceptors Examinations, and it was stated that certain modifications, not then specified, would come into operation in December. The following information is taken from the circular issued by the College for the Spring Examination, which will be held during the first three days in March. The examination will be held in London, and also at the following centres:—Birmingham, Bristol, Leeds, Liverpool, and Manchester. Candidates are required to give thirty days' written notice to the Secretary of their desire to be examined. The fee for the examination is 25s., and is required to be paid fourteen days prior to the examination. No fees will be returned in any case. At the provincial centres a local fee is payable in addition to the examination fee. The result of the examination will be communicated by post to each candidate about a fortnight after the close of the examination.

Sir William Ramsay on Radium.—On Sunday, January 31, 1904, at the Alhambra, Leicester Square, London, Sir William Ramsay gave a lecture, under the auspices of the Sunday Lecture Society, on "Radium and its Emanations." He mentioned that he and Mr. Soddy had found that the gaseous emanation from radium was not permanent. It decomposed, and in a month, at least, lost its luminosity. While this process was going on they had found that the glass tube containing the emanation changed colour, in some cases becoming grey and in others purple. "We don't know," added Sir William, significantly, "why glass in these circumstances changes colour; that is one of the things that have to be found out." He thought that radium itself was probably a white metal; at present they only had a salt of the element. He concluded by referring to the possibilities which might result from the application of radium salts in medicine, and to the investigations now being carried on with regard to cancer.

SCHOOL AND COLLEGE NEWS.

West of Scotland College of Pharmacy.—The fifth annual dinner of the past and present students and their friends will be held in the Alexandra Hotel, Bath Street, Glasgow, on Wednesday, February 17, 1904, at 9 p.m.

Inter-Pharmacy Football League—"Square" v. Metropolitans.—This match was played at Acton last Saturday in spite of the adverse condition of the weather and the sodden state of the ground. The "Square" lost the toss, and started the ball down hill against the wind. The game opened evenly; the home team scored the first goal, and their opponents soon drew equal. Before half-time the "Square" secured two more goals. On the resumption of play, the "Square" pressed the visitors very hard, and increased their lead by another goal. Soon after, from a rush, the "Metros" again found the net. Then, owing to the intense cold, several members of the Metros' team left the field, and on this account the referee stopped the match fifteen minutes before time, the score being then, "Square," 7; "Metros," 2. The following were responsible for the scoring on behalf of the School of Pharmacy:—Hewlett (3), Dewhurst (2), Walker (1), Watkins (1).

COMPANY INTELLIGENCE.

Clown Drug Company, Limited.—Capital, £500 in £1 shares. Object, to carry on the business of wholesale and retail chemists, druggists, opticians, etc. Registered office: Central Stores, The Green, Clown, Derby.

A. J. White, Limited.—Mr. Henry W. Wack, recently visited New York, conferred with the American directors of this company and arranged for his retirement from the post of managing director. Mr. Wack is still interested in the company's prosperity, and continues to hold an unofficial relation to the board. Mr. Lyman Brown, of New York, has been appointed managing director.

Collins' Encalypti Remedy Company, Limited.—The directors have declared an interim dividend up to December 31, on the cumulative preference shares at the rate of 7½ per cent. per annum. This company was registered in August, 1903, therefore the dividend will be for less than the usual six months. The cumulative dividend of 7½ per cent. offered in their prospectus is rather enticing, and clients are gradually taking up the shares.

Borax Consolidated, Limited.—The report of this company for the year ended September 30 states that the profits for the period, after providing for all management and administration expenses, are £266,270. The directors recommend a final dividend of £1 each on the ordinary shares, making 17½ per cent. for the year, £20,000 is to be placed to general reserve and £19,681 is to be written off the expenditure on inspection and development of properties, while £10,636 will be carried forward, against £11,857.

Bovril, Limited.—The report of Bovril, Limited, for 1903, to be submitted at the meeting on the 11th inst., states that net profit amounts to £139,370. The balance from last account was £14,311, making £153,681. An interim dividend on the ordinary shares of 7 per cent. per annum has been paid. The directors now recommend a balance dividend of 7 per cent. per annum on the ordinary shares and also a dividend of 2½ per cent. per annum on the deferred shares, leaving to be carried to reserve (raising it to £125,000) £20,000, and to be carried forward £12,431. Sales during 1903 have exceeded all previous records, and the profit of the year has exceeded that of 1902 by £11,915.

PERSONALITIES, BUSINESS CHANGES, ETC.

Mr. Harold Deane, B.Sc.(Lond.), has passed the Intermediate Examination for the Associateship of the Institute of Chemistry.

Mr. C. H. Clarke, chemist, of Chepstow, has been installed as Worshipful Master of the Strignil Lodge of Freemasons, No. 2186, Chepstow.

Messrs. Wm. Lyle and Co., Berwick-on-Tweed, have sold their retail business, and are now carrying on their manufacturing and wholesale at 51, East Street.

Mr. E. W. Lucas, a former member of the Board of Examiners of the Pharmaceutical Society, has passed the final examination for the Fellowship of the Institute of Chemistry.

Mr. Davies, dispenser at the Royal Infirmary, Dundee, has taken over the business of Mr. Grieg. Mr. Grieg is removing to Maybole, to take over the business of Mr. Armstrong.

Mr. Henry D. Kelf, M.P.S., pharmaceutical chemist, has resigned his appointment as dispenser to the Southwark Infirmary, East Dulwich, S.E. He has held the position for over four years.

Mr. J. P. Gibson, M.P.S., F.R.P.S., chemist, Hexham, has again been elected a member of the Council of the Society of Antiquaries of Newcastle-on-Tyne, of which Society His Grace the Duke of Northumberland, K.G., is president.

Mr. W. F. K. Stock, Durham county analyst, has had his salary increased by the Durham County Council from £200 to £250 a year, and the retaining fee of Mr. A. C. Wilson, district agricultural analyst, from £10 to £24 per annum.

Mr. William Potter, chemist and druggist, who has been managing director of the firm of W. S. Potter, Limited, wholesale and retail druggists, and wholesale sundriesmen, High Street, Plaistow, since its incorporation in 1892, has purchased the business from the company, and will henceforth carry it on under the name of W. S. Potter and Co.

Mr. Thomas Maben, who has for the past four years represented Messrs. Parke, Davis and Co. in Glasgow, has received an appointment in the London branch of that firm, and leaves Glasgow about Easter. Mr. Maben is very popular among pharmacists, and his many friends view his promotion with great satisfaction. He has taken a prominent part in pharmaceutical affairs for many years, and on that account his departure will be a considerable loss to Scottish pharmacy.

TRADE NOTES.

Apollinaris Water.—The *Lancet* of January 30 publishes a long and interesting article, headed, "Some points concerning Natural Mineral Waters in General and Apollinaris Water in Particular." In view of a recent action, in which the question whether Apollinaris was entitled to be called a natural mineral water was decided in the affirmative, the *Lancet* has sent a special commissioner to visit the Apollinaris Spring in Germany, and he now reports the result of his investigations there, and sets forth numerous analyses made on the spot and of Apollinaris purchased in the open market. The article concludes by expressing the opinion that the recent decision of the Lord Chief Justice that Apollinaris water is entitled to the description of a natural mineral water is in accordance with both law and common sense.

Aperient Water in Syphons.—A new aperient water has recently been placed on the market, and there is every likelihood of its becoming popular. The name chosen by the manufacturers of this article (Messrs. Southall Brothers and Barclay, Limited, Birmingham) is "Matinal" water, a term which strikes one as being very apt. It is prepared for sale in syphons, this being a novel feature, at any rate, as far as this country is concerned, and one which is likely to recommend itself to consumers. It is also put up in "splits," attractively labelled. This aperient is gaseous, prepared with distilled water, and not nearly as unpleasant to the palate as one generally expects things of this kind to be. Particulars may be had from the manufacturers.

PATENTS AND TRADE MARKS.*

New Patent Applications.

MANUFACTURE AND PRODUCTION OF META-AMIDO-ORTHO-OXY-BENZYL SULPHONIC ACID (No. 3545 of 1903).—H. E. Newton, 6, Breams Buildings, London, W.C. (A communication from The Farbenfabriken vormals Friedrich Bayer and Co., Elberfeld, Germany.) Ten parts of meta-nitro-ortho-oxy-benzyl chloride are added to a solution of 13·4 parts of sodium sulphite in 100 parts of water, and the resulting mixture is allowed to stand for several days, stirring being carried on from time to time. It is then filtered, the filtered liquid is acidulated by means of hydrochloric acid, and the sodium salt of m-nitro-o-oxy-benzyl sulphonic acid is precipitated by the addition of common salt. A solution of 10 parts of the sodium salts thus produced in 20 parts of water is then boiled with 15 parts of zinc dust, until the liquid has become uncoloured. It is filtered, and from the filtered solution the new sulphonic acid is precipitated by the addition of hydrochloric acid. The new acid is a valuable developer for photographic purposes.

MANUFACTURE OF ARTIFICIAL PERFUME AND OF INTERMEDIATE PRODUCTS THEREFOR (No. 3173 of 1903).—O. Imray, Birkbeck Bank Chambers, Southampton Buildings, London. (A communication from Farbwerke vormals Meister Lucius and Bruning, of Hoechst-on-Main, Germany.) The inventors have found that, by the action of sodium and carbonic acid on trimethyl-cyclo-hexanone, trimethyl-cyclo-hexanone carboxylic acid may be obtained, and this is transformed by reducing agents into trimethyl-oxy-cyclo-hexane carboxylic acid. If a mixture of a calcium salt of this acid and an equimolecular proportion of calcium formate is subjected to dry distillation in a vacuum, the carboxyl of the acid is exchanged for formyl, and water is simultaneously eliminated from the nucleus. Thus cyclogeraniolenealdehyde is obtained in two isomeric modifications. By condensing cyclogeraniolenealdehyde with acetone, there is obtained cyclogeraniclidene acetone C_9H_{15}, $CH=CH-CO-CH_2$, an oil of the odour of violets. Various examples are given.

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* These abridgments of new patent applications and particulars of new applications for trade marks have been specially compiled from official sources, for the *Pharmaceutical Journal*, by Mr. Reginald W. Barker, agent for procuring patents and registering trade marks and designs, 56, Ludgate Hill, London, E.C., from whom any information on the subjects may be obtained. Mr. Barker will also send copies of his 'Trade Mark Notes' and 'Patent Notes for Inventors' free on application.

PROCESS FOR PRODUCTION OF READILY RESORBENT MEDICATED SOAPS OR OINTMENTS (No. 24,240 of 1903).—R. Reiss, Kuesebeckstrasse, 27, Charlottenburg, Germany. Relates to the manufacture of soap in ointment form for medicinal purposes. Example:—100 gr. oleic acid are melted together with 200 gr. vaseline, and the fluid rendered mixture so obtained is gradually compounded with 30 gr. potash-lye of 40° Be. The soft soap mass thus obtained is then heated to about 130° Celsius, until the water therein has totally evaporated. Thereupon the requisite quantity of any desired medicament such as salicylic acid, benzoic acid, phenyl-acrylic acid, kinic acid, guaicol-sulpho acid, etc., etc., which when water is present produces decomposition of the soap substance, may be incorporated with the above-mentioned soap base.

INHALING DEVICE (No. 24,275 of 1903).—A. Goldstaub, 32, Grindelallée, Hamburg, Germany. Consists of a capsule for containing material to be inhaled, comprising two hollow cases of substantially cylindrical form, one case having a closed hemispherical end, and being adapted to serve as a cover for the other case, the latter having tongues projecting from its outer end, adapted to grip the fibre which is impregnated with the material to be inhaled, and to be folded inwards so as to leave an orifice for a draught to pass through said case, said case being also of such dimensions as to readily enter the nostril. If desired, a second cap may be provided to cover the orifice when the capsule is not in use, so that no volatile products can escape therefrom, and the material to be inhaled lasts longer.

Note.—Opposition to the grant of any of the above-mentioned Patents must be filed at the Patent Office on or before March 14, 1904.

New Trade Mark Applications.

"**SISCO,**" for chemical substances used in manufactures, photography, etc., by Sissons Bros. and Co., Limited, Bankside, Sculcoates, Hull. 259,739.

DEVICE OF CHIMNEY STACK, for chemical substances used in manufactures, ētc. (255,233); substances for preserving and disinfecting, etc. (255,234); perfumed toilet and shaving soaps, etc. (255,237); and "**COTOFORM,**" for substances for preserving and disinfecting (257,146); pharmaceutical preparations and medicaments (257,147), by Chemische Werke Hansa Gesellschaft mit Beschränkter Haftung, Am Bruggeweg, Hemelingen, near Bremen, Germany.

"**BUTTERCUP,**" for chemical substances used for agricultural, horticultural, veterinary, and sanitary purposes, by S. H. Ward, 48, Cranmer Street, Nottingham. 255,379.

"**SALAMBA**" **AND DEVICE OF HELMETED HEAD AND SHIELD,** for a medicine for human use, by J. Horsch, 4, Independence Street, Mexico City, Mexico. 258.192.

"**UPAI,**" for chemical substances prepared for use in medicine and pharmacy, by C. E. Norgate, High Street, Newport. 257,674.

"**MIOL**" label, for an iodo-phosphated malt and oil, by A. Hendy, 98, Thorpdale Road, Finsbury Park, N. 258,808.

"**VITALOIDS**" ("Vital" disclaimed), for medicinal pills, tablets, and capsules, by the Laboratory Co., Red Hall, Guildford Street, Leeds. 259,319.

"**QUINKA**" ("Quin" disclaimed), for medicine for human use, by S. J. Abbott, 153, Queen Street, Portsmouth. 259,488.

"**LESSOIDS,**" for a medicine for the treatment of obesity, by D. Bennett, the Trilene Co., 66, Finsbury Pavement, E.C. 259,554.

"**NITRONIL,**" for medicines for human use, by F. H. Johnson and Co., Limited, 231, High Street, Lewisham, S.E. 259,583.

"**CALODAL,**" for medicinal food and pharmaceutical preparations, by Chemische Fabrik von Heyden Aktiengesellschaft, 57, Leipzigerstrasse, Radebeul, near Dresden, Saxony. 259,772.

"**COLMO,**" for disinfectors, by D. Provand, Edgehill, Camphill Avenue, Glasgow. 258,304.

DEVICE OF ELEPHANT'S TUSKS, CATFISH ORNAMENT, ETC., for perfumery, etc., by J. Holt and Co. (Liverpool), Limited, 81, Dale Street Liverpool. 258,832.

Note.—Opposition to the registration of any of the above-mentioned trade marks must be filed at the Patent Office on or before March 3, 1904.

MARKET REPORT.

The quotations given below are the lowest prompt cash prices for bulk quantities, to which other charges have to be added. It is important that this should be borne in mind in making any comparison between the prices quoted and those of the wholesale drug trade.

The Drug Sales.

London, Thursday, February 4, 1904.

To-day's drug auctions were characteristically dull. The bulk of the offerings, consisting of old and new drugs, were bought in, and some of the catalogues (which numbered fifteen) were rather heavy. The sales were featureless, except for the further drop in Menthol, but this has almost become a standing feature. One would imagine, however, that Menthol would not be likely to become much cheaper, especially in view of the threatening outlook in the Far East. A much larger quantity than usual was offered, and 37 cases Kobayashi were disposed of at 15s. 6d. to 15s. 9d.; 5 cases of Yazawa realised 15s. 6d., and 10 cases of T. Chiuji realised 13s. 6d. Eighty-two bales of Cascāra Sagrada were offered. With the exception of 10 bales, which were knocked down at 80s., the bulk was firmly held; this was new bark. As regards the position of this drug, it is hardly possible to make any definite statement, as the demand is so small; it is expected that towards the end of the month America will be requiring it, and the anticipated consequence is a rise in value. The bulk of the offerings of Ipecacuanha was firmly held; 6 packages of Rio, however, were knocked down at 4s. 6d. to 4s. 10d. for sea damaged, and 15 packages of Minas sold at 4s. 4d. to 4s. 5d., which is slightly lower than late rates. Eucalyptus Oil was a trifle lower, 1s. 1½d. being the price paid. Honey was not in large supply, and realised good prices, Jamaica fetching from 18s. 6d. to £1 3s. 6d., according to quality. A number of cases of Japan refined Camphor, containing various sized tablets, were catalogued, but these were held at 3s. The offerings of Japan Oil were also held. Cape Aloes were in good demand, and sold at from 39s. to 42s. 6d., the latter price being paid for fair hard bright. The bulk of this was bought for the Continent. Only a small quantity of Rhubarb was disposed of, 1s. 5d. paid for round Canton and 1s. 8d. for round Shensi. Five bags of Ergot of Rye found buyers at 1s. 4½d. for new Spanish. For good green Ceylon Coca Leaves 1s. 2d. was paid, and for fair green 1s. Very little Dragons' Blood was disposed of; thin reeds were held for £9, and thick ditto for £8 5s. For very dull lump £5 15s. was paid, and for fair bright, part seedy, from £7 2s. 6d. to £7 10s. Balsam Tolu, catalogued as "cases all more or less stained with oil," sold at 1s. for fair, while drossy was knocked down at lower prices. Buchu Leaves realised 8½d. "subject" for yellowish green, slightly stalky. For croton seed 18s. "subject" was the bid accepted, which is rather cheap. Aconite Root (Ferox) realised £1 6s. Medium good Madras Nux Vomica Seeds fetched 8s. Cardamoms were a little firmer, and nearly all the offerings found buyers. The Senna offerings were off in colour, but sold well at from 1½d. to 2½d., the latter price being paid for green leaf. Jamaica Sarsaparilla found buyers at 1s. 1d., and for sea-damaged ditto a bid of 10½d. was accepted. Lima realised 10½d. Sea-damaged Galls, catalogued without reserve, sold for 52s. for ordinary quality. Orris Root sold without reserve for 17s. 6d. for Florentine small sorts a little off colour. A small quantity of Wax was disposed of, Jamaica up to £7 7s. 6d., Australian, £7; and Madagascar, £6 12s. 6d. subject. These were the most interesting items of the sales.

General Markets.

Things remain very dull on the Drug and Chemical markets. The rise in Santonin and the slight drop in Quinine are the principal events of the week. Camphor is not quoted, and holders are not over willing to sell. It is reported that the different Morphine makers, both here and on the Continent, have come to an understanding which is believed to be in the direction of mutually refraining from giving discounts. If this proves to be correct, it can hardly fail to strengthen prices both for Morphine and Codeine.

ALUM.—Lump, £5 12s. 6d.; Ground, £6 2s. 6d.

ARROWROOT.—92 barrels St. Vincent sold at Wednesday's sales; fair manufacturing at 1¾d.

BICARBONATE OF SODA.—£7 5s. per ton, landed.

BISMUTH.—Carbonate, 8s. 1d.; Subnitrate, 7s. 4d.

BLEACHING POWDER.—English, £4 15s. to £4 17s. 6d.

BORACIC ACID.—Powder, £1 4s. 6d.

BORAX.—In powder, 14s. 6d.; crystals, 13s. 6d.

CAMPHOR—Is very firm, and the available supply is exceedingly small. No price can be quoted.

CARBOLIC ACID.—Crystals, 39° to 40°, 5d.; crude, 60°, 1s. 6½d.

CASTOR OIL.—Belgian 1sts, £19 17s. 6d.

CINCHONA BARK.—The shipments at Java during January were 845,000 Amsterdam lb., against 587,000 Amsterdam lb. in January, 1903.

CITRIC ACID.—1s. to 1s. 0½d. per lb.

CLOVES.—At Wednesday's sales 100 bales Zanzibar were offered, but were held for 9d. Privately the market is steady, and some sales have been made at 8⅝d. for March-May delivery.

COCAINE.—11s. 9d. to 12s. 3d. per oz. for the hydrochloride, according to quantity.

COCOANUT OIL—Is firm. Cochin, £30 spot; Ceylon, spot £26.

CODEINE.—8s. 11d. per oz. for the pure alkaloid.

CREAM OF TARTAR.—98 per cent. foreign powder, 87s.

GINGER.—At the spice sales all the offerings of Cochin were bought in at late rates.

HYDRASTIS CANADENSIS—Is very scarce, and the price has gone up to 3s. 9d., c.i.f. It is expected to become dearer still.

IODIDE OF POTASSIUM.—The Convention price is 8s. 9d. per lb.

IODINE.—9s. 9d. to 10s. per lb. for the resublimed, according to quantity.

IODOFORM.—11s. 8d. per lb.

LINSEED OIL—Is firm and dearer. London, spot, pipes, £17; barrels, £17 10s. The seed is also rather dearer.

MERCURIALS.—Calomel 2s. 8d., Corrosive Sublimate 2s. 4d., Red Precipitate 2s. 11d., White Precipitate 2s. 11½d., Mercuric Sulphate 2s. 4d.

MORPHINE.—4s. 6d. per oz. for the hydrochloride.

NUTMEGS.—Only two cases found buyers at the spice sales. The bulk was bought in at about late rates.

OIL OF PEPPERMINT.—The price asked for H.G.H. is 14s. 6d., and for American Oil in tins 12s. to 12s. 6d.

OXALIC ACID.—2⅝d. delivered free London.

PEPPER.—There was little demand at the spice sales. In the private market White Pepper is steady. Fair Singapore 9¾d.

POTASSIUM BROMIDE.—1s. 11½d. per lb.

QUICKSILVER.—£8 5s.

QUININE.—The German makers have again reduced their prices ½d. per oz., the official quotation now being 11½d. per oz. This follows on the large offerings at the Dutch auctions and the lower prices (a fall of 15 per cent.) accepted. The landings during the month of January were 83,472oz., and the deliveries 32,384oz., making the stock on January 31 3,317,600oz., against 3,560,272oz. in 1903.

SANTONIN.—The price has again been raised. The quotations are now 25s. to 26s. 3d., according to quantity.

SHELLAC.—Although the Calcutta cable comes lower, the market here is firm. Spot sales have been made at 212s. for fair TN.

Antitoxin Prices.—Sensational articles have appeared in the Chicago newspapers and elsewhere, alleging the formation of a trust by the manufacturers of diphtheria antitoxin and an advance in the price of the product. These statements have no foundation in fact, but have their origin, probably, in an occurrence which, to those wholly ignorant of the subject, might seem justification for the charge. By common consent a certain basis of strength, known as the "unit," has been accepted by the medical profession and adopted by the manufacturers as a basis for determining the strength of the various antitoxin preparations. When measured by this unit—and the unit is understood to represent the therapeutic or the immunising value—the new schedule of prices is lower than that which was formerly maintained. For instance, the 1,000 unit package now costs 2 dols., as against 2.25 dols., and the 2,000 unit package now costs 3.50 dols., as against the former price of 4 dols., etc. The basis for the outcry is that the manufacturers have discontinued altogether the making of a weaker antitoxin, which was formerly known as "Standard," or "X." Hereafter only one strength—namely, the "Concentrated," or "XX," as it was formerly called—will be made by manufacturers. This is to be put up in packages containing 1,000, 2,000, 3,000, or 4,000 units each. The smaller packages, one of which contains 500 and the other 1,000 units, will no longer be marketed. The manufacturers explain this change on the ground that the tendency is to use larger doses of the remedy, it being safe to use large doses, rather than to take the risk of a small dose being insufficient to bring about immunity. The new method of labelling the packages will make for accuracy and prevent confusion, and seems to have much to recommend it from the point of view of the patient, the practitioner, and of the pharmacist alike.—*American Druggist.*

LETTERS TO THE EDITOR.

Pharmaceutical Education.

Two objections have been raised against Professor Wild's scheme—(1) that it would delay the wage-earning period; (2) that it makes no provision for carrying on study during apprenticeship. I do not see very much in the first objection, because under present conditions a young man who begins a four or five years' apprenticeship at the age of fifteen will only just have finished it in time to begin studying for his qualifying examination, and under Professor Wild's scheme I take it that the two years spent at college preparing for the qualifying examination will count as part of the apprenticeship, the shop part of which might then be reduced to three years.

The late Mr. Baden Benger, in the paper which he read before the Conference in 1870, suggested spending a year at college before apprenticeship, acquiring a knowledge of pure science, the said year to count as part of the apprenticeship, thus leaving only three years to be spent in the shop. In handicrafts it is being recognised that "the old-fashioned term of apprenticeship is too long," and quite unsuited to the altered conditions of the present day. The apprentice spends part of his time at the bench and part at a technical school, either concurrently or, as Professor Wild suggests, separately—in the latter case the two years so spent being counted to him in his term of apprenticeship. There is therefore nothing startling in the ideas put forward, and the two schemes need not necessarily clash. For the intermediate examination of the Institute of Chemistry the candidate may either spend three years at a university, or two years at the university and two years in the laboratory of a Fellow of the Institute, and he must produce written evidence of the work actually performed during the whole of that period, duly attested by his teachers and employers. A fourth year must then be spent preparing for the A. I. C. qualification.

With regard to the second objection, there is no reason why an apprentice should not be encouraged to take up the study of elementary science during the three years at the counter, or, for that matter, of French, German, economics, or commercial law. If he were reading for the "Bell" or "Manchester" scholarship he would do so, and why not every apprentice? Professor Wild mentioned that the county and municipal councils offer far higher education in science scholarships, some of which are of the value of £60 per annum for three years, provided that the holder enters upon a course for a university degree, and adds: "I am sure that a pharmaceutical student who had passed the Preliminary Examination and made good use of the opportunities afforded him during his apprenticeship ought to have an excellent chance of winning one of these scholarships," from which it is evident that he did not intend the apprentice to neglect his studies during his apprenticeship. I would suggest to local associations the desirability of ascertaining to what extent these scholarships are available for chemists' apprentices and of publishing the information in the Journal.

Manchester, February 2, 1904. James Grier.

Impure Sodium Salicylate: Samples Required.

In conjunction with Dr. Leonard Dobbin, of Edinburgh University, I am conducting an inquiry into the purity of sodium salicylate on behalf of the Pharmacopœia Committee of the General Medical Council. Hitherto our difficulty has been to obtain any impure samples. I shall be glad to receive any specimens which are suspected of being chemically or physiologically bad, and will feel grateful if any of your readers can help us in this way.

Ralph Stockman.

University of Glasgow, January 30, 1904.

The Value of Apprenticeship.

Although it is my almost invariable custom to shun egoism, I think it may interest your readers if I give you a short sketch or autobiography. I do so owing to the recent discussion at headquarters on the above subject, together with the report of the Government visitor on the examinations conducted in Edinburgh, which are published in the current number of the Journal. Having successfully negotiated the Preliminary Examination whilst at school, I was apprenticed to a pharmaceutical chemist, who had a good family and dispensing business in a London suburb. Here I had to work hard, but was not confined to mere mechanical drudgery, learning routine dispensing in the very first year by the simple expedient of having to do it, under, of course, competent and qualified supervision.

The great advantage of my apprenticeship was, owing to the foresight of a relative who was responsible for drafting my identures and fixing the amount of the premium paid (which was a handsome one), that I was enabled to take, concurrently with my business training, a collegiate course at the Society's School of Pharmacy in Bloomsbury Square. I was allowed one hour in the first year of my apprenticeship each afternoon for private study. During the second year I had the privilege of attending the lectures on chemistry and pharmacy delivered by the late Professor Redwood on three mornings weekly, whilst in the third period I was enabled on two mornings a week to be present at the discourses of the late Professor Bentley on botany and materia medica. This course of procedure, coupled with the aid of a good practical system of postal tuition, enabled me to pass the Minor Examination easily three months before the completion of my pupilage. I soon after was equally successful in the Assistants' Examination at Apothecaries' Hall. I then found a situation in a busy part of London, where, for services rendered in the latter part of the day, I was provided with bed, board, and pocket money, and had liberty accorded five mornings weekly to work in the laboratory of Professor Attfield, with a further privilege of privately studying at any time I pleased between ten o'clock at night, when the pharmacy was closed, and eight o'clock in the morning, when it was reopened. I was thus enabled to pass the Major Examination at an early age.

Conditions change; examinations increase in stringency, an age of luxury may have enervated the modern youth, but the fact remains that the secret of success is adequate technical training during apprenticeship, together with the allowance of sufficient leisure to attend classes for theoretical study. An experience of many years in various parts of London, including an historic house in the West End, and also in provincial towns, convinces me that few pharmacists are so pressed throughout their working day that they cannot at certain hours spare their apprentices to attend classes. The fortunate few who are always busy must pay the penalty of success by non-reception of premiums, whilst it is decidedly unfair to apprentice a youth in a village or small town where no educational facilities are available. No man should take an apprentice unless he is prepared, first, to teach a pupil the art and practice of pharmacy, secondly to give him opportunities of learning the sciences which explain the said art.

Feb. 1, 1904. "Pharmaceutical Chemist" (274/17).

The Society's Divisional Secretaries.

I enclose this year's subscription and a mite for the Benevolent Fund. How is it we see so little of our Local Secretary? I have been four years in this district, and never been favoured with a call, though on first coming into it I wrote him, and offered to give him any help I could in my particular district. I did not even have the courtesy of a reply. Why not have a re-election every two years? If the honour of representing the Society is worth having our Local Secretaries would then probably take more interest in their work for fear of being ousted. My principal where I was apprenticed was Local Secretary, and every January he saw every chemist in his district who would allow himself to be seen, and asked for help for the Benevolent Fund. Those in the outlying districts were always waited on by the senior apprentice, and their shillings collected regularly. Any infringements of the Pharmacy Acts also were sharply dealt with by a personal call, and I do not recollect a single offender having to be reported to the Society.

Just another idle thought. What is the advantage of Part II. of the Poisons Schedule? I sell "Winslow's," for example, with my name stamped on the outer cover; the first thing my customer does on getting home is to tear off that wrapper. What is the advantage of putting my name on? Ought not a space to be left for this on the actual label on the bottle itself. The whole thing appears most futile, and I believe every other qualified chemist thinks the same.

East Ham, February 2, 1904. "M.P.S." (274/28).

The Sale or Dispensing of Drugs by Medical Men.

I would very much like the above subject to be discussed by the chemists of this country, as I consider it is time something should be done. The doctors in my town do their own dispensing, and also supply their patients with almost everything they require. I live quite close to a medical man, who never sends to my shop only when in want of Lipton's tea, coffee, amp oil, stiff starch, Hudson's dry soap, etc.

February 2, 1904. "Equity" (274/20).

*** It is questionable whether any good purpose would be served by acting upon the suggestion of our correspondent. The problem is essentially one that must be solved by medical practitioners.—[Ed. *P.J.*]

A Warning to Chemists.

It having been brought to my notice that a so-called representative of a watch company is using a postcard and other matter as an inference of business transacted with chemists in Stockport, I wish to warn any reader against taking any notice of such copy and correspondence, as all the agreements made by me and others in the town named are still incomplete.

Stockport, February 2, 1904. "M. P. S." (274/18)

The Cotto Crisis.

The following is an abstract of an interesting communication received from a correspondent particularly well qualified to speak on the question :—"The price of raw cotton (mid. Amer.) yesterday, the 2nd inst., was 8.96; the same day last year it was 4.88, or 4.08 lower than the same day this year. In the year ending August, 1903, the American yield was 10,758,000 bales. This was decidedly more than either of the three previous years, so that there was not, as generally supposed, a particular deficit last year; but the increasing insufficiency of cotton is becoming more evident year by year, and speculators saw at length that it was an almost safe article for those with capital to gamble in. It is generally understood that Germany and Russia have, during the last few weeks, been forging ahead in the manufacture of cotton, but no such attention seems to have been paid to the advance in the Southern States of America, which, during the last twenty-two years, have increased their number of cotton-mills from 180 to 716, their spindles from 6,670,000 to 7½ millions, and their capital from 4,000,000 to 15,000,000, amounting to an increase of about 400 per cent. Of course, England has not been left quite behind, so it will be seen that the total demand has been increasing out of all proportion. Of course, this has not been without some increase in the cultivation of the raw material. In 1896 there were about 20,000,000 acres in the United States under cotton; in 1903 there were 29,000,000. Fortunately, those interested are waking up to the fact that the supply is quite insufficient."

DEATHS.

Cooke.—The *Australian Journal of Pharmacy* records the death of Stephen Cooke, Chemist and Druggist, formerly of Clapham Road, London. Mr. Cooke had been missing from his pharmacy at Rushworth, Victoria, for over six weeks, and, on December 16, his body was found in a water-hole near Whroo. He is said to have been eccentric in his behaviour for some time, and was last seen alive at Rushworth on November 1. His business transactions were found to be in order, and he was in a satisfactory financial position. From letters found on the body it is said to be evident that he suffered from delusions. Mr. Cooke went to Victoria in 1888. He passed the Minor Examination of the Pharmaceutical Society of Great Britain in 1885.

Cripps.—On November 25, Ernest Henry Cripps, Chemist and Druggist, Southsea, formerly of Salisbury. Aged 51.

Evans.—On January 31, Thomas Fryer Evans, Chemist and Druggist, Flint. Aged 44.

Grimshaw.—On January 30, Harry Grimshaw, Manufacturing Chemist, Bradford and Manchester. Aged 53. Mr. Grimshaw, who was a native of Manchester, studied chemistry under Sir Henry Roscoe and Professor Schorlemmer at Owens College, where he secured a chemical entrance exhibition, and after a tie with the late Professor Carnelley, of Aberdeen University, gained the Dalton Chemical Scholarship. He was demonstrator and lecturer at Owens College for some time, and in 1872 he was elected a Fellow of the Chemical Society, and joined the Manchester Literary and Philosophical Society. To both of these bodies he contributed numerous original papers on chemical subjects. He joined the Manchester Branch of the Society of Chemical Industry early in its history, and acted for several years as a representative of that section on the Council of the Society. After a short partnership with Dr. C. A. Burghardt as an analytical chemist, Mr. Grimshaw became a manufacturing chemist, and with Mr. Oswald Wilkinson established at Bradford a business which Mr. Wilkinson relinquished on being appointed public analyst for Stockport. The business was subsequently carried on by Messrs. Grimshaw Brothers, and later by a limited company under their name, Mr. Harry Grimshaw being at the head of the management. He was appointed on the jury of the Antwerp Exhibition in 1885, and was hon. secretary of the Chemical Section of the Manchester Chamber of Commerce. In addition to technical and trade matters Mr. Grimshaw took an active part in public affairs, being a member of the Manchester City Council and of other public bodies.

Kelloway.—On January 26, at the Willesden Cottage Hospital, from acute pneumonia, Arthur Kelloway. Aged 23.

Schacht.—On January 28, at 1, Windsor Terrace, Clifton, Bristol, Ellinor Sara (Nellie), daughter of the late George Frederick Schacht.

REPLIES TO CORRESPONDENTS.

Information required by readers will be published in this column as early as possible, but the Editor cannot undertake to reply by post, even though stamped addressed envelopes accompany the queries. Replies will, in all cases, be referred to the sender's initials, and the registered number added in each instance should be quoted in any subsequent communication on the same subject. When formulæ are given without definite weights and measures, it should be understood that the solids are to be weighed and liquids measured. Plants for recognition should be addressed to the "Curator, 17, Bloomsbury Square, London, W.C.," accompanied by a stamped, directed envelope for reply. No notice can be taken of anonymous communications.

Recipes (F. F. S.—273/47).—See reply to "A. S." below.

Recipes (A. S.—273/40).—The numbers will be added, and the list returned to you shortly.

Factories Act (A. D. L.—106/12).—It is necessary that you should exhibit the notice.

Ointment for Dandriff (T. G. W.—106/7).—Dilute mercuric nitrate ointment with seven times its weight of soft paraffin.

Cancer (J. W. H.—273/35).—Thanks for your suggestion, but the subject is more suitable for treatment in medical journals.

Toilet Cream (T. E. C.—105/27).—Try the first formula given at page 772 of last volume, replacing part of the water by the medicament and whipping the product as it cools.

Optician (J. W. B.—105/34).—You will find full information on the subject in the Photographic and Optical Supplement published with the *P.J.* of March 28 last.

Optics (T. J. E.—106/8).—(1) See the Photographic and Optical Supplement published with the *P.J.* of March 28 last. (2) We know nothing against the firm you mention.

Mark on Slate (105/32).—(1) It will probably be necessary to repolish the surface. (2) You can obtain the book from Mr. Henry Kimpton, 13, Furnival Street, E.C. The price is 2s. 6d.

Formulary (H. G. M.—106/35).—The issue of the book will not be delayed much longer. Meanwhile, if you will send a list of your recipes, we shall endeavour to give you the numbers forthwith.

Capsules (F. B.—106/6).—We see no reason why you should not use the combination you mention, or why the contents of the capsules should deteriorate on keeping. But it is a matter for experiment.

Removing Ink Stain (W. P.—105/31).—You do not say what you have tried. Moisten with a clear solution of chlorinated lime, and afterwards apply a little diluted acetic acid, subsequently washing well with water.

Radium (R. C. H.—106/5).—(1) No such work has yet been published, and we regret that we have no information on the other subjects you mention. You should refer to articles and reports of lectures in recent volumes of *Nature* and the leading medical journals.

Liquor Bismuthi (A. S.—106/11).—The difficulty you mention has been experienced by others, and it is doubtful if the whole of the precipitated citrate can be dissolved by following the official process exactly. See Cowley and Catford's paper on the subject (*P.J.*, December 23, 1899, page 604).

College of Preceptors Examinations (C. J. H.—106/4).—The fee stated in the Journal was correct at the time of publication, but it was then pointed out that "certain other modifications of previous conditions will come into operation in December next." Presumably the increased fee is one of those "modifications."

Orange Wine (C. F.—106/1).—Pour boiling syrup containing one-fifth its weight of sugar upon the freshly removed rinds of bitter oranges, and allow the whole to stand for twelve hours; next add yeast and allow fermentation to proceed at 18° to 21° C. for three days, after which strain the wine into a barrel and adjust the alcoholic strength by the addition of rectified spirit, if necessary.

Partnership (E. D.—106/9).—The unqualified partner would certainly be liable to penalties for infringing the Pharmacy Act. It should be noted, however, that a business partnership cannot exist unless a definite contract has been entered into, orally or in writing. The mere investment of money in a business and receipt of profits therefrom does not constitute partnership. A contract of partnership, however, may be inferred from the acts of the parties.

Correction.

Correction.—At page 117 of last week's issue, in the note on spurious belladonna root, *for* "the Violaceæ" *read* "*P. violacea.*"

Calendar for the Week (February 7—13, 1904).

Days of M	Days of W	Events of the Week.	Sun Rises	Sun Sets.
7	S	**Sexagesima.**	7.33	4.55
8	M	☾ Last Quarter, 9.56 a.m.	7.31	4.57
		Dewsbury and District Chemists' Association, Church House, at 8.30 p.m.—Ordinary Meeting.		
9	Tu	Pharm. Soc. G.B., 17, Bloomsbury Square, London, at 8 p.m.—Evening Meeting.	7.29	4.59
		Huddersfield and District Chemists' Association, Queen Hotel, at 8.45 p.m.—Subjects for Consideration, "Territorial Representation" and "Radium."		
		Royal Photographic Society, 66, Russell Square, London, at 8 p.m.—Annual General Meeting.		
10	W	Bristol Pharmaceutical Association, University College, at 8.30 p.m.—Annual Meeting.	7.27	5.1
		Edinburgh Chemists', Assistants', and Apprentices' Association, at 8.20 p.m.—Visit to Ford's Glass Works.		
		Sheffield Pharmaceutical and Chemical Society, Montgomery Hall, at 9 p.m.—"Medicine Stamp Duty." By Geo. Squire.		
11	Th	Bradford and District Chemists' Association, Royal Hotel, at 9 p.m.—"The Attitude of Pharmacists towards Education." By R. C. Cowley.	7.25	5.3
		Brighton Association of Pharmacy, 122, King's Road, at 9 p.m.—General Meeting.		
		Chemists' Assistants' Association, Portman Rooms, at 7.30 p.m.—Cinderella.		
		Leeds and District Chemists' Association.—Lecture on Radio-Active Elements. By F. W. Branson.		
		Lincoln and District Chemists' Association, Coffee Palace, at 8 p.m.—"Privileges and Obligations of the Pharmacist." By J. T. Birkbeck.		
		Midland Pharmaceutical Association, The University, at 8.30 p.m.—"Plasters and Plaster Spreading." By A. W. Gerrard.		
		North Staffordshire Chemists' Association, Roebuck Hotel, at 6.30 p.m.—General Meeting.		
		West Ham and District Chemists' Association, Earlham Hall, E., at 3 p.m.—Ordinary Meeting.		
12	F		7.23	5.5
13	S	Football.—Polytechnic C *v.* Metros.	7.21	5.7

LETTERS, NEWSPAPERS, QUERIES, and other COMMUNICATIONS have been received from Messrs. Barrie, Baxter, Bennett, Biggan, Birnie, Boa, Bonello, Campkin, Christie, Clark, Dainty, Dodd, Evans, Farr, Flint, Freeman, Gadd, Gibson, Goodess, Goodyear, Grier, Hare, Harrison, Hill, Hopkins, Hornsby, Jones, Judge Latreille, Lindsay, Llewellyn, Lloyd, Marsden, Mumbray, Plenderleith, Potter, Priestley, Quant, Radford, Ralling, Rigby, Sankey, Slinn, Stewart, Stockman, Stooke, Town, Vernon, Walker, Ward, Wardage, Williams, Wilson, Wood, Wright.

Telegrams "PHARMACEUTICAL JOURNAL LONDON"
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CHANGES OF ADDRESS.

Instructions from Members of the Pharmaceutical Society, with reference to the transmission of the Journal, should be sent to the SECRETARY, 17, Bloomsbury Square, London, W.C.

The Pharmaceutical Journal Office.

THURSDAY, FEBRUARY 11, 1904.

A FURTHER ARTICLE ON DISPENSING appears in the Students' Columns this week.

ENGLISH REFINED CAMPHOR has advanced in price, and as much as 4s. per lb. is asked.

THE SKIN DISEASES OF ANIMALS are dealt with in an article which agricultural chemists will find interesting.

THE CENTENARY OF THE DEATH of JOSEPH PRIESTLEY was commemorated in Leeds and Warrington on Saturday last.

THE TWO IMPORTANT DRUGS whose market value is likely to be most affected by the war are menthol and camphor.

THE PRESIDENT OF THE PHARMACEUTICAL SOCIETY is, we are pleased to announce, making favourable progress towards recovery.

THE INQUEST held on the bodies of four lunatics who died after taking draughts containing chloral hydrate has been adjourned until Monday next.

AT THE COUNCIL MEETING of the Pharmaceutical Society of Ireland, held on Wednesday of last week, no public business of importance was transacted.

THE PHARMACEUTICAL JOURNAL FORMULARY is now in the hands of the binders, and arrangements are being made to deliver all the copies as promptly as possible.

PRACTICAL ELECTRICITY FOR PHARMACISTS is a subject which Mr. F. A. RINGER has made his own. He warns chemists, however, not to attempt to take radiographs without the order of a medical man.

TWO PERSONS have committed suicide by taking potassium cyanide during the past week. The publicity which was given to the death of Mr. WHITAKER WRIGHT was probably responsible for the use of the poison in both cases.

THE ANNUAL DINNER of the Torquay Chemists' Association was held on Thursday of last week. Alderman GADD, J.P., urged every chemist to become a member of the Pharmaceutical Society, so that the Society might be in a better position to appeal to Parliament.

THE QUESTION OF THE REPETITION OF PRESCRIPTIONS is forming subject matter for the correspondence columns of lay and medical contemporaries. The suggestion that the words "Not to be repeated" be written on a prescription whenever desirable seems to be the most practicable.

THE VARIOUS METHODS which have been proposed for the determination of methyl alcohol in galenical preparations formed the subject of a paper read by Miss ELSIE HOOPER, Burroughs Scholar, before the School of Pharmacy Students' Association. Miss HOOPER finds that THORPE and HOLMES' method gives excellent quantitative results.

AN INTERESTING COLLECTION of eucalyptus oils and botanical specimens was exhibited at the Evening Meeting on Tuesday. These were presented to the Pharmaceutical Society by Mr. R. T. BAKER, F.L.S., Curator of the Technological Museum of New South Wales. The specimens are described in this issue by Mr. E. M. HOLMES.

TWO PAPERS WERE READ at the same Evening Meeting of the Pharmaceutical Society. One of these dealt with the presence of a mydriatic alkaloid in *Lactuca virosa*, and the other with the distribution of the alkaloids in *Conium maculatum*. The authors were Messrs. E. H. FARR and R. WRIGHT, and the discussion which followed the reading of the communications was instructive in a high degree.

MR. ERNEST QUANT claims, in the correspondence columns, that there are good openings, "here and there," for pharmacists to undertake clinical investigations for medical men. This is a subject on which the views of others who have experience of this scientific "sideline" might usefully be expressed, as it has a bearing on the recently-propounded schemes for improving pharmaceutical education.

AMONG THE NEW BILLS which have been read a first time in the House of Commons are several of indirect interest to pharmacists. These include a Bill to amend the Medical Act, 1886, one to amend the Merchandise Marks Act, 1897, and another to amend the law relating to shops. Mr. LONG has given an interesting answer to a question asked by Sir CUTHBERT QUILTER concerning the Royal Commission on Arsenical Poisoning.

DRUGS AND THE WAR.

THERE can be no doubt that the war in the Far East will influence considerably business in two very important articles which form part of the chemist's stock in trade. Those, it is hardly necessary to state, are camphor and menthol. There are other medicinal products, large supplies of which are shipped from Japan; there is, for instance, Japan wax, there are fennel and galls, and there is that product known on the market as Japanese isinglass, which is not really isinglass at all. Of late, too, the Japanese have been manufacturing potassium iodide and competing with the European makers. But all these articles can be obtained in other parts of the globe, while the world practically depends on Japan for its supply of camphor and menthol.

The most important centre of the camphor industry is Formosa. Here the camphor tree covers the line of mountains which run from north to south of the island, growing up to an elevation of nearly 2,000 feet on the mountain side. The drug is obtained from the wood of the tree by the natives, and the bulk of it exported in the crude state. The Government holds the monopoly, which is farmed to a British firm. For some time back the home camphor market has been in an uncertain condition, supplies of the crude material have been withheld, and refiners have only had their stocks to draw upon. But now that war has actually broken out the market is, to say the least of it, in an excited condition. Prices are rising daily, and holders, and these are very few in number, cannot make up their minds what prices to accept. This is the position at present, and there seems to be no hope of any immediate improvement.

Menthol is an article which has acted, one might almost say, contrary to nature. All the time preparations for hostilities have been going on menthol continually and steadily declined in price, and in fact, at the last drug auctions, almost on the eve of the outbreak, it again fell. Now, however, that the war has actually begun, its tactics have changed, and the article shows a decided inclination to crawl back to the position it held some months back. The peppermint oil exported from Japan after the menthol has been abstracted is also likely to increase in value. As regards Russian produce of the nature of a drug, the article which will at once occur to the mind is linseed, large quantities of which are shipped yearly from the Baltic Ports. There seems, at the moment, no real reason why the price of this should be very considerably affected, but in view of the sowing season, and the absence of the agricultural labourers called to arms, a stiffening in the price should not come as a surprise.

STATISTICAL REFORM.

Although Mr. Gerald Balfour may disclaim connection with other kinds of "reform" he may be congratulated on the improvements effected by the statistical department of the Board of which he is President. The Board of Trade Returns for January, 1904, have been elaborated in a manner which will be welcomed by the great majority of British manufacturers. It had long been a complaint, more especially on the part of those interested in the chemical and allied industries, that in no branch of British export trade was so large a portion of goods left undescribed; and on more than one occasion representations have been made in the proper quarter with a view to remedying this deficiency. Even now the table of articles imported and exported is by no means so specific as could be desired, but a step has been made in the right direction. It may be of interest to enumerate some of the alterations which have been made in the nature and extent of the information published in the monthly accounts of trade. Under imports, in the class of chemical manufactures and products, the following articles which were formerly included under the heading "unenumerated," are now classified separately, and the amount imported given in cwts.:—Cream of tartar, muriate of ammonia, sulphuric acid, tartaric acid, and coal products (not dyes). The following imports formerly lumped together as "Oil, seed," are now individually mentioned:—Cotton seed oil, linseed oil, rape seed oil. In addition to these alterations, "scientific instruments and apparatus" (other than electrical) is now a separate heading, and the imports from France and U.S. of America are valued apart.

As regards the export tables, aniline and coal tar oils are now shown separately by the cwt.; these were formerly included in "Coal products unenumerated," and values only were given. The following articles are now shown separately for the first time:—Carbolic acid, cream of tartar, muriate of ammonia, sulphuric acid, tartaric acid and ginger. Dye stuffs are shown by the cwt., instead of by value only as hitherto. Soap is given under three headings, namely, "stock and powder," "household" and "toilet." Before the year 1901, it will be remembered, the six kinds of soda which are now enumerated were combined under the heading "alkali," which also included bleaching material. Since that date borax and glycerin have each appeared as separate articles in the import list, while similar alterations were made at that time in the classification of exports. It is probable that before long the tables will be still further divided, but it is hardly practicable to bring them up to the elaborate standard of the French and German tables. In those countries a specific duty is charged on many of the articles, and the statistical departments are therefore greatly assisted by the Customs authorities.

In this country it has been left to private enterprise to sift out from the immense mass of entries in the bills of entry issued at the principal British ports all that relate to any special industry and to classify them; while another method employed is to obtain the foreign import tables, and in this manner to find how much we send to various foreign ports. Both methods, however, are wholly inadequate for the required purpose. The Board of Trade is very largely dependent on shippers and importers for information concerning particular articles, and is considerably handicapped when this information, for one reason or another, is withheld. Forwarding agents are, as a rule, ignorant of the exact contents of the packages which they handle, and therefore, even if willing, are not in a position to give much information. The fact that several additions have at one time or another been made at the request of firms interested in particular articles seems to disprove the suggestion that merchants prefer to see a less elaborate list, fearing lest foreign competitors should gain an advantage by knowing what trade England was doing. Moreover, in answer to this argument, it is affirmed that the Germans, by the aid of a most efficient intelligence department, know more about our exports than we do ourselves.

"NOT TO BE REPEATED."

The question of the repetition of prescriptions, which is just now occupying the attention of correspondents to our medical contemporaries, is not a new one. Moreover, it is a near relative of that other old conundrum relating to the ownership of the prescription. There can be no doubt that it is often undesirable for a patient to continue taking the same medicine over an indefinite period. And more especially is the practice to be condemned when the medicine contains powerful narcotic alkaloids. The practice of writing the words "Not to be repeated" across the prescription whenever the medical attendant may deem it advisable is already in vogue in many medical quarters. That precaution is in itself quite sufficient to serve the required purpose, and is far more suitable than many of the other impracticable and fantastic methods suggested by medical correspondents. There is always, of course, the possibility of the patient procuring a copy of the prescription, but the fact that chemists would refuse to supply such a copy would safeguard the patient considerably. Another correspondent makes the original suggestion that the doctor should inquire the name of the patient's chemist, and should forward the prescription direct to the latter. Such an arrangement would have obvious disadvantages. In questions of this kind it is a good plan to inquire what system is in practice in other countries. On the Continent the matter has been decided by the legislature, and it is illegal for a chemist to repeat a prescription which contains certain poisons. The use of discretion on the part of both the doctor and the chemist is all that should be required to overcome the difficulty.

A NEW RADIO-ACTIVE SUBSTANCE.

Professor Markwald, of Berlin, speaking on the 6th inst. to a scientific gathering at Vienna, claimed to have discovered a new radio-active substance, which, he states, exists in minute quantities in pitch-blende. The substance at first seemed to give all the characteristic reactions of tellurium, but further examination proved it to be a mixture of tellurium and most minute quantities of a substance hitherto unknown. The quantity of radio-tellurium, as the Professor has named the latter substance, contained in pitch-blende is much smaller than that of radium. Moreover, radio-tellurium gives off only "Alpha" rays. Professor Markwald, to show the remarkable properties of radio-tellurium, placed a copper plate, on which some hundred-thousandths of a gramme of the substance had been precipitated by electrolysis, near a set of electric chimes, and it stopped them. When put near a Leyden jar radio-tellurium caused it to discharge through the air without emitting sparks. Professor Markwald stated that salts of radium "shine" spontaneously, that being specially the case with a rapidly-dried mixture of bromide of radium and bromide of barium; but radio-tellurium does not.

THE PRIESTLEY CENTENARY.

The centenary of the death of Joseph Priestley, scientist and theologian, to whose memory a statue was recently erected in the City Square, Leeds, was, on Saturday, February 6, commemorated in that city, and also at Warrington, the town at which his literary career may be said to have begun. Upon the front of the "Academy" at Warrington, where Priestley was from 1762 to 1767 a teacher of languages, the Warrington Society has placed a bronze tablet, which was unveiled on Saturday last by Dr. T. E. Thorpe, Director of the Government laboratory. The inscription on the tablet reads thus:—"Joseph Priestley, natural philosopher, resided here from 1761 to 1767, as a tutor of the Warrington Academy. This tablet was erected by the Warrington Society on the centenary of his death, 6th February, 1904." Electricity, theology, logic, history, politics, chemistry, grammar, languages ancient and modern, vegetable physiology—on all these subjects Priestley wrote. His life was indeed out of the common run. He was the son of a Leeds cloth-dresser, and was born near that city in 1733. At the age of twenty-two Priestley became minister to a small congregation of dissenters at Needham Market, in Suffolk. In 1758 he quitted Needham for Nantwich, and three years later he removed to Warrington, where, as has been said, he taught languages at the Academy.

Up to this time his studies had been almost entirely literary or theological, but he now turned his attention seriously to science, and particularly to chemistry and electricity. He was probably one of the first teachers to appreciate the importance of natural philosophy as a subject of study for the young. His first scientific book was on the 'History and Present State of Electricity,' published in 1767, but some years previously he had published a work on 'The Theory of Language.' From 1767 until 1773 he laboured at a Unitarian Chapel in Leeds, his study of chemistry being begun while there. A position as librarian and literary companion to Lord Shelburne gave Priestley the opportunity of travelling abroad and of pursuing his scientific studies. In 1780 he removed to Birmingham, where he became acquainted with James Watt and with Erasmus Darwin, grandfather of Charles Darwin. Branded as an atheist in England, in consequence of some of his theological writings, his enthusiasm for the French Revolution led to his being made, in 1791, a citizen of the French Republic and to the burning of his house in Birmingham by a mob. In the political arena, too, he fought against slavery and for the cause of Catholic emancipation. After his removal to London, the coldness of his colleagues at the Royal Society, to which he had been elected in 1766, finally decided him to emigrate to America in 1794. He died in Pennsylvania in 1804. His mind remained extraordinarily vigorous to the end; the defence of the phlogiston theory, abandoned by all chemists but himself, and an attack on the theory of spontaneous generation gave occupation to his last years.

Although it is now accepted as the fact that the credit for the discovery of oxygen must be given to Scheele, Priestley was a perfectly independent observer, his announcement with regard to the gas having been made in 1774, in the first volume of a book, entitled 'Experiments and Observations on Different Branches of Air.' Other gases which he "discovered" or investigated were nitric oxide, nitrous oxide, sulphur dioxide, carbon monoxide, hydrochloric acid gas, and ammonia. Although some of his writings may deserve but to be forgotten, although his views on the phlogiston theory and his conception of the nature of oxygen itself were, even in his lifetime, shown by his French contemporary, Lavoisier, to be entirely erroneous, Priestley must ever be regarded as one of the most earnest and most intellectual of the Englishmen of his time.

EVENING MEETING IN EDINBURGH.

An evening meeting will be held in the Society's House, 36, York Place, Edinburgh, on Wednesday next, February 17, 1904, at 8.30. Mr. David Brown Dott, Chairman of the Executive, will take the chair, and the following papers will be communicated:—On "South American Neroli Oil," by Messrs. J. C. Umney and C. T. Bennett; "Dispensing Notes," by Mr. Martin Meldrum; "Note on an Arsenic, Iron, and Quinine Mixture," by Miss Agnes T. Borrowman; and a "Suggested Test for Salicylic Acid in Bismuth Salicylate," by Mr. Wm. Lyon.

ABSTRACTS—SCIENTIFIC AND TECHNICAL

A REVIEW OF CURRENT WORK IN PHARMACOPEDICS AND ALLIED SCIENCES

Reversibility of Enzyme Action.

Dr. Croft Hills has produced considerable evidence to show that enzyme action may be reversible. Thus the hydrolysis of maltose to glucose by yeast maltase in concentrated solution seems to be incomplete, the phenomenon apparently being due to polymerisation of the glucose by a reversible process, so that in solutions of maltose or glucose, or of the mixed sugars, synthesis and hydrolysis take place until the system approaches a state of chemical equilibrium. It is shown that the synthetic action of a maltase-containing yeast extract results in the formation of two isomeric bioses — one not hitherto described, which is termed revertose, the other, although not isolated, is in all probability maltose. Both taka-diastase and the pancreatic ferments also have a reversible synthetic action on glucose. The yeast *S. marxianus* was successfully used as a reagent for separating maltose from glucose, since it ferments the latter sugar, but leaves the former untouched.—*Trans. Chem. Soc.*, 1903, v., 83.

Ferric Chloride as a Reagent for Tartaric, Citric, and Oxalic Acids.

L. Rosenthaler finds ferric chloride solution to be a useful precipitant for tartaric acid. If it be added drop by drop to a hot aqueous solution of a neutral tartrate, a yellow amorphous precipitate is formed at once, and the whole of the tartaric acid may be precipitated. The precipitate is obtained with a dilution of 1:1000 of sodium tartrate. Ferric chloride also gives precipitates with oxalates or citrates, but in dilute solutions only. If only a little ferric chloride reagent be added to an excess of one of these three acids, a yellow colour is produced by tartaric acid, green with oxalic acid, and brownish yellow with citric acid. If neutral salts be employed instead of the free acids, tartrates give a brown colour, oxalates green, and citrates yellowish green. Tartaric and citric acids treated first with ferric chloride, then with any one of the following reagents, give similar colours; thus with ammonium sulphocyanide, a red tint; with potassium ferrocyanide, blue; with iodine-zinc starch, blue; with guaiacum tincture, green. Oxalic acid gives no reaction with ferric chloride and tincture of guaiacum, nor with the same and iodine-zinc starch; with potassium ferrocyanide a faint red colour, and with ammonium sulphocyanide a brown tint. Neutral tartrates, citrates, and oxalates give no reaction with ferric-chloride and ammonium sulphocyanide, or with zinc-iodine starch or tincture of guaiacum; with the former and potassium ferrocyanide tartrates give a greenish-violet turbidity, oxalates a green colour, and citrates a yellowish-green shade.—*Amer. Drugg.*, **41**, 297.

Demonstration of Tubercle Bacilli in Urine.

Dr. E. Thevithick finds that the presence of tubercle bacilli in urine may be easily demonstrated by the following method:—The lower stratum of the urine which has been allowed to stand in a conical glass is pipetted off and centrifugated. After decanting the supernatant clear liquid, the minute deposit at the bottom of the centrifugating glass is washed with distilled water by shaking it up, and again centrifugating, the process being repeated once more. From the deposit thus obtained films are prepared and stained in the usual manner. This process of washing and centrifugating is stated to render the detection of the bacilli easier in urine than it is in sputum.—*Brit. Med. Journ.*, 1/1904, 13.

Rapid Detection of Turmeric in Powdered Rhubarb.

Griggi gives the following details for carrying out his test for the presence of turmeric in rhubarb:—1 Gm. of powdered rhubarb is intimately mixed in a mortar with 0·1 Gm. of finely powdered boric acid. The mixture is placed in a porcelain capsule and moistened with 9·6 C.c. of dilute sulphuric acid. The capsule is then cautiously heated over a Bunsen burner, the pulp-like mass being kept constantly stirred. Pure rhubarb will show no change but a slight darkening of colour, but if turmeric be present it gradually assumes a fine dark reddish-purple colour, due to the formation of the so-called rosocyanin of Schlumberger. If the mixture be moistened with dilute ammonia before it cools the rosocyanin will assume a transient blue colour. Pure rhubarb merely shows its own characteristic deepening of colour.—*Boll. Chim. Farm.*, through *Amer. Drugg.*, 296.

Chlorosis in Plants.

Some interesting experiments have been made by S. Mohrzecki, of Simferopol, in the Crimea, on the effect of iron in this plant disease. Trees affected by it exhibit an arrest of growth in the beginning of May, the leaves turn yellow, their edges become brown, they wither and fall off. This he ascribes chiefly to the large proportion of lime in some soils preventing the absorption of the necessary amount of iron, and for the purpose of cure he attempted to introduce iron directly into the trees, independently of the roots, by boring one or more holes in the tree, about 1 Cm. to 1½ Cm. in diameter and deep enough to contain 4 Gm. to 12 Gm. of ferrous sulphate, smearing over the openings well with cement, the wounds healing readily towards the autumn. The ascending sap was found to carry the iron to the tip of the leaves, and the plants soon showed in the colour and size of the leaves the appearance of healthy plants. Chlorate and phosphate of iron were found not to effect a cure so readily. Mohrzecki states that he has cured hundreds of trees by this treatment, and that the anthracnose which deforms the grape-vine rapidly disappears under this treatment.—*Gard. Chron.*, **35**, 66.

Hemlock Leaves.

Dr. G. Modrakowski, of the Pharmacological Institute of Lemberg, has examined the leaves which are sometimes found mixed with those of *Conium maculatum* in Germany, *e.g.*, *Chærophyllum hirsutum*, *C. bulbosum*, *C. temulum*, *Anthriscus sylvestris*, *Æthusa cynapium*, and *Cicuta virosa*, and has pointed out a few characters by which they may be distinguished apart from the differences in the fruits, which are rarely met with in commercial samples. In *C. hirsutum* the leaf-stalk is almost round, although deeply channelled above it shows only a flat rib in the upper surface. On transverse section the secretory cells have a large cavity. In *C. temulum* the secondary nerves of the leaf segments are formed at a more acute angle than in *C. hirsutum*, and the stem is spotted. Both species have hairy leaves. In *C. bulbosum* the hairs are less abundant than in the other two species, but longer. In *Anthriscus silvestris* the leaves are slightly hairy, the leaf-stalks are hollow, and the secretory cells have but a small cavity. In *Æthusa cynapium* the transverse section of the leaf-stalk shows in its upper channelled surface a large central cell developed in the form of a trichome or hair from the central epidermal cell, and the terminal leaf segments show the palisade cells continued to the under surface. *Cicuta virosa* has distinctly serrate leaf segments and a hollow leaf-stalk, while the epidermal cells exhibit a striated cuticle.—*Separat Abdruck aus der Zeitsch. der Allgem. Œsterr. Apoth.-ver.*, 1903.

NOTE ON THE DISTRIBUTION OF THE ALKALOIDS IN CONIUM MACULATUM.*

BY E. H. FARR, F.C.S., AND R. WRIGHT, F.C.S.,

Pharmaceutical Chemists.

In considering the subject of the alkaloidal strength of drugs, it is often assumed that the proportion present in good samples of the drug in question will not show any considerable variation. In other words it has been far too much the custom to state the alkaloidal content in absolute terms, and to take it for granted that the amount of alkaloidal, or other principle present, ought, if it does not, to approximate closely to the quantity found by some worker on the subject, whose results have been based upon the examination of a single sample. Such, of course, is very far from being the case. Not only will the development of active principles be largely affected by conditions of soil, climate, season, and cultivation, but other factors have also to be taken into account.

For instance, the age and sex of the tree or shrub,† or of the organ or organs from which the active principles are obtained, will have a considerable influence upon the yield of such principles. And it will further be found that in some cases the amount of active principle contained in one organ will be out of all proportion to the quantity found in another.

Without indulging in any wild speculations upon the subject, it is pretty clear to us that the problem of the mode of production of alkaloids in plants and their use in the vegetable economy will be solved, not by the synthetic methods of the laboratory, but by going straight to Nature, taking the living plant in the various stages of its growth, and studying Nature's methods of working out of her own handbook.

The object of this note is the very practical one of contributing somewhat to the study of the distribution of the alkaloids in hemlock. We have previously made several contributions to the literature of the subject, which will be found in back numbers of the *Pharmaceutical Journal* and the 'Year-Book of Pharmacy.'

The present note is, in many respects, supplementary to those already published.

The following method was adopted in dealing with the material for examination. The drug was collected and dried in warm air, the loss of weight being carefully noted. The average loss in drying was as follows :—roots, 77 per cent.; stems and stalks, 86 per cent.; leaves, 79 per cent.; flowers, 80 per cent.; fruit, 68 per cent. A weighed quantity of the dry material was taken, and, if possible, reduced to uniform powder, and exhausted by percolation with 70 per cent. alcohol. If the production of a uniform powder was not feasible, the drug was reduced to coarse powder and macerated for seven days in ten times its bulk of menstruum, a measured quantity of the tincture being taken for the estimation of the alkaloids.

The proportion of the latter was determined by the following analytical process :—

The tincture was placed in a porcelain dish, twenty-five cubic centimetres of distilled water containing one or two cubic centimetres normal sulphuric acid added, and the mixture evaporated over a water-bath until all the alcohol had been dissipated. The remaining liquid was transferred to a separator, the dish rinsed with five cubic centimetres of chloroform, the rinsings added to the contents of the separator, and the mixture shaken. The chloroform was drawn off and the process repeated. Any trace of alkaloid removed by the chloroform was recovered by agitation with a little acidulated water, the latter being afterwards separated and added to the original liquid. An excess of solution of potash was then added to the mixed acid liquids, and the alkaloids shaken out with three successive five cubic centimetres of chloroform. The chloroformic solutions were drawn off in turn and bulked, and the alkaloids extracted by agitation with three successive ten cubic centimetres of acidulated water. The process of purification above detailed was twice repeated, and the pure alkaloids obtained in chloroformic solution. The latter was well shaken with three drops of fuming hydrochloric acid, the mixture transferred to a flat-bottomed glass dish, the last portions being rinsed out with a little absolute alcohol, the chloroform allowed to evaporate in a current of warm air, and the resulting hydrochlorides dried at a temperature not exceeding 90° C. until the weight was constant.

For conversion into hydrochlorides we formerly employed a solution of dry hydrochloric acid gas in chloroform, but subsequently found that such a refinement of procedure was unnecessary.

Having determined the alkaloids in the tincture, a simple calculation was sufficient to give the amount in the dried material, and also in the fresh drug.

A large number of determinations of the alkaloids in different parts of the plant have been made by the above process, the great majority of the specimens operated upon being collected by ourselves. The results are shown, for convenience, on two tables, the first giving the percentage by weight of alkaloidal hydrochlorides from different parts of the plant; the second, the proportion yielded by commercial samples of the fruit, and also (separately) by samples of our own collecting. The latter represent a period of twelve years.

The results shown on the first table reveal very clearly the exceedingly rapid production of alkaloids in the plant as growth proceeds. This is more particularly the case during the flowering and fruiting stage. In one specimen, which was kept under observation, the fruit contained about eleven times as much as the flowers, thirteen times as much as the leaves, fifty-four times as much as the roots, and eighty-one times as much as the stems.

Arrived at the fruiting stage, the amount increases rapidly until the fruit is about three parts grown, after which it begins to diminish, at first slowly, then more rapidly. These observations point to the conclusion that the production of the alkaloid is closely associated with the development of the fruit, and its rapid disappearance as the latter approaches the stage of full ripeness, accompanied as it is by an equally rapid increase in the size of the albumen would appear to indicate that the alkaloids are utilised for the production of proteid reserve food material.

In giving the percentages of alkaloidal hydrochlorides yielded by the dry fruit, we have separated the results obtained from commercial samples, most of which are presumably of foreign growth from those obtained from English-grown fruit. This is done designedly, in order to bring out the vast disparity between the alkaloidal content of the two. The difference is very striking, and may be tersely expressed by the statement that whereas no sample of imported fruit has yielded us as much as one per cent. alkaloids, we have never obtained less than that amount from English-grown fruit, when collected at the proper time.

The yield of extractive follows the same rule as that of alkaloids; in other words, it varies with the stage of development of the fruit. From fruit taken at the stage when it is richest in alkaloids (*i.e.*, when three-fourths grown), as much as 20 per cent. of extractive will be yielded to 70 per cent. alcohol, while from fully mature fruit taken from the same plant it will fall as low as 12 or 15 per cent. This has an important bearing upon the question of tincture extractives, and indirectly upon the larger question of standards generally.

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* Communication to the Pharmaceutical Society of Great Britain, read at an Evening Meeting in London, Tuesday, February 9, 1904.

† 'Year-Book of Pharmacy,' 1902, p. 483, *et seq.* Jowett and Potter on "Willow and Poplar Barks."

The following figures show the range of extractive which may be looked for from an official tincture prepared from the fruit of indigenous plants :—

1	1·85 per cent. w v.
2	2·50 per cent. w/v.
3	2·75 per cent. w/v.
4	3·20 per cent. w/v.
5	3·25 per cent. w/v.
6	4·15 per cent. w/v.
Average	2·95

Gadd gives 1·5 per cent. ; Umney, 1·4; F. W. Fletcher, 3 per cent. The latter figure agrees with ours, and is evidently based upon a tincture made from English fruit, while the others represent what may be expected from a preparation made from imported fruit.

The bearing of all this upon the question of standards is obvious. It happens in some cases that the difference between the normal yield of active principles by home-grown and foreign drugs is so great as to make it a matter of serious consequence which of the two is employed in making pharmaceutical preparations.

The difficulty is increased in the case of some of the drugs from which standardised galenicals have to be prepared—*e.g.*, belladonna root. What rule should be followed by the compilers of the Pharmacopœia in dealing with a problem like this? Should the indigenous drug, as representing the highest degree of physiological activity, be alone officialised, to the exclusion of the imported article, or should the domain of pharmacy be thrown open for the admission of all fair commercial samples of drugs, whatever the geographical source?

There are two distinct sides to this question, and the reply will probably vary as it is regarded from a medical or economic standpoint. Should the second alternative be adopted by the compilers of a future Pharmacopœia it will be found necessary to revise the methods adopted in the present one in the treatment of drugs like belladonna and nux vomica, both as regards the framing of formulæ and the fixing of standards.

Table I.

Percentage of alkaloidal hydrochlorides yielded by different parts of the fresh plant.

Stage of Development.	Source.	Roots.	Stems and Stalks.	Leaves.	Flowers and Peduncles.	Green Fruit.
Young Plants, 4 to 6 in. high	Uckfield	0·047	0·017	0·030	—	—
Plants, 4 ft. high taken before flowering	Hitchin	0·022	0·019	0·120	—	—
Plants, 3 ft. to 3 ft. 6 in. high, showing incipient inflorescence	Uckfield	(*a*) Cortex 0·031 (*b*) Axis 0 032	0·037	0·090	—	—
Plants, 5 ft. high in full flower	Uckfield	0·050	0·064	0·187	0·236	0·906
Plants, 5 ft. high in full flower	Ashford (Derbys.)	0·018	0·012	0·075	0·086	(*a*) 0·725 *(*b*) 0·975

* This was obtained from plants growing in the same locality.

Table II.

Percentage of alkaloidal hydrochlorides yielded by samples of hemlock fruit.

A.—Commercial Samples.

1 = 0·096
2 = 0·512
3 = 0·568
4 = 0·600
5 = 0·605
6 = 0·750
7 = 0·768

8 = 0·800
9 = 0·800
10 = 0·800
11 = 0·812
12 = 0·816
13 = 0·832

Average 0·674

B.—Samples Collected by Ourselves.

1 = 1·05
2 = 1·14
3 = 1·30
4 = 1·30
5 = 1·53
5 = 1·66
7 = 1·80
8 = 1·88

9 = 1·96
10 = 2·70
11 = 2·72
12 = 2·80
13 = 2·90
14 = 3·30
15 = 3·32
16 = 3·57

Average 2·13

THE DISPUTED PRESENCE OF A MYDRIATIC ALKALOID IN LACTUCA VIROSA.*

BY E. H. FARR, F.C.S., AND R. WRIGHT, F.C.S.,
Pharmaceutical Chemists.

The announcement of the discovery of a mydriatic alkaloid in lettuce was made in 1891 by T. S. Dymond. (*Journ. Chem. Soc.*, December, 1891.) He stated that he had found it in extracts prepared from various species, both wild and cultivated, and also in a dried flowering specimen of *Lactuca virosa.* He further claimed to have proved the alkaloid obtained from the extracts to be hyoscyamine by the production of the characteristic aurochloride, having the composition and melting-point of the identical salt of that alkaloid.

The proportion present in an extract made from the flowering plant of garden lettuce (*Lactuca sativa*) was stated to be not more than 0·02 per cent. Although Dymond's discovery attracted a good deal of attention at the time, no further notice appears to have been taken of it until the subject was again raised by Messrs. Braithwaite and Stevenson in a note submitted to the Bristol meeting of the Pharmaceutical Conference. ('Year-Book of Pharmacy,' 1903, p. 588.) The substance of their communication was to the effect that, having collected a large quantity of the flowering plant, *Lactuca virosa*, and exhausted it with solvents, they had failed to obtain an alkaloid even in quantity sufficient to respond to the very delicate physiological test for mydriatic alkaloids. In order, however, to have the question at issue definitely settled, Mr. Braithwaite sent on to us a quantity of material, with a request that we would look further into the matter, and, if possible, clear up the doubtful point.

On looking up the literature of the subject we found that Dymond's experiments appeared to have been so carefully carried out, and his statements were so definite and precise, as almost to preclude the possibility of mistake.

On the contrary, it appeared to us that the conditions under which Messrs. Braithwaite and Stevenson sought for the alkaloid were such as might, in our judgment, easily lead to its being overlooked if present only in infinitesimal quantity.

In working upon the alkaloidal tinctures of the Pharmacopœia we had occasion to remark upon the unsuitability of ether alone as a solvent for the extraction of the mydriatic alkaloids. In a note on tincture of belladonna (*Pharmaceutical Journal* [3], **22**, 471) will be found a detailed series of experiments showing that, after repeated agitation with ether, traces of alkaloids invariably remain in the mother liquor.

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* Communication to the Pharmaceutical Society of Great Britain, read at an Evening Meeting in London, Tuesday, February 9, 1904.

In one case in which the alkaline liquid had been shaken with six successive portions of ether, two milligrammes of alkaloid was subsequently removed by chloroform. We gather from the account of the research given by Messrs. Braithwaite and Stevenson that they employed ether alone for the extraction of the alkaloid, and, if so, their failure to obtain any trace of mydriatic alkaloid may thus be accounted for.

Our experiments have been made upon the wild flowering herb supplied by Mr. Braithwaite, and a juice extract of the same, prepared according to the British Pharmacopœia, 1867. About a kilogramme of the herb was dried, the product reduced to coarse powder, and exhausted with 50 per cent. alcohol. The tincture was slightly acidified and evaporated over a water-bath until all the alcohol had been dissipated. The aqueous liquid was then filtered and the filter washed with water, the washings being added to the filtrate. The liquid was further concentrated by evaporation until the volume was reduced to about twenty-five cubic centimetres. The product was transferred to a separator, a slight excess of ammonia added, and the alkaloid shaken out with four successive five cubic centimetres of chloroform. These were drawn off in turn and bulked, and the alkaloid taken out by shaking with three successive ten cubic centimetres of distilled water containing one per thousand dilute sulphuric acid. The mixed acid solutions were rendered slightly alkaline with ammonia and the alkaloids again shaken out with chloroform. This process of purification was carried out three times in all, the alkaloids being finally obtained in a perfectly colourless solution in chloroform. The chloroformic solution was transferred to a flat-bottomed glass dish and the chloroform allowed to evaporate at a low temperature. A mere trace of residue was obtained, presenting the appearance of a film on the bottom of the dish. When examined by a lens, however, it was seen to be distinctly crystalline. It weighed only 0·6 milligramme. It was dissolved in three or four drops of very slightly acidulated water, and the solution thus obtained, tested in drops placed on a glass slab, was quite sufficient to give a characteristic alkaloidal reaction with Thresh's and Mayer's reagents. Moreover, a drop of the same solution introduced into the eyes of two individuals produced a very powerful mydriatic effect, the pupil in one case being dilated almost to the full extent of the iris.

The following process was employed for the isolation of the alkaloid from the extract:—

Five grammes of the latter was weighed out and rubbed down in a mortar with enough slightly acidulated water to form a cream. Fifty cubic centimetres of absolute alcohol was added, the mixture well stirred and set aside until the mucilaginous matter had completely subsided. The liquid portion was poured off and filtered. The deposit was then rubbed to a cream with slightly acidulated water and the treatment with alcohol repeated. The two alcoholic filtrates were mixed, twenty cubic centimetres of distilled water added, and the mixture evaporated in a porcelain dish over a water-bath to small bulk. The residual liquor was transferred to a separator and the alkaloids recovered and purified, as in the previous experiment.

The product was a white crystalline residue weighing 1·4 milligrammes. It was dissolved in a little slightly acidulated water, and the solution gave alkaloidal reactions with Mayer's and Thresh's reagents, and, when instilled into the eye, produced a powerful mydriatic effect.

These experiments may therefore be taken to confirm the results of Dymond, so far as they relate to the presence of a mydriatic alkaloid in *Lactuca virosa* and an extract prepared therefrom. We hope to carry the investigation further, and to ascertain the proportion in which the alkaloid exists in different parts of wild and cultivated lettuce in various stages of their growth.

MUSEUM NOTES.

BY E. M. HOLMES, F.L.S.

Curator of the Museums of the Pharmaceutical Society.

Eucalyptus Oils.

The magnificent series of specimens of the oils derived from 109 species of eucalyptus, together with herbarium specimens and sections of the timber and bark recently presented to the Museum of the Pharmaceutical Society by the Curator of the Technological Museum of Sydney, serves to illustrate the progress that is being made in the scientific investigation of the natural products of Australia.

The collection of specimens presented to the Society are all carefully labelled with the percentage of oil, and the chief constituents of the oils yielded by the plants, and indicate very clearly that some of the trees are much better worth cultivation than others. Messrs. Baker and Smith divide the species into seven groups, characterised by the principal chemical constituents of their oils. The first group is distinguished by the predominance of pinene in the oil. Only a small number of these are worth distilling, on account of the small percentage of oil that they yield, most of them affording less than 2 per cent. of oil. The more notable species are *E. eximia*, with 0·462 per cent. of oil, consisting chiefly of pinene; *E. nova anglica* 0·51 per cent., *E. lævopinea*, affording 0·66 per cent. of a lævo-rotatory pinene; *E. dextropinea*, yielding 0·798 per cent. of a dextro-rotatory pinene; and *E. wilkinsoniana*, 1·01 per cent. of lævo-rotatory pinene of a pale colour. In one species yielding only 0·1615 per cent. of oil, viz., *E. umbra*, the acetic acid ester is present; and in *E. tessellaris* and *E. trachyphloia* a sesquiterpene occurs. In Group II., including Species 15 to 29, the oils are mixtures of pinene and eucalyptol, except that of *E. lactea*, which is practically a pinene oil, obtainable to the extent of 0·557 per cent.

The species which yield the largest percentage of oil in this section are *E. conica* 0·587 per cent., *E. quadrangulata* 0·684 per cent., and *E. bosistoana* 0·968 per cent. One species, *E. eugenioides*, is remarkable for the fact that the oil increases in the percentage of eucalyptol on keeping, apparently by oxidation. In a specimen on which observations were made the eucalyptol content increased from 28 to 62 per cent. in three years. The cause of this change is as yet unknown, but is well worthy of investigation, as it may prove useful in improving the eucalyptol percentages of other oils.

In Group III., which is divided into three sections, in all of which the oils contain over 40 per cent. of eucalyptol, the first contains pinene, the second aromadendral, and the third a little phellandrene.

All the species in Section A, including Nos. 31 to 56, are rich in oil, the poorest being *E. resinifera*, with 0·302 per cent., the majority yielding over 0·6 per cent. The richest are *E. rostrata* var. *borealis* with 1·006 per cent., *E. smithii* 1·434 per cent., *E. morrisii* 1·69 per cent., *E. pulverulenta* 2·22 per cent., exceedingly rich in eucalyptol; *E. cordata*, 2·32 per cent.; *E. maideni*, which gives 1·304 per cent.; and *E. goniocalyx*, 0·881 per cent., but this oil requires rectification by redistillation; and *E. cinerea*, with 1·2 per cent., but it contains valerianic acid ester in some quantity. Of the other species, the oil of *E. viminalis* is remarkable for containing benzaldehyde and *E. rossii* approaches to Group VI. in containing piperitone, but differs in the absence of phellandrene. *E. globulus* belongs to this section, but yields only 0·745 per cent.; but it evidently pays to distil it, since it is the species used by the manufacturers of the Platypus brand of eucalyptus oil in Tasmania.

In Section B of Group III., comprising Nos. 57 to 62, the presence of aromadendral, an aldehyde having a cummin odour, is the characteristic feature, and is readily recognisable in the oil prepared from *E. encorifolia* by Messrs. Faulding and Co., in South Australia. The species richest in oil are *E. dumosa*, with 2 per cent., *E. oleosa* 0·97 per cent., and *E. cambagei* with 7·35 per cent. The last-named species contains only a small amount of aromadendral.

In Section C of Group III., including only species 63 and 64, phellandrene forms the distinctive feature, occurring in some quantity in *E. ovalifolia*, var. *lanceolata*.

In Group IV. the eucalyptol percentage of the oils does not exceed 30 per cent. Pinene and aromadendrol are largely present, but no phellandrene. This group includes Nos. 65 to 71. The largest percentage of oil is obtained from *E. risdoni*, 1·348 per cent., which, besides the above-named constituents, contains some piperitone; *E. viridis*, with 1·06 per cent., is largely a terpene oil, and *E. gracilis* 0·901 per cent., in which the terpenes also predominate. *E. woollsiana*, with 0·449 per cent., is rich in aromadendral.

Group V., including Nos. 72 to 91, is characterised by not yielding more than 30 per cent. of eucalyptol, but usually contains pinene and phellandrene, and sometimes other bodies. The percentage of oil in the majority of the species does not exceed 0·252 to 0·350. In *E. fraxinoides* the yield is 0·985 per cent., but it consists chiefly of phellandrene. In *E. nigra*, with only 0·0295 per cent., phellandrene is also the principal constituent; but *E. fastigiata* and *E. macrorhynca* contain eudesmol, the latter often in quantity. *E. rostrata* contains aromadendral, *E. pilularis*, an undetermined alcohol, and *E. dawsoni* and *E. hæmastoma* a sesquiterpene. *E. macrorhyncha* is the most interesting species, since the leaves contain a yellow colouring matter, called myrticolorin, which is said to give colour when mordanted, resembling those obtained with the better qualities of flavin, and decidedly purer than those given by quercitron by itself or with fustic. It is easily obtained from the finely-powdered leaves by boiling water, the decoction, filtered hot, depositing the myrticolorin in crystals on cooling at the rate of about 8½ lb. from 100 lb. of the leaves. As the first and second fractions of the oil yield 52 per cent. of eucalyptol, this, as a waste product, would be worth collating, although the percentage of oil, 0·287, is rather small.

Group VI., Section A, includes species 92 to 95. It is especially characterised by the presence of piperitone, a ketone having the odour of peppermint. *E. piperita*, which affords 0·627 per cent. of oil, was the first in which eudesmol, the stearoptene of eucalyptus oils, was discovered. *E. amygdalina* is remarkable for the large percentage of oil it yields—3·393 per cent. It contains, besides eucalyptol, phellandrene and piperitone. It is to the oil of this species, which was largely manufactured by the late Mr. J. Bosisto, that the reputation of eucalyptus oil was in large measure due, and it is said to be still preferred in a large part of Australia for domestic use. It would be interesting to determine, therefore, since phellandrene has been shown to possess no advantage over eucalyptol, whether piperitone has antiseptic and anodyne properties similar to those of menthol. In *E. vitrea*, which yields 1·48 per cent. of oil, eucalyptol is present in some quantity, together with terpene and phellandrene.

In Section B of Group VI., including Species 96 to 102, the large proportion of phellandrene and piperitone and the small proportion of eucalyptol form the chief features. The richest in yield of oil are *E. dives*, with 2·233 per cent., *E. delegatensis*, with 1·76 per cent., and *E. radiata*, with 1·641 per cent. of oil, consisting chiefly of phellandrene and piperitone. *E. obliqua* contains aromadendral as well as phellandrene.

In Group VII., comprising Species 103 to 109, the composition of the oils is varied. In *E. stellulata*, 0·295 per cent., phellandrene is the chief constituent; in *E. citriodora*, 0·586 per cent., the oil consists largely of the aldehyde citronellal; in *E. apiculata*, 0·296 per cent., piperitone occurs; in *E. patentinervis* citral* and an undetermined alcohol are found. That of *E. virgata*, 0·283 per cent., consists largely of the stearoptene eudesmol, and that of *E. macarthuri* consists principally of the ester geranyl acetate. It is, therefore, capable of yielding geraniol, the alcohol to which otto of rose largely owes its odour.

In distilling eucalyptus oils several points must of necessity come into consideration besides the large percentage of oil:—(1) the local abundance of the species, (2) the necessity for rectification, and the relative loss of oil in the process. Some oils, by virtue of free acid in the leaves, attack the iron of the retorts and become dark-coloured, and hence have to be rectified. Others, large in yield of oil, may contain only a small percentage of eucalyptol in the oil; and (3) the presence of disagreeable ingredients, such as valerianic acid ester, may prevent their use.

The oils chiefly used for the manufacture of eucalyptus oil on the commercial scale at the present time appear to be *E. globulus*, in Tasmania and elsewhere; *E. amygdalina* and *E. cneorifolia*, *dumosa*, and *oleosa*, in South Australia. Of these, the last three are characterised by a more or less distinct odour, resembling cummin aldehyde, due to the aromadendral. There must naturally be some difficulty with customers when these different oils are obtained in succession from different pharmacies, on account of the different odours, and for this reason it seems probable that in medicine pure eucalyptol would give greater satisfaction than oils which are certain to vary in proportion of their constituents as well as in flavour.

The research, by Messrs. R. T. Baker and H. G. Smith, on the properties of these oils, has a distinct bearing on the use of eucalyptus oils in pharmacy, and seems to indicate that it may possibly be better in future pharmacopœias to employ the separated constituents of the oils rather than the oils themselves. The first step towards this desirable end must be the physiological testing of the different constituents of the oils, of which as yet only eucalyptol and phellandrene have been tried.

The authors point out, under *E. smithii*, p. 108, that this species yields an oil which, "although rich in eucalyptol, has a comparatively low specific gravity, so that in order to meet the B.P. requirements of a specific gravity of 0·91 it would be necessary for it to contain 70 per cent. of eucalyptol—a requirement apparently out of the question commercially, as only those oils which contain constituents of high boiling point and of high specific gravity and necessarily not eucalyptol, can be considered to always meet the specific gravity standard when rectified by distillation." In other words, the specific gravity standard of the Pharmacopœia requires alteration. For purposes of perfumery it yet remains to be seen whether the leaves of *E. citriodora* can furnish at competing prices with those of the various grasses of the genus *Andropogon*, citral from *E. staigeriana*, citronellal from *E. citriodora*, and geranyl acetate or geraniol from *E. macarthuri*.

The best oils from which to obtain the peculiar constituents of eucalyptus oils appears to be—for piperitone, *E. dives* and *E. radiata*, from which it could be obtained commercially; for aromadendral, *E. hemiphlcia*, *E. albens*, and *E. woollsiana*, which contain it in the greatest quantity; for eudesmol, *E. virgata*; and for eudesmic acid, which is usually found as an amyl ester, *E. aggregata*. Further details concerning these bodies may be found in Messrs. Baker and Smith's 'Research on the Eucalypts.' (See also *P.J.* [4], **16**, 533.)

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* The richest species in citral is *E. staigeriana*, a native of Queensland. It is also contained largely in the oil of *Backhousia citriodora*. (See *P.J.* [3], 17, 142.)

THE DETERMINATION OF METHYL ALCOHOL IN PHARMACOPŒIAL PREPARATIONS.*

BY ELSIE S. HOOPER.
Burroughs Scholar.

Many methods have been devised for the detection of methylated spirit in various preparations, the chief of them being based upon:—(1) Oxidation of the methyl alcohol by potassium bichromate and sulphuric acid to formic acid, the ethyl alcohol being oxidised simultaneously to acetic acid (Miller's method, *Pharm. Journ.*, 1865 [2], **6**, 534); (2) the Riche and Bardy test (*Compt. rend.*, 1875, **60**, 1,076), in which the methyl alcohol is converted to methyl iodide, which is then used for the preparation of methylaniline violet; (3) oxidation of the methyl alcohol to formaldehyde only, and recognition of this by various tests (Mullikin and Scudder's method, *Amer. Chem. J.*, 1899, **21**, 266; 1900, **24**, 444; (4) reduction, by means of sodium amalgam, to remove aldehydes, and recognition of the less easily reduced acetone by the sodium nitroprusside test (Lucas, *Chemist and Druggist*, 1903, **63**, 541). The first three of these tests involve dealing with the methyl alcohol in the spirit; the fourth has reference to associated substances in the methylating agent.

The Riche and Bardy Test.

This is a test which is frequently used, but it is complicated and difficult to carry out. It consists in distilling the alcoholic solution with phosphorus and iodine, and collecting the methyl and ethyl iodides which distil over. Aniline is then added to the iodides, and reacts with them to produce methyl- and ethyl-aniline. These are then oxidised with copper nitrate, when methyl- and ethyl-aniline dyes are produced. If methyl alcohol be present in the original solution the colour obtained will have a violet tinge, ethyl alcohol giving a red colour. The amount of methyl alcohol present is determined approximately by the depth of tint given to pieces of merino wool by a much diluted alcoholic solution of the dye, and comparison with a standard set of skeins. Objections have been raised to this test, as the colour produced by the ethyl alcohol is said to obscure the methyl violet. In the case of those tests which depend upon the oxidation of the alcohol to formaldehyde, this is best carried out according to

Mullikin and Scudder's Method.

This consists in plunging a red-hot copper wire into the suspected solution, repeating the process several times, the resulting product being finally boiled to drive off the acetaldehyde, the formaldehyde remaining for a longer period, possibly on account of polymerisation. The resulting solution is then treated with resorcinol in strong soda solution, or with a 1 per cent. solution of phloroglucinol in 20 per cent. soda, a red coloration being produced in either case.

Lucas's Test,

which depends upon the detection of the acetone present in the methylated spirit, is carried out in the following way:—Sodium amalgam is added to the suspected solution, and reduces the aldehydes to alcohols, the ketones present being reduced more slowly; the reduction of the aldehydes is known to be completed when no magenta colour is obtained on adding Schiff's reagent to a portion of the solution. The reduction being complete, the solution is tested with sodium nitroprusside, when a crimson colour is obtained if acetone be present.

Oxidation with Bichromate.

The test most easily carried out for the detection of this alcohol is that which depends upon its oxidation to formic acid, by means of potassium bichromate and sulphuric acid. Formaldehyde is first produced in the reaction, and this is further oxidised to formic acid; if, however, excess of bichromate and sulphuric acid be used, the formic acid will be further oxidised, and carbon dioxide produced. This test can be performed satisfactorily if carried out in the following manner:—Three grammes of powdered potassium bichromate are introduced into a small distilling flask, and covered with water; a few C.c. of the alcoholic solution under examination are then introduced, and about 20 C.c. of a dilute H_2SO_4 (1 in 3). The contents of the flask are allowed to stand for five minutes, distilled, and the distillate, after being neutralised with sodium carbonate, is boiled for five minutes in order to drive off any formaldehyde or acetaldehyde which may have been formed and escaped further oxidation. The distillate may then be divided into two portions, one portion being tested with silver nitrate solution, and the other with solution of mercuric chloride. If formic acid be present the solution containing silver nitrate will be reduced on warming, and a mirror or black deposit of silver be obtained. The portion treated with mercuric chloride will be reduced to mercurous chloride, and a white precipitate produced, which, if filtered off and treated with ammonia on the filter paper, will give a black coloration, owing to the formation of mercurous ammonium chloride. Experiments made with this test showed that when the quantity of sulphuric acid and potassium bichromate was increased by ten times the amount, the same amount of alcohol being used as in above test, the reduction of $AgNO_3$ or $HgCl_2$ by the neutralised distillate was only slight, thus proving that much of the formic acid had undergone further oxidation. This test is not considered satisfactory by some chemists, as ethyl alcohol is said to yield a small quantity of formic acid on oxidation, but when some pure ethyl alcohol was oxidised under above conditions, and the distillate tested, the quantity of formic acid produced was insufficient to reduce the silver nitrate. The experiments just quoted show that this test is quite satisfactory as a qualitative test, provided the oxidation with bichromate and sulphuric acid be not carried to excess.

In the *Analyst* (1874, 4), Dupré gives a method of determining the amount of ethyl alcohol present in a liquid depending on the oxidation of the alcohol to acetic acid, and subsequent titration of the acetic acid with soda. The oxidation is carried out by means of potassium bichromate and sulphuric acid, and is performed in a closed flask, heated in a water bath. When such a process was carried out in the presence of methyl alcohol it was noticed that carbon dioxide had been evolved during the oxidation, and this was due to the presence of the ethyl alcohol. More recently it has been remarked (Wynter Blyth, 'Foods: Their Composition and Analysis,' 5th ed., p. 390), that "there is no reason why this gas should not be either absorbed or collected and estimated," and thus be a means of determining the amount of methyl alcohol present. This ultimate oxidation of the methyl alcohol to carbon dioxide is the basis of the method devised by

Thorpe and Holmes

in the Government laboratory, the full details of which appear in the *Transactions of the Chemical Society* for January, 1904. Under these conditions the ethyl alcohol is oxidised to acetic acid, and the methyl alcohol to carbon dioxide. The carbon dioxide is absorbed in soda lime tubes, and from the gain in weight the amount of methyl alcohol present can be calculated. Thorpe and Holmes found that when ethyl alcohol was present a slight proportion of it was oxidised to carbon dioxide, and from various experiments which they made they found this proportion to be a constant quantity. A correction must therefore be made for this, which consists in the deduction of

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0·01 Gm. of the weight of CO_2 obtained for each Gm. of ethyl alcohol present. The details of the process, mostly taken from Thorpe and Holmes' paper, are as follows:—The sample under examination is mixed with water in such a proportion that if 50 C.c. be taken they shall contain not more than 1 Gm. of methyl alcohol or more than 4 Gm. of the mixed alcohols. This solution is then placed in a flask fitted with a separating funnel and exit tubes. Twenty grammes of potassium bichromate are introduced into the oxidation flask, and then the solution to be analysed, and 80 C.c. of dilute H_2SO_4 (1 in 4) are added; the flask is connected with a sulphuric acid drying apparatus and soda lime tubes, and left for eighteen hours, so that the oxidation may proceed slowly. At the end of this time a further quantity of 10 Gm. of potassium bichromate and 50 C.c. of sulphuric acid, mixed with an equal volume of water, is introduced by means of a separating funnel. The contents of the oxidation flask are then gradually raised to the boiling point, the carbon dioxide given off is absorbed in the soda lime tubes; the boiling continued for five minutes, and then a current of air, free from CO_2, drawn through the apparatus. The tubes are then weighed, and from the increase in weight the percentage of methyl alcohol present can be calculated.

As ordinary methylated spirit contains substances such as allyl alcohol, acetone, and methyl acetate, which would give CO_2 on oxidation, these substances must be removed before the oxidation process. The treatment consists in shaking out the spirit with petroleum ether (b.p. below 60° C.) and saturated salt solution, and distilling the aqueous solutions, the alcohol being obtained in the first portion of the distillate. When methylated spirit had been subjected to such a process and subsequently oxidised, the amount of methyl alcohol found was always slightly larger than that known to be present. This is due to the fact that a portion of the acetone is not extracted by petroleum spirit, and gives carbon dioxide equivalent to 0·3 per cent. of methyl alcohol by volume.

In the same paper a general method is given for determining whether medicinal preparations have been made with methylated spirit. This is based on the method devised by the same authors (*Trans. Chem. Soc.*, 1903, **83**, 314) for the determination of pure spirit in tinctures, and involves shaking the spirit from 25 C.c. of the sample with petroleum ether and saturated salt solution, in order to remove essential oils, etc., and then distilling; the alcoholic distillate is made up to 250 C.c., and 50 C.c. of this solution is taken for the purpose of oxidation to CO_2. If the amount of CO_2 thus obtained does not exceed 0·01 Gm. for each Gm. of alcohol analysed (equivalent to 0·7 per cent. by volume of methyl alcohol), then it may be concluded that only ethyl alcohol was present. If, however, the weight of CO_2 obtained exceeds this amount, it must be subjected to a correction. This correction consists in deducting 1 per cent. from the equivalent of the CO_2 in methyl alcohol by volume, due to the 0·7 per cent. from the ethyl alcohol and 0·3 per cent. from the acetone. The percentage of methylated spirit in the sample can then be determined, on the assumption that the quantity of methyl alcohol in methylated spirit does not exceed 8·8 per cent. Preparations containing ammonia must be neutralised with sulphuric acid before the distillation process, and those containing camphor must be shaken out with normal H_2SO_4 instead of saturated salt solution.

I have recently had the opportunity of examining various preparations made with methylated spirit, and have determined the percentage of methylated spirit present by Thorpe and Holmes' method. The process will perhaps be made clearer if the manner in which one of these preparations was examined for methyl alcohol is given in detail.

Aromatic Spirit of Ammonia.

25 C.c. of this preparation, made with, and containing about 60 per cent. of methylated spirit, was placed in a distilling flask, diluted with 80 C.c. of water, and made faintly acid with dilute sulphuric acid. The whole was then distilled, and the distillate collected in 25 C.c. of water. (About 100 C.c. of distillate was collected.) This was then placed in a separating funnel and shaken out with petroleum spirit (b.p. below 60° C.) and saturated salt solution. The aqueous layer was separated and again treated with petroleum spirit. (This second treatment is not always necessary.) The petroleum spirit was then washed with more of the saturated salt solution and the united aqueous solutions were then distilled into 25 C.c. of water, the distillate being finally made up to 100 C.c. The gravity of this diluted distillate was then taken by means of a specific gravity bottle, and the percentage of alcohol present in the diluted distillate determined; and this, multiplied by four, will give the percentage of alcohol in the original sample.* 25 C.c. of the distillate were then placed in oxidation flask, and the operation carried out as already described.

The following results from various experiments may be of interest:—

Preparation.	Methyl Alcohol Calc. from CO_2.	Corresponding Amount of Methylated Spirit.	Amount of Alcohol calc. from Densities.
Tr. cardamomi co...	5·504	62·5	62·0
Tr. quininæ ammon.	5·155	58·5	58·0
Sp. ammon. aromat.	5·074	57·6	58·0
Lin. saponis	5·48	62·23	62·5
Methylated spirit ..	7·9	—	—

Preparations made with rectified spirit were also examined, and the amount of carbon dioxide obtained on oxidation was within the limit given in Thorpe and Holmes' paper, thus proving the method to be an excellent means of detecting adulteration with methylated spirit; it is, moreover, quick, easy, and accurate, and has the advantage over all other methods in being quantitative as well as qualitative.

SKIN DISEASES OF ANIMALS.

BY "CENTAUR."

Prurigo.

Papules, "pimples," or elevations of the skin, differing in size from a pin's head to that of a bean, are due to exudation into the papillary layer and rete, and soon followed by hypertrophy of the epidermis. When the animal has rubbed a space containing several papules there occurs a diffuse swelling which may be mistaken for urticaria, but the general character of the eruption and its history will enable the student to distinguish between these disorders. This eruptive skin trouble is not sudden in its appearance, but follows often upon pruritis and would seem to be the definite result of reckless rubbing against posts and other fixed objects in order to allay cutaneous irritation, to which the name pruritis has been given; and of which we know so little. The most minute examination usually fails to discover any structural change to account for the itching. Some horses and dogs are chronic sufferers, and frequently wound themselves or cause serious abrasions by biting, rubbing, or scratching the skin in vain efforts to obtain relief. It is supposed, too, that dogs which have suffered from skin irritations contract a habit of scratching—it may be from some sense of discomfort, or from ennui, or both. Certain it is that many dogs are to be found whose habit of scratching renders them unfit companions for human beings. Since the pathology of prurigo and pruritis of animals is so imperfectly understood, it follows that any treatment is empirical and uncertain. Dogs may be banished from the house, but in the case of valuable horses something has to be done for a malady that is both troublesome and dangerous, leading to serious accidents when the bridle or other harness is rubbed off in the streets. Alkaline lotions, as solutions of soda and potash, afford relief in some cases, while vinegar and acid preparations help in others. Glycerin, hydrocyanic acid, and aqueous preparations of opium are also used with more or less good results. The coal-tar group may be tried, and we have known washing with sulphurated potash give relief.

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* The relative densities of methyl and ethyl alcohols being almost identical, Thorpe and Holmes state that "the same table of densities can be used with a sufficient approximation to accuracy for the determination of the aggregate quantity of the two alcohols present."

Unguents do not find favour among veterinarians for this disease, but it is well to try a variety of remedies, as there are not wanting examples of "cures" from such simple remedies as gas water and chloride of ammonium when all other external applications have failed. Medicines of that peculiar class known as alteratives, and whose *modus operandi* is still only guessed at, should be tried over a considerable period, and an occasional bold dose of aloes when circumstances permit. Working horses may be compelled to follow their occupations when suffering from nothing worse than itching, but those for whom a change to the country and a diet of grass can be procured will most probably recover altogether—until the old conditions of life and labour are resumed. It frequently happens that they are sold at this stage, and, passing to a new owner, the trouble is supposed to be new also.

Eczema.

As the relationship between the skin and mucous membranes has been more fully recognised, eczema has been considered a catarrhal inflammation, an inflammatory action of the dermal tissues, with exudation and cell production in the true skin, the rete-malpighii, and epidermis, followed by eruptions of papules, vesicles, and in some cases pustules. As these break and coalesce, we find sores matted over with dried serum or pus, according to the arrest or otherwise of the eruption at the vesicular or pustular stage. In the case of dogs—and this applies more or less to all animals—the vesicles are often broken by rubbing or scratching the irritable portions of skin before pustulation could take place, but there are cases of eczema which without interference would not go beyond the vesicular stage, and others in which pustulation is so rapid that the first indication of trouble in hairy animals is a sore covered with pus and overflowing into the coat around it. Eczematous patches upon the nude portions, as the belly and thighs, are more often simply vesicular, while those occurring upon the back and sides where the hairy covering is thick will generally be pustular.

For veterinary purposes it is quite unnecessary to adopt the many fine distinctions and elegant nomenclature of human pathologists, and it may be also said that our subjects yield to treatment and afford us more general satisfaction in the matter of skin diseases in general and eczema in particular, than do the human patients of the physician. The nearer our patients approach to the human in their habits of life, the less successful are we in combating diseases of the skin; hence it follows that pampered pet dogs are the worst subjects.

Diagnosis of the commoner forms of eczema in the domesticated animals is not usually difficult, but the papulative stage may easily be overlooked, owing to the hairy covering, and the true vesicles may escape observation on the appearance of the first patch or spot, but there will be more to follow, or some that are not so far advanced. Horses and cattle show larger vesicles than dogs; in fact, there is a proportion observed, and little dogs have little vesicles.

Causation.—The causes of eczema are but little understood. We know that it is frequently associated with disturbed gastric functions, and that with their restoration the skin trouble ceases, but the nutritive activities of the skin may be interrupted from without, and sudden changes of temperature and undue exposure to them, when the animal is in a state of unpreparedness, is assumed to account for some of the cases met with, where other factors are eliminated. From the success which attends the common treatment of eczema in animals, we are led to assume that the chief cause is unsuitable food or inability to deal with food which might in other individuals of the species be deemed suitable, or under other conditions in the same animal. It has to be borne in mind that the conditions under which the majority of our domesticated animals live are eminently artificial. From horses we desire an amount of muscular exertion inconsistent with a simple diet or "balanced ration," such as would meet all the requirements of the animal in a state of nature, or when freed from service and allowed to measure his exercise by his own inclination. We exact this service in return for an excessive amount of highly nitrogenous food, yet is not the work always commensurate with the ration. It may be for days together the horse is not called upon to do anything, while upon occasion he is required to exert himself to the utmost on long and fast journeys. It is during the periods of inactivity that the skin appears to be affording vicarious assistance to the kidneys, and suffers from an excess of effete material with which it is not always able to deal. In the horse we are frequently reminded of this vicarious function by uriniferous sweats in cases of nephritis or other obstruction to the functions of the kidneys. It is assumed then upon very good grounds that eczema is the result of an inflammatory action induced by an effort on the part of the skin to eliminate material which is beyond its powers, or that it has received some outward check during the process.

Duration.—With horses, cattle, and pigs eczema is acute and of short duration. In the case of dogs this may be said also to be the case, with one important, but grave, exception, to which we propose to refer later. Without interference on the part of the animal, if he neither bites nor rubs himself, nor is chafed by harness, the various stages of papulation, vesication, etc., will end in perfect resolution in a period averaging ten days from its first appearance, but, as before hinted, the irritation which often accompanies this form of skin trouble renders the patient fractious and liable to break up the vesicles and excite sores which spread under the repeated vain efforts to allay itching. Fresh crops of vesicles will deceive the novice as to the duration of the eruption.

Treatment.—This is for the most part simple and successful in animals. In certain individuals it is apt to recur, but in their case it is often possible to trace it to a particular food, and, by withholding it, prevent the recurrence of the disease. In all cases the food should be inquired into, and, if possible, examined, and with or without evidence of any damaged grain or salted meats, a change of diet prescribed from whatever food the patient has been having prior to the outbreak. Stabled horses will be cured by green meat; fat cattle, fed for show, by a purgative and reduced ration; pigs by withdrawing the "wash" from towns or the dairy swill, which may have contained soda with which the vessels have been washed. Dogs under proper control may have a change from a biscuit or farinaceous diet to flesh and *vice versâ*. They are so frequently allowed to roam about and forage in dust holes and among the refuse of the kitchen that they are the most frequent subjects of eczema, and not so amenable to treatment as other animals whose appetites are restrained by confinement in stable or kennel.

As medicines we recommend purgatives, followed by antacids and alteratives, particularly the bicarbonates of potash and soda: sulphur, antimony, and, in cases disposed to recur at short intervals, a course of arsenic extending over a considerable period. With regard to outward applications, anything which is found to allay itching may be advocated, as there is very little else to be gained by them. Horses and adult cattle, not being disposed to lick themselves to any extent, and not poisoned by small quantities of lead, may be dressed with a lotion containing liq. plumbi diacet. and glycerin. Strong solutions of sodæ hyposulp. and pot. bicarb.; creolin, vaseline, oleate of zinc, oxide of zinc, and calamine ointments all find favour with practitioners, but in the case of calves, dogs, and cats we have ever to keep in mind the danger of the patients either licking themselves or others, and select only those agents which may be deemed absolutely safe. Dusting powders afford relief in some subjects where unguents and lotions fail. Of these the favourites are composed of zinc oxide, bismuth nitrate, starch and kaolin.

Pityriasis, Psoriasis, or Squamous Eczema.

A condition of the skin in which the cutis is in constant desquamation, with or without itching and annoyance to the animal, is variously described as above, and by the more scientific writers as separate maladies. It is quite a common condition of the skin of cattle at the end of a long winter, when food has been scarce or without sufficient variety, and is entirely cured when the spring grass has had time to act as an alterative to the blood.

Chronic cases are met with among horses, believed to be due to digestive disturbance, and accompanied with more or less of that familiar condition of the integument known as "hidebound." It is very intractable, and depreciates the value of an animal, although not impairing the working powers if it exist in a moderate degree only. When the scaliness extends all over the body there is loss of condition.

As to the causes, we are not in possession of exact information, but it has been observed that it follows upon certain foods, excessive "root" feeding, and especially too many carrots.

Treatment consists in change of diet, alteratives, and clothing with thick rugs to induce sweating while called upon for serious exertion in the case of horses; with cattle it is nearly always a sign of poverty, and cured by good living. Dogs are often martyrs to itchiness, with dry, scurfy appearance, habitually scratching themselves without, of course, obtaining relief. It is in their case associated with worms, and ceases with the expulsion of the intruders. Without any of the outward signs of pityriasis, however, there are dogs which habitually suffer from psoriasis, for which no cause can be traced or remedy found. It has been described by old authors as "a cutaneous furor." When many other agents have failed, a solution of sulphuretted potash with glycerin has occasionally succeeded, but these cases were probably due to parasites which the free sulphuretted hydrogen destroyed.

Mallenders and Sallenders.

Squamous eczema, affecting the flexures behind the knees and in front of the hocks in horses, still goes by the curious old names above employed. The early symptoms of heat and tenderness are seldom observed, and it is not until a crack behind the knee or in front of the hock shows itself, with more or less discharge, that the attendant is aware of anything amiss. As it rarely causes lameness, the subjects of this form of eczema are apt to be neglected until a large ulcerated surface attracts attention, or causes the animal to start out stiff from the stable in the morning. This squamous form of eczema may be deemed the one chronic form in horses, and if remedies repress, or appear to altogether cure, it will almost certainly recur at no very distant date. It was at one time regarded only as an inflamed condition of the skin, due to imperfect secretion of the sebaceous or unctuous glands, which should in health provide against friction where skin meets skin, in flexing the limbs, but there can be no longer any doubt that it is a constitutional disease, like any other form of eczema, and that the flexure of the limbs favour its eruption.

Treatment.—In the early manifestation it may be well to attempt to wholly dry it up with external applications, while treating the animal as for other eczematous eruptions, with an aperient, with salines, laxatives and alteratives; but chronic or cases of some duration will not profit by being "driven inward," experience of the malady leading practitioners to believe that other and worse inflammatory affections of deeper tissues result. It is noticeable that animals suffering from mallenders will be relieved if the frogs are affected with a discharge (thrush), and that with the drying up of the latter mallenders and sallenders return, or perhaps occur for the first time.

Fomentation is to be avoided, and for the same reason poulticing, since these create a disposition to the formation of granulations of a languid character, and promote the discharge of ichorous matter. Antiseptic and drying agents, but not too astringent and caustic, are found to keep the inflamed area from discharging profusely, or increasing the size of the crack or wound, which so soon follows on this peculiar malady. A lotion of 5 per cent. chinosol and 10 per cent. of glycerin in water has been found helpful, alternated by applications of alum exsiccatæ in honey, 1 to 8 or 10 parts, and applied at night. Chronic cases are controlled and kept "healthy" if such a perverse but popular term may be applied to a sore, by weak ointments of nitrate, of ammonio chloride, and of oxide of mercury. For general treatment the reader is referred to previous remarks on eczema.

THE STUDENTS' COLUMNS.

THE DISPENSING OF MEDICINES (4).

In the previous article three typical prescriptions were given and commented upon. These were designed to illustrate (*a*) a case of a basis completely soluble in the vehicle, (*b*) a case of a basis soluble in the vehicle but present in excess, (*c*) a case of a basis insoluble in the vehicle. In continuance of these the student's attention will now be directed to the following prescription, illustrative of a case where the basis is insoluble in the vehicle but rendered soluble in it by the action of one of the other ingredients (adjuvant):—

℞ Quininæ sulph. .... gr. xii.
Liq. strychniæ .... ʒss.
Acid. sulph. dil.................... ʒi.
Infus. aurantii ....ad ℥iii.
Ft. mist. Sig., ʒii. ex aq. cyath. ter in die post cibum.

As the infusion of orange-peel will have to be prepared, the student must first direct his attention to it. The quantity required is almost three fluid ounces, but in preparing it, it will be necessary to take quantities for more than this, because the full quantity of liquid added will not be recovered from the marc. Indeed, in this case it will be advisable for him to take quantities for four ounces. On referring to the Pharmacopœia he will find that one-fifth of an ounce (*i.e.*, 437·5 grains) of orange-peel will have to be weighed out. If the peel be fresh and fairly soft it will be necessary to cut it into small pieces, but if it be dry a mortar and pestle should be used. The mortar should be of "composition," for with an iron mortar the infusion would be darkened owing to the formation of tannate of iron. Use a Florence flask, or a clean enamelled pan for heating the water (about five ounces). If an infusion pot be not available, a Florence flask will do. Place the orange-peel in the infusing vessel, and when the water begins to boil, measure out, by means of a graduated earthenware jug, four ounces, and pour it into the flask or infusion pot Should a graduated jug not be available, tare the flask or pot on a balance and weigh into it four ounces (1,750 grains) of the boiling water. Set aside for fifteen minutes, rotating the contents twice during the period, then strain through a piece of clean calico. Straining is the term associated with infusions, but when a clear, bright liquid is desired the use of a filter paper is advised; indeed, for infusion of digitalis it is absolutely essential. After straining, the infusion should be thoroughly cooled down, and if not then clear and bright it should be put through a paper filter. The infusion being ready, the student should weigh out the quinine sulphate and mix it with one or two drachms of the infusion in a graduated measure, then adding the diluted sulphuric acid, when the quinine will at once pass into solution. To finish the operation, it only remains to add sufficient of the infusion to produce three fluid ounces. Note well, when it is desired to bring a quinine salt into solution by means of a dilute acid, the quinine should never be added to the acid. When this is done it usually assumes a hard, granular condition, and is difficult to get into solution. By adopting the method advocated above of first mixing the salt with a small quantity of a neutral liquid, and then adding the acid, solution is almost instantaneous. Though strictly it is a chemical, rather than a dispensing, subject, it will perhaps be advisable to explain the action of the acid in causing the quinine to pass into solution. The quinine sulphate of the Pharmacopœia has the formula, $(C_{20}H_{24}N_2O_2)_2 \cdot H_2SO_4$, that is, two molecules of the base in combination with one molecule of the acid. This sulphate is soluble in about 800 parts of water. There is another sulphate having the formula $C_{20}H_{24}N_2O_2 \cdot H_2SO_4$—that is, one molecule of the base in combination with one molecule of the acid. This sulphate, unlike the former, is readily soluble in water, only requiring about eleven parts of water at 13° C. and eight parts at 22° C. Now when diluted sulphuric acid is added to the official quinine sulphate in the presence of water, the more soluble bisulphate is instantly formed, and at the same moment goes into solution, provided there are eleven parts of water present for every part of the quinine bisulphate. The student should note this carefully, because the common explanation that the acid *dissolves* the quinine, or that the quinine is soluble in the acid, conveys a wrong impression, because the acid does not dissolve the quinine, nor does the quinine dissolve in the acid, in the sense in which we say that water dissolves Epsom salt. It is because the acid chemically reacts with it, forming a new and more soluble salt, that the quinine sulphate goes into solution.

Although when a quinine salt is ordered in mixture form it is usually accompanied by an acid to bring into a state of solution, this is not always so. For example:—

℞ Quininæ sulphatis .... ʒss.
Ext. ergotæ liq. .... ℥ss.
Tr. nucis vom. .... ʒiss.
Glycerini .... ʒvi.
Infus. calumbæ.....................ad ℥vi.
Sig., ℥ss. in water every two or three hours.

This prescription raises a question exceedingly difficult to answer—namely, when a mixture like the above is dispensed, should sufficient diluted sulphuric acid be added to bring the quinine into solution, or should it be dispensed as written? In favour of the former, it may be argued that in the vast majority of cases the prescriber orders a dilute acid along with the quinine, and therefore the above case is merely one of accidental omission, and that it is the duty of the dispenser to insert the omitted acid. On the other hand, it is held by some that the intense bitterness of quinine is not so keenly felt by the patient when the quinine is in a state of suspension as when it is in solution. When the prescriber cannot be consulted, the best plan is to dispense as written, as this absolves the dispenser from the charge of making unauthorised additions to the prescription. If the contrary plan be adopted the addition ought to be marked on the prescription, so that subsequent dispensers may not be put in a dilemma. No suspending agent is necessary in the above mixture, since, the quinine being light, it does not rapidly sink to the bottom of the bottle. It ought, however, to be finely powdered.

The next case to be discussed is that of a mixture containing a substance (in solution) which is soluble in, or, rather, miscible with, the other ingredients (correctives), but is thrown out of solution by the vehicle:—

℞ Tr. quininæ ammon. .... ℥i.
Tr. aurantii.............................. ʒiii.
Glycerini .... ℥iss.
Aq. cinnamomi...................ad ℥vi.
Sig., ℥ss. ex aq. tertiis horis.

Although ammoniated tincture of quinine is prepared with quinine sulphate the student must not suppose that the quinine is present in the tincture as sulphate. What takes place on making the tincture is this. The ammonia, when it comes in contact with the quinine sulphate suspended in the alcohol, decomposes it into quinine and sulphuric acid. The latter combines with the ammonia, forming ammonium sulphate, whilst the quinine dissolves in the alcohol, aided in this, perhaps, by the ammonia, which is present in excess. Now when this tincture is mixed with water the alcohol becomes diluted, thereby losing its solvent power, with the result that the quinine is thrown out of solution, in the form of hydrate. It is on this account that a mixture like the above requires special treatment, because after a time the particles of quinine hydrate aggregate and adhere tenaciously to the inside of the bottle, making it impossible to evenly distribute them throughout the vehicle by shaking the bottle. The addition of mucilage of acacia is recommended by some as a preventive of this, but mucilage of tragacanth will be found much more suitable. The procedure is as follows:—Pour the ammoniated tincture of quinine into the bottle, add to it twelve grains of powdered tragacanth, using the tincture of orange to wash any of the gum out of the neck of the bottle, then add the glycerin. Insert a cork, and shake the bottle well, so as to thoroughly mix the contents. Rinse out the measure with two ounces of the cinnamon water, add this to the contents of the bottle, quickly insert the cork, and shake vigorously. It now only remains to add more cinnamon water so as to produce six fluid ounces. The main reason why powdered tragacanth is used is that the equivalent in mucilage would mean leaving out two ounces of cinnamon water. A "shake the bottle" label ought, of course, to be put on the bottle. The student should make up another bottle, using an ounce of mucilage of acacia instead of the tragacanth, and compare results after the bottles have stood for three days.

POISONING CASES AND INQUESTS.

The deaths by poisoning reported during the seven days ended Wednesday, February 10, 1904, numbered eighteen.

Poison.	Accident.	Suicide.
Carbolic Acid	1	2
Chloroform	1	—
Hydrochloric Acid	—	1
Laudanum	2	2
Morphine	1	—
Narcotics	1	—
Oxalic Acid	1	—
Potassium Cyanide	—	2
Ptomaine	1	—
Sulphonal	1	—
Kind not stated	1	1
Total	10	8

Carbolic Acid.—An innkeeper at Hutton Cranswick, and a woman at Rushden, committed suicide by taking carbolic acid. A woman at Carlisle took the same substance, which had been sold in a whiskey bottle some years ago, previous to the adoption of the new poison regulations by the Pharmaceutical Society.

Chloroform.—A woman died at Blackpool while under the influence of chloroform.

Hydrochloric Acid.—A lady at Poole committed suicide by taking hydrochloric acid.

Laudanum.—Two deaths by poisoning from laudanum are reported from Edinburgh. A man at Sheffield and another at Carlisle died from accidental overdoses of laudanum.

Morphine.—Dr. A. J. Dolman, who was house surgeon at the Lincoln Dispensary, died from the effects of having accidentally used, as a hypodermic injection, an overdose of morphine.

Narcotics.—Dr. D. Thompson held an inquest on Saturday at Launceston, on Frederick Downing, chemist, of High Street, Launceston, who died that morning. After hearing the evidence of Mr. C. J. Park, chemist, 23, Mutley Plain, Plymouth, and others, the jury returned a verdict of "Death from natural causes, accelerated by the injudicious use of narcotics."

Oxalic Acid.—A woman at Birmingham died from oxalic acid poisoning, after taking some solution of the acid by mistake from a tea-cup in which it had been left.

Potassium Cyanide.—At an inquest held at Enfield on a carman who committed suicide by taking potassium cyanide (which, he represented, he wanted to destroy rats), Mr. R. Lewis, the chemist who sold it to him, complained strongly of the public danger through publication of Whitaker Wright's death. Since that had occurred, he said, he had on several occasions been asked for this particular poison, and he felt that it placed chemists in a serious position. A printer at Notting Hill committed suicide with the same poison.

Ptomaine.—A girl at Wakefield died from ptomaine poisoning, caused by eating tinned salmon.—A cotton operative at Bolton died after eating mussels. According to a newspaper report, the doctor said the poison was naturally developed in the body of the mussel itself. Mussels might appear perfectly fresh, and yet be poisonous. It was not a case of ptomaine poisoning, as the fatal mussel was not bad.

Sulphonal.—A woman died in St. George's Hospital from an overdose of sulphonal. It has again be suggested in the lay press that this substance should be scheduled as a poison.

Poison not stated.—A young man died in Charing Cross Hospital, London, from the effects of poison, the nature of which was not stated.

Inquest at Portsmouth.—The Portsmouth Coroner (Mr. T. A. Bramsdon) opened, on Monday, an inquiry into the deaths of four women, lately inmates of Portsmouth Lunatic Asylum. The Coroner, in opening the case, stated that on the previous Wednesday one of the medical officers of the institution prescribed five opiates for five patients, and four of these doses were given to four patients, two of whom died on the following day and two on Friday. The other dose was not administered to the fifth patient, and the contents of the bottle had been handed to the Borough Analyst for analysis. Dr. Hamilton Marion Watson, one of the resident medical officers of the Asylum, said that all four were noisy patients. It was the practice in cases like these to give sleeping draughts. On Wednesday she prescribed draughts for the deceased and a private patient. She made them up herself out of the dispensary bottle (produced), and wrote the names of the patients on them. The bottles were put into a box, which was taken by a maid to the wards. She filled three of the bottles in the morning and two in the evening. The two-ounce bottles contained 30 grains of chloral hydrate, and 30 grains of potassium bromide, with water; that was the usual dose. She was absolutely certain that she took it from the bottle produced. It was the duty of the medical officers to fill it. She had filled the bottle from the stock bottle on Monday. The head attendant sometimes took draughts from the bottle, in the absence of the medical officers, but under their directions. The head attendant took two draughts out of the dispensary bottle on Monday, under her directions. She used the measuring glass for some of the draughts. She was sure the glass was clean, as she rinsed it. Nobody but the medical officer and the head attendant had the keys of the dispensary. There was a pure chloral bottle in the dispensary, but it was not near the bottle from which she dispensed. It was on a shelf. They gave other drugs besides chloral as sleeping draughts. The only theory she could advance as to the cause of death was that some of the chloral might have gone bad and got separated from the bromide. There should be no decomposition in the chloral, but if some other agent got into it decomposition might be set up. She had never heard of such a thing happening. It was only an opinion, which was not very strong. It was only a theory. Dr. Sidney Robert Merry, acting medical superintendent of the Asylum, said the head attendant had no qualification as a dispenser. It was not the rule for him to dispense. They had no dispenser at the Asylum. If a medical officer wished the head attendant to help him in dispensing, he would do so. If a nurse wanted a sleeping draught for a patient, she would have to go to a medical officer for it. He thought that 30 grains of the mixture was a safe dose for their patients. Frank Charles Adlam, chief attendant at the Asylum, deposed that at ten o'clock on the night of February 1 he found two patients very noisy, and on reporting the fact to Dr. Watson, she asked him to make up two draughts. He went to the dispensary and got the draughts. He had been assisting in dispensing for seventeen years. An attendant was in the surgery and stock-room last Wednesday afternoon. He would take down the bottles, dust them, and put them back.—After another witness had been examined, the Coroner said that the analysis could not be completed that day, and the inquiry was then adjourned until Monday next.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN.

EVENING MEETING IN LONDON.

TUESDAY, February 9, 1904, in the Lecture Theatre, 17, Bloomsbury Square, London, the **Vice-President**, Mr. C. B. Allen, in the chair. There was a good attendance.

The **Vice-President** said the President was still too unwell to leave home, but he had sent his very warm regards to those present. The President evidently took a kindly interest in the meeting, because his letter was largely concerning the subject matter of the papers to be read. The authors of the papers needed no introduction to a pharmaceutical audience. Messrs. Wright and Farr had done good work for many years. They were somewhat like pharmaceutical giants in the amount of work they had done, and he was pleased to think they were like the proverbial giants—still growing, and had a prospect of good work yet to be done. Before calling upon Mr. Wright to read his paper, he would like to direct attention to a magnificent collection of eucalyptus products in the Examination Hall. It was probably the most unique exhibition of eucalypti that had ever been seen in this country. The collection illustrated the chemical research work done by the curator of the Technological Museum of New South Wales, at Sydney—Mr. R. T. Baker—and it was to him they were indebted for the magnificent present of eucalyptus oils and specimens. The research work had been done by Mr. Baker in conjunction with his colleague, Mr H. G. Smith, who had been working on the eucalypti for many years. In 1902 they published a monograph on the subject, and the collection in the Examination Hall comprised the specimens illustrating that laborious and excellent work. He hoped those present would give the collection their attention, as they would find it an exceedingly interesting one.

Mr. R. **Wright** then communicated a note by himself and Mr. E. H. Farr on

The Disputed Presence of a Mydriatic Alkaloid in Lactuca Virosa.

The text of the note is printed at page 186.

The **Vice-President** said he thought that would be considered a very satisfactory communication, inasmuch as it confirmed the good work which had been done previously by the Society's original Research Fellow, Mr. Dymond. He invited discussion.

Mr. F. **Ransom** said that, in anticipation of this paper, he had submitted 10 Gm. of the extract of *Lactuca virosa* to Mr. H. J. Henderson for analysis. That gentleman had extracted an alkaloid, using as a solvent a mixture of amylic alcohol, 3 parts; chloroform, 1 part; and ether, 4 parts, the alkaloids being shaken from the solvent with dilute acid and extracted again with chloroform. The residue was not crystalline, but amorphous, and its weight was 0·0015 Gm. That gave a percentage of 0·015 of alkaloid, and thus might be considered to confirm strongly the work of Mr. Dymond, who had, he believed, obtained 0·02 per cent. of the alkaloid. He (Mr. Ransom) had tested the action of the alkaloid on his own eye, and had found it to be powerfully mydriatic.

Mr. W. A. H. **Naylor** wished to emphasise the moral to be drawn from Mr. Braithwaite's experiments, viz., not to be content with employing one particular solvent because that happened to be a solvent, *per se*, of the particular alkaloid in question, but rather to extend their solvents. He thought if Mr. Braithwaite had done so in this case he would probably have been able to confirm Mr. Dymond's results.

Mr. **Harold Wilson**, B.Sc., said that when an immiscible solvent was shaken with an alkaloidal solution, it was quite impossible to miss the whole of the alkaloid—that is, if it were soluble at all in the liquid used. To his mind, the fact that Messrs. Braithwaite and Stevenson failed to find any alkaloid at all when extracting with ether was not explained away by the nature of the solvent they used.

Professor **Greenish** said an important point to note was that the alkaloid was not shaken out with ether. It might be that the alkaloid was not soluble in ether and not identical with hyoscyamine, although Dymond's experiments seemed to indicate that it was. It seemed to him to be an important matter. He should have expected that repeated shaking would dissolve the alkaloid out.

Mr. **Holmes** suggested that possibly fresh lactucarium of German or English production might yield a larger percentage of the mydriatic alkaloid. The only drawback would be that the German lactucarium was, he believed, sometimes obtained from allied species, and not entirely from *Lactuca virosa*.

Mr. E. T. **Brewis** said that ether was not properly described as a perfectly immiscible solvent. Ether was to some extent soluble in water, and that fact might tend to render separation difficult.

Mr. **Ransom** rose to reply to Mr. Holmes, and read an extract from Dymond's original paper, in which the author stated that he had examined commercial lactucarium and found that it had no mydriatic properties, neither did it contain any alkaloid at all.

Mr. **Wright**, in reply, said with the quantity worked upon they had a considerable quantity of mydriatic alkaloid and other alkaloids present, and all were soluble in ether. He considered it practically impossible to shake with ether without removing, at any rate, a trace; but Messrs. Braithwaite and Stevenson had failed to find any alkaloid which would respond to the very delicate mydriatic test—in fact had failed to find any alkaloid at all. With regard to the question of identity, they had guarded themselves against a definite statement on that point. Personally, he was not convinced that it was hyoscyamine. The residue obtained by Mr. Henderson was not crystalline; that might be because Mr. Henderson had evaporated the choloroformic solution at a relatively high temperature—evaporation at a low temperature would probably, as in their case, give a crystalline residue. In the case of drugs such as belladonna and henbane, evaporation of alkaloidal solution over a water-bath always gave an amorphous residue.

Mr. E. H. **Farr** then read a paper, by himself and Mr. R. **Wright** on

The Distribution of the Alkaloids in Conium Maculatum,

which is printed at page 185.

The **Vice-President** complimented the authors on producing a paper bristling with interest. From the data given it appeared to be certain that the English seeds of conium contained a greater amount of alkaloid than the foreign seeds, so that in dealing with conium the origin of the seeds was an important point.

Mr. Holmes, referring to the figures given in Tables 1 and 2, inquired if the plants 5 ft. high, mentioned in Table 1 as having been obtained at Uckfield and Ashford, were grown on different soils. He presumed that those from Ashford would probably have been grown on limestone, and those at Uckfield possibly on a siliceous soil; and would like to know if the considerable difference in the percentage of alkaloid was to be attributed to the character of the soil. In Table 2 he noticed that the percentage of alkaloid was much larger in the fruit collected by the authors than in the commercial samples; but there was no indication whether the former consisted of the green or dried fruit, nor of the age of the latter. With regard to the difference to be observed in the percentages of alkaloid, in the first and second columns of Table 2, he would like to know if that depended on the time at which the fruit was collected, and the degree of maturity of the fruit, or whether it was dependent on other factors.

Mr. F. C. J. Bird referred to the statement made by the authors of the paper that a low extractive in the tincture of conium fruit was the result of using imported fruit, while English fruit gave a tincture with a higher percentage of extractive. He would point out that the converse was the case with belladonna root. In the case of that drug, a tincture made from the foreign root contained more extractive than from the English root.

Mr. Harold Wilson, B.Sc., asked if Mr. Farr could give the relative amounts of alkaloid in the ripe and unripe fruit. Very likely the loss of alkaloid on ripening, shown in the table, was more apparent than real. It was possible that in the ripe fruit the alkaloid had not decreased in amount, but only in percentage, which would be accounted for by the increase of the inert material.

Professor Greenish said this paper opened up two questions—one economic and the other scientific. The economic question was as to whether, by proper cultivation and manuring, the yield of alkaloid would be increased in conium and other drugs; and the other question was as to what was the fate or use of the alkaloid in the plant. That was a point which would be interesting to their botanical friends, and a friend of his had lately expressed the opinion that it was heresy to say that the alkaloids stored in the plant were anything else but waste products. Personally, he was distinctly of opinion that they were anything but waste products. Some years ago some experiments were made with very young stramonium seedlings which were found to be entirely free from alkaloids; in fact, these substances were entirely used up by the plants during germination. Looking at the figures given in the paper suggested the thought that the figures expressing the diminution would be rendered much more intelligible if they were expressed as the amount of total alkaloid present in various parts of the plant rather than by percentages. He was inclined to agree with Mr. Wilson that the rapid diminution in the alkaloid of the ripe fruit might possibly be due to the storing up of the reserve material in the green fruit, so that the proportion of moisture to total alkaloid must be considerably less in the ripe fruit. It would be very important to allow fruits of known alkaloidal content to germinate, and to examine the seedlings in order to ascertain what became of the alkaloid contained in the fruits. He was convinced that such researches would be very welcome to botanists as throwing light upon the use made by plants of the alkaloids they produce.

Mr. Naylor agreed with Professor Greenish that the results were not only extremely interesting, but also extremely valuable. Results were embodied in the paper which he had been looking for for many years, and it was an extreme gratification to him to now have those results placed before them so fully. There was the economic question which arose, and there were gentlemen present who could reply to that question. He would like to know whether there was sufficient conium seeds produced in this country to meet the demand without having recourse to commercial samples from abroad.

Mr. Wright, in answer to Professor Greenish, explained that the figures in the first table referred to the fresh plant, while the second table dealt with the dried plant.

Professor Greenish: I take it that they would be green fruits gathered by yourselves.

Mr. Wright: I should regard them as fair samples of typical English fruit.

Mr. Ransom suggested that Messrs. Farr and Wright should examine commercial specimens of conium juice obtained from the plant at different stages of its growth. With reference to Mr. Naylor's inquiry as to whether there was a sufficient supply of English conium seeds, he had no doubt there was sufficient grown in the country, but he thought it would hardly pay to collect.

Mr. Farr, in reply, said, with reference to Mr. Holmes' remarks as to the soil, the Buxton samples were from limestone, and the Uckfield samples were grown in alluvial soil taken from a loamhill in the bed of a stream, into which a lot of sewage effluent was turned—that might possibly have an appreciable effect. Another point was as to the strength of the samples. He was of opinion that it was very largely a question of the particular stage at which the plants were gathered. The plants upon which they had worked were gathered at convenient times, and sometimes were left a little too late, hence the difference. In the case of samples cut at the proper stage, he should expect to find less than 2½ per cent. of alkaloid; if they were allowed to get a little older there would be less. A point which had been mentioned by several was whether the apparent loss of the alkaloid was due to a greater amount of inert material in the fruit. Of course, to some extent that was the case, and some years ago Mr. Wright and himself published results at the Nottingham Conference in which they gave the strength of the fruit at four different periods of growth. Up to a certain point in the green fruit there would be nearly 1 per cent. difference—that was to say, the ratio of alkaloid to total weight remained fairly constant up to a point, but beyond that stage was reached the diminution was most marked. With reference to high extractive, that varied with the age, and the ripe fruit gave a low extractive as well as low alkaloidal value—of course, he was quite aware that in regard to belladonna it was the other way about. So far as the source of the commercial samples was concerned he had no knowledge; he believed much of the conium was German. With regard to the question of ratio to weight, he thought Professor Greenish mentioned 4 in. to 6 in. high. That would represent a very young stage, whereas their samples were taken from the second year's plant. Several of the questions raised were of a botanical character, but their work was chiefly of pharmaceutical interest. With regard to the economic question, there was apparently no particular demand for the high-class article, and the price of the commercial product, as Mr. Ransom had pointed out, was not sufficient to repay expense of producing a first-class article. Under present conditions the object aimed at was the greatest weight of fruit from a given number of plants; but if the grower waited till the plant had a large number of flowers, the earlier ones were then too old. If the fruit was allowed to ripen on the plant, it should be gathered very much earlier than in the other case, because of the stalks clinging to the fruit. With reference to Mr. Ransom's suggestion as to the juice, they took up that question some years ago and recommended that instead of making the juice from the young plant, it should be made from the unripe fruit, and in that case a very much more potent article might be obtained.

The Vice-President moved that a very hearty vote of thanks be accorded to Messrs. Farr and Wright for their papers.

Mr. Walter Hills said he was glad to have the opportunity of saying how interested he had been in listening to the papers. It seemed to him that, with regard to conium, the question was how far the plant and its possible active principle were recognised by the medical profession. He had thought there was a tendency to exclude it from materia medica; but if there was any active principle worthy of the medical profession, it should be the desire of pharmacists to find a method of exhibiting it in the strongest and most active condition, rather than with any reference to the soluble inert matter. He had pleasure in seconding the vote of thanks.

The authors having replied to the vote of thanks, which was accorded by acclamation,

The Vice-President invited those present to partake of refreshments in the Examination Hall. He also announced that the next Evening Meeting would be held on March 8.

THE EXHIBITION.

The exhibit on this occasion consisted of a large number of eucalyptus oils (109), and the botanical specimens accompanying them. These oils and specimens have been presented to the Society's Museum by Mr. R. T. Baker, F.L.S., Curator of the Technological Museum of New South Wales, at Sydney, and they illustrate the recent chemical work done by Messrs. Baker and Smith embodied in their 'Research on the Eucalypts,' published in the year 1902. The specimens are believed to be the only specimens yet sent to this country, and afford a unique opportunity of making acquaintance with the very varied products of this most important group of plants. They are fully described in the "Museum Notes" printed at page 187.

LIBRARY, MUSEUM, SCHOOL, AND HOUSE COMMITTEE.

At a meeting of this Committee, held on Wednesday, January 13, 1904, the following reports were presented:—

Attendance in Museum.

	Total.	Highest.	Lowest.	Average.
December................	523	40	6	20

Donations to the Museum.

The Curator, Technological Museum, Sydney:—A large series of specimens, consisting of the Essential Oils, with herbarium specimens and sections of the Wood and Bark of 109 species of Eucalyptus, illustrating the 'Research on the Eucalypts,' published by Messrs. R. T. Baker and H. G. Smith in 1902.

Messrs. Higgin and Wood, London:—Specimens of Isinglass, including the following varieties: Brazilian strip, East Indian leaf strip, Japanese, Penang hand cut, Penang strip, and Saigon leaf.

Messrs. W. Ransom and Son, Hitchin:—Specimen of False Belladonna root from Budapest.

Messrs. J. Richardson and Sons, Leicester:—A large sample of Orizaba or Stalk Jalap (*Ipomœa Orizabensis*), and the resin obtained from it.

Mr. F. A. Upsher Smith, Chesterfield:—Specimen of English-grown Valerian root.

No donations to the Edinburgh Museum had been reported.

Donations to the Herbarium.

Mr. F. W. Hyde, London:—A collection of over 500 herbarium specimens of British plants.

Inquiries.

Fifteen specimens of drugs had been received for identification, seven of lichens, two of seeds, and nine other inquiries of a miscellaneous character had been replied to.

Investigations.

The histology of Jadvar root had been undertaken by Mr. M. H. Stiles, of Doncaster, and the quantitative estimation of a recent sample of the root of *Ipomœa Orizabensis*, by Mr. H. Deane.

Duplicates Distributed.

A collection of duplicate specimens had been forwarded to the Melbourne College of Pharmacy through Mr. A. Heriot, and small samples of various drugs to the North British Branch, Professor Greenish, Messrs. E. White, J. R. Jackson, W. A. Knight, and Messrs. Burroughs and Wellcome.

Museum Report.

One hundred and fifty-seven copies had been distributed, including thirty-nine to corresponding members of the Society, and exclusive of those which had been distributed by the Secretary.

Attendance in Library.

	Total	Highest.	Lowest	Average.
London Library, January....	335	25	4	13

Circulation of Books.

	Total.	Town.	Country.	Carriage Paid.
London Library, January....	196	103	93	£1 1s. 3d.
Edinburgh Library, January	349	212	137	7s. 10d.

Donations to the Library (London).

University of Durham:—Calendar, 1903-4.

Pharmaceutical Society of Ireland:—Calendar, 1904.

Institute of Chemistry, London:—Catalogue of Library, 3rd Edition, 1900.

Society of Arts, London:—Illustrated Catalogue of the International Exhibition of 1862.

Université Libre de Bruxelles:—Rapport sur l'Année Académique, 1902-3.

A. Guinness, Son, and Co., Limited, Dublin:—Transactions of the Guinness Research Laboratory, Vol. 1, Part 1, 1903.

Sir J. Sawyer, M.D., Birmingham:—Insomnia, its Causes and Cure, 1904.

Dr. G. Modrakowski, Lemberg:—Vergleichende Untersuchung der dem Conium maculatum ähnlichen Umbelliferen, 1903.

Messrs. Greenish and Collin:—Anatomical Atlas of Vegetable Powders, 1904.

Mr. H. W. Gadd, Exeter:—Drugs, their Production, Preparation, and Properties, 1904.

Purchase of Books.

The Committee authorised the purchase of the undermentioned books for the Library in London:—

Greenish and Collin, Anatomical Atlas of Vegetable Powders, 1904.

'Technics,' a Magazine for Technical Students.—Monthly.

Donations to the Library (Edinburgh).

Mr. W. J. Patey, London:—Brande's Manual of Pharmacy, 1833.

Pharmaceutical Society of Ireland:—Calendar, 1904.

PHARMACEUTICAL SOCIETY OF IRELAND.

COUNCIL MEETING.

Wednesday, February 3, 1904, at the Society's House, 67, Lower Mount Street, Dublin, the President, Mr. Johnston Montgomery, in the chair.

A letter from the Registrar notified the death of Sir Edward Hodgson, J.P., one of the original members of the Society.

The President moved a resolution expressing the deep regret of the Council at the death of Sir Edward Hodgson, and their deep sympathy with his widow and daughter in their bereavement.

The Vice-President seconded the motion, which was carried unanimously.

The President said that one of their members, Mr. White, of Sligo, had suffered a domestic bereavement in the death of his wife. He moved that an expression of their sympathy be conveyed to Mr. White.

Mr. Beggs seconded the motion, which was passed unanimously.

Professor Tichborne, Dr. Walsh, and Dr. Watt (Belfast) were nominated as delegates to the Congress of the Sanitary Institute.

A letter from Mr. George E. Skerry intimated that the City School of Chemistry, London, had been closed. The name was ordered to be erased from the list of schools recognised.

Donations were received from the Missouri Botanical Gardens of a copy of their Fourteenth Report, 1903; and from the Pharmaceutical Society of Great Britain of a copy of their Calendar for 1904.

Thanks were voted to the donors.

The Vice-President stated that the question of giving prizes to the students in the Society's materia medica and botanical schools had been referred to a committee, in order that a scheme might be drawn up. The Committee felt it necessary to take the opinion of the professors before making a report, which they hoped to do at the next meeting.

After the Council meeting, a special committee of the whole Council sat to consider the question of endeavouring to obtain an amendment of the Pharmacy Acts. The Committee will report to the next monthly meeting of the Council.

HALIFAX AND DISTRICT CHEMISTS' ASSOCIATION.

ANNUAL DINNER.

Thursday, February 4, 1904, at the Old Cock Hotel, Halifax, Mr. Clement Fielding, the newly-elected President, in the chair.

The attendance was a record one, and neighbouring associations were well represented, among the visitors present being Mr. F. P. Sargeant and Mr. G. W. Worfolk (of Ilkley), representing the Leeds Association; Mr. W. A. Bellamy (of Barnsley), Mr. J. Wood (Huddersfield), Mr. R. T. Silson (Bradford), Mr. J. Rhodes (Dewsbury), and Mr. F. D. Crossley (of Manchester).

The President, in loyal terms, submitted the toast of "The King," which was patriotically received.

Mr. F. D. Crossley submitted "The Town and Trade of Halifax," to which Mr. W. S. Thompson responded.

Mr. W. R. Fielding submitted the toast of

The Pharmaceutical Society,

and the toast was most heartily received. Mr. Fielding pointed out that the work of the Society had proved beneficial; it had corrected evils which had formerly existed for many years. Its work in the future would, he felt convinced, prove as useful, and its influence as powerful as in the past. The Society well deserved their support, as was evidenced by the fact that during the year it had instituted 300 prosecutions against the Pharmacy Act.

Mr. F. P. Sargeant, who responded, said that the Pharmaceutical Society was in every way worthy of the support of chemists and druggists, not so much, perhaps, for what it may have done in the past as for what it is possible it may do in the future. There was a magnificent future before the Society from that day when it could be truthfully said to represent the opinions of British pharmacists. A Council, thoroughly representative, would cease the idle pastime of nursing impossible ideals; and instead of the same estimable gentlemen congregating periodically to have their ears and their vanities tickled by eminent theorists they would find practical men launching practicable schemes. That could only be brought about by union and concentration of effort. The first necessity was that each of them should be a member of the Society. The agitation for an amended poisons schedule was not by any means dead. The Pharmacy Bill was not passed, and they had many enemies. Some months ago they heard a great deal about substitution; therefore the purveyors of cheap sensationalism, the miserable rags of which, and of the methods of which, the Englishman was getting heartily sick, took up the case and provoked the attack. "Who are the substitutors? Chemists, now and in the past, have made castor oil mixture and have sold it at a most unreasonably small profit. An American appears, and in skilfully-worded advertisements tells the public that his emulsion is better than the chemists'. Is it the duty of the chemist to let that pass? The chemist knows it is a lie, so does the advertiser. He is playing the game of substitution." He believed it was the duty of every chemist to try to prevent substitution by insisting on the superiority of the original—*i.e.*, his own article. All proprietaries and nostrums were substitution products. Pharmacists might well wish themselves rid of the curse of substitution. A unified body could dictate in no uncertain strains to the impudent firms which suggested that chemists as a class were not honest dealers. It was proposed that a clause be inserted in the Medical Act Amendment Bill which would regulate the dispensing of medicines by medical men; but the *Lancet* protested that such a clause would "operate by fostering the growth of the prescribing chemist." It might interest the *Lancet* to know that the only way to exterminate the prescribing chemist was to provide him with dispensing, and that the surest way of fostering the growth of prescribing amongst chemists was to encourage medical men to mix things—it cannot be called dispensing. If chemists were united, a compact body of educated men, they would have an immense effect in determining the fate of such a Bill as that. He concluded by a reference to the good work of the Benevolent Fund of the Pharmaceutical Society.

Mr. R. T. Silson proposed

The Halifax and District Chemists' Association,

and congratulated the members on the prosperous state of their organisation.

Mr. H. Hebden, the newly-appointed Secretary, responded. The associations of West Yorkshire had, he pointed out, done good service to the trade in working for those great reforms, which were so essential to the well-being of all chemists and druggists.

Other Toasts.

The toast of "Kindred Associations," proposed by Mr. J. W. Tiffany, was responded to by Mr. G. W. Worfolk, Mr. Rhodes, Mr. Bellamy, and others. The toast of the "New Members," proposed by Mr. G. M. Cobbe, was responded to by Mr. Hough, Mr. Woodward, and Mr. Peel. The proceedings were interspersed with songs, recitations, etc.

EAST ABERDEENSHIRE CHEMISTS' ASSOCIATION.

ANNUAL MEETING.

Thursday, February 4, 1904, Mr. W. Pennie in the chair.

After dinner, Mr. J. F. Tocher addressed the meeting on the subject of

Territorial Representation.

Mr. Tocher said that he proposed to confine himself chiefly to a consideration of the remarks of Mr. Newsholme, who made a rather laboured attack on the idea of district representation. While he was interested in what Mr. Newsholme had got to say, he was less concerned about his opinions, or the opinions of any other members of Council, than he was about those of the general body of pharmacists throughout the country, upon whose decision the matter rested. Mr. Newsholme began his attack at Sheffield by stating that the two most essential requisites of a good pharmaceutical Councillor were administrative capacity and time to devote it to the Society. To that he replied that, instead, the most essential requisites were that the Councillor should be a retail pharmacist—a genuine representative of that class—and that his actions at the Council should be in accord with the views of the majority which placed him there. Administrative capacity could not form the prime test for admission to a public board. What attracted the electorate to a new man was his programme or his personality, or both. Mr. Newsholme's line of argument led them direct to the permanent election of present members of Council, who were all presumed to possess a high degree of administrative capacity. Mr. Newsholme seemed to think that since some people desired pharmaceutical constituencies, pharmaceutical affairs were to be governed on the basis of the "Imperial party system." How election by districts would bring about the government of pharmaceutical affairs upon the Imperial party system was an achievement beyond Mr. Tocher's comprehension. Again, according to Mr. Newsholme's mind, district representation was parochial, for the Councillors "might degenerate if they were taught to limit their views and their duty to a small portion of the pharmaceutical body." Mr. Newsholme was not to rush to conclusions in that rash way. It was no part of the territorial plan to teach their Councillors to limit their views to their own constituencies, but, upon vital and appropriate occasions, to express the views of their constituents. Perhaps Mr. Newsholme's present neighbours and future constituents would agree with Mr. Tocher in saying that many pharmaceutical problems lie waiting to be solved, even in Yorkshire. It was very amusing to note the illogical nature of some of Mr. Newsholme's arguments. While strenuously opposed to the plan of district representation, he proceeded to show how it existed at present, and what a desirable thing it was on the whole. "No one," he said, "can reasonably complain that the Council only represents the views of one part of the country." If Mr. Newsholme was arguing that the Council, at present, represented the views of various parts of the country, he was arguing in favour of district representation. The next point of attack on district representation was its certain "failure to stimulate interest in the elections." No scheme would ever be effective in getting men to record their votes, but that was accomplished by personal canvass on behalf of candidates. It was strange that while Mr. Newsholme believed in men, not schemes, the great public was in favour of schemes, not men. The trouble was that they had too many on hand at the present moment. His critic was perturbed at the proposal to restrict the voting powers of members of the Society. Now, all that could be done by the action of any local group, under existing arrangements, was simply to put the candidate one place lower in the list of successful Councillors. Only when the Councillor stood about the sixth or seventh place could he be ousted by the abstention of a local group. Mr. Tocher said it was plain that voting for more than one representative by any group of men was wrong in principle. He would pass by his critic's statements concerning the danger of disfranchisement, plurality of votes, and endless disputes. These he characterised as the visionary troubles conjured up by a man determined to put every obstacle in the way of carrying this reform. But he paused when Mr. Newsholme said, "I do not think anyone quite realises the increase in office staff which such alterations as Mr. Tocher has suggested would necessitate." If such an argument against district representation was going to pass as serious, then the sooner the office was cleared of its occupants the better. Whether or not an increase in the office staff was necessary had yet to be ascertained; it was no foregone conclusion. If it were necessary, that, surely, could be done expeditiously. A great many changes were desirable with respect to office work. With regard to registration, for instance, he held strong opinions as to the desirability of having a register arranged according to the cities, counties, or Parliamentary divisions in which the persons resided. The present register was incorrect in almost every page, and that through no fault of the Registrar, but entirely through the system in vogue.

A discussion followed, in which Messrs. Pennie, Collie, McGregor, Walker, Lee, Milne, and Cruickshank took part.

Mr. Lee asked whether there would be any disadvantage with respect to committee work, such as had been suggested in a recent letter in the *Pharmaceutical Journal*.

Mr. Tocher said the difficulty was purely imaginary. Within the metropolis itself there would be five members on a territorially-elected Council; besides, there were two from districts quite close to London. Then the writer assumed that every Councillor would reside in the district he sat for, which was unnecessary, so long as he was elected by a majority of the constituents of the district he represented.

Mr. Pennie moved, and Mr. Lee seconded,

> That this meeting of the East Aberdeenshire Chemists' Association (1) approves generally of Mr. Tocher's scheme of district representation, and specially supports the idea of compulsory membership of the Society suggested by him, (2) and instructs the delegate to support the proposal at the Federation meeting at Sheffield.

The resolution was carried unanimously, and Mr. Tocher was appointed the delegate of the Association.

Mr. W. Pennie, Peterhead, was elected President, and Mr. J. F. Tocher Secretary, for the ensuing year.

GREAT YARMOUTH PHARMACEUTICAL ASSOCIATION.

MONTHLY MEETING.

Thursday, February 4, 1904, at 156, King Street, Great Yarmouth, Mr. P. R. Hill in the chair.

The appeal on behalf of the Pharmaceutical Society's Benevolent Fund was the principal item of business. General regret was expressed that the old plan of collection of the subscriptions by the Local Secretary had been discontinued. It was stated that the Fund had lost from 20s. to 25s. yearly from the town by the alteration. It was decided that the Association subscribe 10s. 6d. annually, and this year give a donation in addition of 10s. 6d. Several members promised to renew their subscriptions.

SOCIETY OF CHEMICAL INDUSTRY: MANCHESTER SECTION.

ORDINARY MEETING.

Friday, February 5, 1904, at the Technical School, Manchester, Mr. I. Levinstein in the chair.

Mr. Julius Hubner read a paper, prepared by Dr. W. J. Pope and himself, on the effect of the

Treatment of Cotton with Mercerising Liquids.

The authors of the paper had made many experiments. They had put cotton fibre under the microscope, and watched the effects of caustic soda, nitric acid, sulphuric acid, hydrochloric acid, and other mineral compounds. No substance, however, seemed so well adapted for mercerising cotton as caustic soda. The effects were shown by the aid of a micro-projection apparatus. Each fibre in its natural state is twisted, the twists being irregular, from left to right and from right to left. Immediately after the solution of caustic soda is applied the untwisting begins, and goes on until each fibre becomes a straight ribbon. Glycerin was tried with caustic soda, but there was less lustre than with caustic soda alone. The results were also better with cold than with hot solutions. Nitric acid gave considerable lustre.

Mr. Ivan Levinstein said they were often charged by politicians and newspaper scribblers, who knew nothing of the subject, with ignorance of the treatment of cotton fabrics and lack of enterprise in the establishment of new industries in cotton, but he considered Englishmen had shown the spirit of invention, had carried out improvements, and were not so ignorant as they were supposed to be. In mercerised goods alone they had made great advances. No foreign tariffs were so high as against these productions, but still the tariff walls were not high enough to keep them out. The high tariffs of Russia, Switzerland, Portugal, and other countries against British inventions showed that the British people were not so stupid and ignorant as they were pictured.

Replying to a manufacturer as to whether the lecturers had discovered a mode of mercerising raw cotton, Dr. Pope said they had not, but if they had succeeded the process would probably have been patented.

TORQUAY CHEMISTS' ASSOCIATION.

FIRST ANNUAL DINNER.

Thursday, February 4, 1904, at the Central Hotel, Torquay, Mr. J. Newlyn, President, in the chair.

The loyal toast having been honoured,

Mr. J. Young, Honorary Secretary, proposed the toast of "The Navy, Army, and Reserve Forces," to which Captain Garrett responded.

Alderman Gadd, J.P., in submitting the toast of the

Torquay Chemists' Association,

said it was a great pleasure to him to come to Torquay, and to find such good fellowship existing amongst the craft. United effort was necessary at the present time, for they were face to face with legislation affecting the trade. He appealed to every chemist to join the Pharmaceutical Society, so that when the clarion called for action from Bloomsbury Square they might be ready for the fray and show a solid front to Parliament.

Mr. Newlyn (President) said the Association had undoubtedly done good work, as it had brought all the chemists in the town together, every chemist being a member of the Association, whereas previous to its formation they scarcely knew each other. He congratulated the Hon. Secretary (Mr. Young) upon the splendid manner in which he had organised the dinner.

Mr. Young (Hon. Secretary) assured the members that he was anxious to do all in his power to benefit the Association. When he first called the chemists of Torquay together, some three years ago, he was told that it would be a failure, as "two of a trade can never agree"; yet, in spite of trials and difficulties, they had managed to steer the craft safely through.

Mr. Knight, in proposing the toast of

The Pharmaceutical Society,

said the Society had done good work in the past, as it had protected the trade and protected the public by instituting and carrying out the law relating to dispensing of prescriptions and sale of poisons. The Society had also done a grand work in establishing the Benevolent Fund, which was administered without expense to the Fund. Every case which deserved assistance was heped without stint, and he knew of one case in Torquay where an old chemist would have been obliged to pass the remainder of his days in a garret had it not been for the assistance rendered by the Pharmaceutical Society.

Mr. Hobner (Divisional Secretary), in replying, made a vigorous and eloquent appeal to every member present to join the Society, which, he said, was now in a stronger position than at any period of its history. The Council deserved their sympathy and support.

Mr. Bourne proposed the health of

The Medical Profession,

and said the chemists of Torquay were exceedingly fortunate, in so far that nearly every medical man in the town gave their patients prescriptions instead of dispensing the medicines themselves.

Mr. Rawling (Vice-President) briefly proposed "The Visitors," to which Mr. Kenny replied with a humorous speech.

An excellent programme of music was arranged by Mr. G. H. Stone, Mus.Bac. Mr. J. L. Rossiter and Mr. George H. Martin contributed several songs, each with good effect.

STOCKPORT CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Wednesday, February 3, 1904, at the Albert Hall, Stockport, Mr. Wm. Dodge, President, in the chair.

After the ordinary business had been disposed of it was decided that the Secretary should write to the *Pharmaceutical Journal* to ask if there is any liability attaching to chemists for selling household commodities in mineral-water bottles (see page 212). It was also agreed that the next meeting should be a supper at the Warren Bulkeley Hotel, on Wednesday, March 2.

SHEFFIELD PHARMACEUTICAL AND CHEMICAL SOCIETY.

ANNUAL BALL.

Thursday, February 4, 1904, at the Royal Victoria Hotel, Sheffield. The ball was attended by a company of about 190, just sufficient to fill the handsome and charmingly decorated ball-room. The floor was in excellent condition, and, to the strains of Mr. C. F. Needham's band, dancing was kept up until the small hours of the morning. The Hon. Secretary of the Society (Mr. H. Antcliffe) and Mr. E. C. Exell were the M.C.'s. The supper-tables were presided over by Messrs Newsholme, Fox, and Squire respectively.

SCHOOL OF PHARMACY STUDENTS' ASSOCIATION.

ORDINARY MEETING.

Friday, February 5, 1904, at 17, Bloomsbury Square, London, Mr. T. E. Wallis, B.Sc., in the chair,

Miss Elsie S. Hooper read a paper, with demonstrations, on the

Determination of Methyl Alcohol in Pharmacopœial Preparations.

After briefly stating some of the legal requirements with regard to the sale and use of methylated spirit, Miss Hooper described the more important tests which have been devised for the qualitative and quantitative determination of methyl alcohol. The results of experiments which she had made showed the value and accuracy of the method recently described by Thorpe and Holmes. The paper is printed in full at page 189.

At the conclusion of the paper questions were asked by several members, and a hearty vote of thanks was passed to Miss Hooper.

HUDDERSFIELD CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Tuesday, February 9, 1904, at the Queen Hotel, Huddersfield, Mr. R. C. Walshaw in the chair.

Mr. F. Pilkington Sargeant opened a discussion on

Territorial Representation,

and gave a detailed statement of Mr. Tocher's scheme.

An interesting discussion followed. The Chairman said that such a scheme would go a long way towards arousing enthusiasm among the rank and file of pharmacists. It might be an awkward matter to arrange the committee meetings, which had, so far, he believed, been left in the hands of the London members simply as a matter of convenience. The matter was one which was capable of arrangement, however.

The discussion was continued by Messrs. Johnson, Hebden, Spurr, Wood, and others.

Mr. Pilkington Sargeant said that at a first glance it did seem as though the scheme would entail the giving away of their franchise to some extent, but he did not think that objection went very far. Under the present voting system he did not think that many electors voted for more than one man. He himself had always voted for a man whom he knew personally, and who he had known would be a good man. He thought most of them were inclined, as he had been, to plump their seven votes.

Mr. Spurr moved, and Mr. Hadfield seconded:—

> That this meeting of the Huddersfield Chemists' Association is of opinion that a scheme of territorial representation, on the lines suggested by Mr. Tocher, would benefit the Pharmaceutical Society, and would be to the interests of pharmacists generally.

Mr. Hebden: And we might add to that, "The sooner the better."

The motion was adopted with unanimity.

Mr. Pilkington Sargeant thanked the meeting for their hearing and resolution.

Lecture on Radium.

Mr. Sargeant then proceeded to lecture briefly on the subject of "Radium," illustrating his remarks with demonstrations of a most interesting nature.

Other Business.

The Hon. Secretary reported that, in response to a communication from the Reading Chemists' Association, he wrote to several firms asking them to put their articles on the P.A.T.A., and that there had been two replies. One firm stated that Blair's Pills would be put on the list next month, and the other—Kay Bros., of Stockport—replied that the directors would consider the matter, the Chairman adding that he thought this firm also would comply.

Mr. H. Sykes was delegated to represent the Huddersfield Association at the annual dinner of the Dewsbury Association.

The Chairman adverted to a suggestion that Mr. Maud, of Pontefract, should be invited to read a paper before the Huddersfield Association. The matter was left in the hands of the Chairman to arrange for this.

DEWSBURY AND DISTRICT CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Monday, February 8, 1904, Mr. Robert Gledhill, President, in the chair.

It was stated that the arrangements for the annual dinner to be held next week had been completed, and that the Bradford, Wakefield, Halifax, Leeds, and Barnsley Chemists' Association had appointed delegates to attend. A letter had been received from the Secretary of the West Ham and District Chemists' Association asking for particulars of the co-operative buying scheme which the Dewsbury Association had adopted. Mr. Walker (Secretary) stated that he had replied giving the information asked for.

On the motion of Mr. A. B. Barker, it was agreed that in future the meetings be held on the first Monday in the month instead of the second.

Several members reported their experiences in connection with the co-operative buying scheme, which appeared to be working fairly well, so far. Further details were discussed, and arrangements made for the distribution of articles so bought.

WOLVERHAMPTON AND DISTRICT CHEMISTS' ASSOCIATION.

ANNUAL MEETING.

Wednesday, February 3, 1904, at the Star and Garter Hotel, Wolverhampton.

Election of Officers.

The following officers were re-elected:—Mr. F. A. Willcock, President; Mr. H. E. Cullwick, Vice-President; Mr. J. H. Coleman, Secretary; Mr. A. C. Weaver, Treasurer; Messrs. F. E. Coombe, H. Forster, F. J. Gibson, S. Phillips, and M. R. Warner as the Committee.

Mr. Godsell proposed, and Mr. Stanway seconded, a vote of thanks to the late officers.

Mr. F. A. Willcock responded on behalf of the officers. Mr. S. Phillips proposed, and Mr. Gibson seconded, a vote of thanks to Mr. Godsell for his services as auditor. Mr. Godsell responded.

Other Business.

The President gave notice to amend Rule 8.

The Secretary gave notice of a new rule respecting hon. members.

Mr. Gullwick proposed, and Mr. Willcock seconded, that £2 2s. be subscribed to the Benevolent Fund of the Pharmaceutical Society. This was carried unanimously.

MANCHESTER PHARMACEUTICAL ASSOCIATION.

MONTHLY MEETING.

Wednesday, February 10, 1904, at the Victoria Hotel, Manchester, Mr. Geo. S. Woolley in the chair.

The minutes of the last meeting having been read, replies were read from the Pharmaceutical Council and the Federation of Local Associations to resolutions previously passed by the Association, and were ordered to be recorded in the minutes.

Educational.

The Chairman called the attention of the meeting to the advantages offered by the County Council of the County Palatine to pharmaceutical apprentices. Scholarships of £60 per annum for three years were open to all students between the ages of sixteen and twenty-five. These ages were suitable to young men who intended to devote themselves to pharmacy. To gain these scholarships, students had to pass no more difficult examination than the Major Examination of the Pharmaceutical Society. He mentioned the matter in order that the subject might gain some publicity, for he believed that many young men were unaware of the advantages offered to them.

Mr. Grier said it might be arranged that after a chemist's apprentice had completed his apprenticeship he might go on with his three years' scholarship. If a young man could get his college education free, all the better for him. He knew that both in Manchester and Liverpool these scholarships had been going a-begging for several years past.

The Late Mr. John Taylor.

The Chairman moved a vote of condolence with the widow and family of the late Mr. John Taylor, of Bolton. The deceased gentleman had rendered valuable services to the Association and to the Pharmaceutical Society for a number of years. Many of those present would have read the appreciation of the deceased, from the pen of Mr. Rymer Young, in the *Pharmaceutical Journal*. It was a remarkable account of the services he had rendered, and a good description of the man.

Mr. Pidd seconded the motion, which was agreed to in silence.

Practical Electricity from a Pharmaceutical Point of View.

Mr. Frank A. Ringer, Ph.C., then read a paper on the above subject, illustrated by many demonstrations from first-class apparatus. Mr. Ringer said he omitted all theories and problems and confined himself to a study of the apparatus and methods of such electrical appliances as came within the scope, at some time or other, of the ordinary retail chemist. Perhaps the simplest form of apparatus was the portable dry-cell battery. Fluid batteries were rapidly becoming antiquated, and many forms of dry-cell batteries had been tried, until at last the chloride of silver cell had been very generally adopted. The most efficient dry cell, however, for commercial purposes was the ammonium chloride dry cell. It was constant in action, cheaper to renew, and lasted from one to two years, giving an electro-motive force of from one and a-half to two volts. After describing the principal parts of a dry-cell battery, he spoke of the electric light baths, which he said superseded all other kinds of sudatory baths, and allowed many people suffering from heart troubles to obtain the luxury of a Turkish bath without the ill-effects which would result from the use of the latter. These he described in detail, and said frequently as much as 150,000 to 200,000 volts could pass over or through the patient. These baths were largely used in cases of rheumatism, sciatica, and in nervous diseases. Other lamps having been described, Mr. Ringer told the meeting what was required for the purpose of radiography, which was of great importance to the medical world. Accumulators or secondary cells were generally the best means to use for the source of current, especially where there was no electric lighting. Respecting the bactericidal action of the X-Rays, the evidence was daily growing stronger that they possessed no marked characteristics, and it seemed to point to a conclusion that the Röntgen rays had no effect upon the growth of bacteria. In conclusion, Mr. Ringer said: "I would like to point out that, with the increased use of these various machines and apparatus I have given a short description of, much business can be done with the medical men, but at the same time I would like to give a word of warning that no patients should ever be treated or radiograms taken without an order or letter from a member of the profession. Untoward results might arise at any time which might leave the chemist in a very grave difficulty, or a radiogram taken for an ordinary member of the public might be used by him to bring an action or otherwise injure a physician, who might probably have performed an operation which was not satisfactory to the patient."

The Chairman, in moving a vote of thanks to Mr. Ringer for his paper, said the caution given in his closing remarks should be very carefully observed.

Mr. W. Walton seconded the motion, which was carried with acclamation.

BRISTOL PHARMACEUTICAL ASSOCIATION.

ANNUAL MEETING.

Wednesday, February 10, 1904, at the University College, Bristol, the President, Mr. J. W. White, in the chair.

Annual Report.

The Hon. Secretary then read his report, which showed that meetings had taken place from time to time during the past year as was found necessary. These, perhaps, were not so numerous as usual, owing to the arrangements that were made for the entertainment of the British Pharmaceutical Conference. The Association might be congratulated on the success of the meetings of the Conference. Universal approval had been expressed by the visitors on the arrangements made for their entertainment by the local committee. A presentation of several useful books, in most handsome bindings, had been made from the Bell and Hills Fund to the library of the Association.

The report was adopted.

In the absence of the Hon. Treasurer (Mr. H. E. Matthews), the Chairman announced that his financial statement must stand over till the next meeting. He (the Chairman) considered it a matter of congratulation that the financial arrangements in connection with the visit of the B.P. Conference had turned out so satisfactorily, that a balance of £15 had been handed over to the Benevolent Fund of the Pharmaceutical Society.

Benevolence.

Mr. E. F. Young (Divisional Secretary) reported that he had had the pleasure of handing over to Mr. Tyrer (late of Westbury, Wilts), who was now residing in his district, the first instalment from the Benevolent Fund, to which he was entitled to as an annuitant; and he thought that fact would stimulate the members to take a greater interest in the Benevolent Fund, which was undoubtedly doing a good work.

Election of Officers.

The election of officers for the ensuing year then took place. Mr. G. T. Turner proposed the re-election of Mr. J. W. White as President. The proposition was seconded by Mr. Pitchford, and carried with acclamation.

The Chairman, in replying, said he was pleased to accept the office for another year, and expressed his indebtedness to the Vice-President and officers for the help they had given him. Mr. G. T. Turner and Mr. E. F. Young were re-elected Vice-Presidents, Mr. H. E. Matthews as Hon. Treasurer, and Mr. H. E. Boorne as Hon. Secretary.

The Chairman, in supporting this, said the Hon. Secretary had done remarkably well in discharging the onerous duties devolving upon him in connection with the Conference last year. The proposition was adopted.

Other Business.

It was agreed that the usual subscription should be forwarded to the Treasurer of the Federation of Local Pharmaceutical Associations.

It was further agreed that the usual donation of £5 5s. should be given to the funds of the University College for the use of the rooms for meetings of the Association.

Forthcoming Dinner.

Mr. H. E. Boorne proposed, and Mr. G. T. Turner seconded, that a dinner should be held during the spring, as formerly, and Mr. Turner thought it would be well to secure the attendance of one or more of the local members of Parliament, if possible, to enlist their sympathy with regard to the Pharmacy Bill. A dinner committee was formed, consisting of the President, Messrs. B. Allen, W. Pitchford, and the Hon. Secretary. The date of the dinner was provisionally fixed for April 13.

CHEMISTS' ASSISTANTS' ASSOCIATION.

ORDINARY MEETING.

Thursday, February 4, 1904, at 73, Newman Street, London, the President, Mr. A. B. Britton, in the chair.

Mr. F. W. Gamble, a former President of the Association, read a paper entitled

Sera and Immunity,

in the course of which he lucidly explained the various theories regarding the action of toxins and antitoxins, and serums generally, in the human blood. The full text of the paper will be printed in the Journal later.

A vote of thanks was accorded to Mr. Gamble for his paper, and the proceedings terminated.

WEST HAM AND DISTRICT CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Thursday, February 11, 1904, at Earlham Hall, Forest Gate, E., Mr. Mitchell, President, in the chair.

Breaking Bulk of Proprietaries.

Mr. Savage, who had introduced this subject at a previous meeting, asked where the authority was in the Acts for granting the "concession" made by the Inland Revenue authorities with regard to the retailing of single powders unstamped from a dutiable packet.

Mr. Forbes thought that the present was an inopportune time to burden the Inland Revenue authorities with another important problem to solve.

Mr. Savage moved that the Association should ask the Federation of Local Associations to obtain the opinion of the federated associations as to the advisability of approaching the Board of Inland Revenue on the subject.

Mr. Blades thought the Pharmaceutical Society the proper body to approach the authorities at Somerset House.

Mr. Gwinn having spoken in favour of Mr. Savage's suggestion, the motion was carried.

Co-operative Buying.

Mr. Soper introduced this subject, and suggested that a special branch of the Association should be formed to carry on a scheme whereby proprietary medicines and other articles might be bought by the members in co-operation.

The subject was still under consideration when the representative of the Journal left the meeting.

LEGAL INTELLIGENCE.

Sale of Food and Drugs Acts.

Olive Oil.

On Friday, February 5, 1904, at Westminster Police Court, before Mr. Sheil, a summons, at the instance of the Westminster City Council, was heard against John Sulz, grocer, for selling olive oil mixed to the extent of one-half with arachis, or earth-nut oil.

For the defence it was contended that the retailer never tampered with the oil. It was sold precisely as it was obtained.

Mr. Sheil fined the defendant 40s. and 14s. 6d. costs.

It was stated in a similar summons against Messrs. Pearks, Gunston, and Tee, Limited, the alleged adulteration of the oil being 63 per cent., that the independent Government analysis was not yet completed.

This summons was accordingly adjourned for another fortnight.

COMPANY INTELLIGENCE.

Brown and Co. (Manchester), Limited.—Capital, £1,000, in £1 shares. Object, to carry on the business of manufacturing and general chemists, chemical manufacturers, etc.

Cosmo Chemical Company, Limited.—Capital, £3,000. Object, to adopt an agreement with H. T. Woodward and W. B. Keyes, to acquire the formula and all rights for the manufacture of an antiseptic preparation to be called Kuma, and to manufacture and deal in the said preparation.

T. and H. Smith, Limited.—Registered with a capital of £130,000, divided into 13,000 ordinary shares of £5 each, and the same number of 5 per cent. cumulative preference shares of £5 each. All the ordinary shares are taken in part payment of the purchase price by the vendors, who are also willing to take up one-third of the preference shares. The directors are Messrs. H. Ewing Smith, T. Connell Smith (managing directors), and Messrs. James Smiles, Donald Mackenzie, Alexander J. Roy, and Robert A. Wright. The secretary (*pro tem.*) is Mr. Richard Marshall. Registered office, 21, Duke Street, Edinburgh. Full particulars of what should prove an excellent investment will be found in the advertisement pages of this issue.

NOTES IN PARLIAMENT.

New Bills.

In the House of Commons, on Friday last, Mr. Long, as President of the Local Government Board, gave notice of his intention on an early date to ask leave to bring in a Bill to amend the Public Health Act; and Mr. Fellowes also gave notice of the intention to ask leave to bring in a Bill to amend the law with respect to the sale of butter. On the same day several Bills of private members were brought in and read a first time. They included a Bill, for which General Laurie is sponsor, to amend the Medical Act, 1886; one, introduced by Sir H. Vincent, to amend the Merchandise Marks Act, 1887; one by Sir C. Dilke, to amend the law relating to shops; one by Mr. W. Redmond, to repeal the law which prohibits the growing of tobacco in Ireland; and one by Sir J. Tuke, to provide for the re-vaccination of children after the age of twelve.

Arsenical Poisoning.

Sir Cuthbert Quilter has addressed the following question to the President of the Local Government Board:—"Whether his attention has been called to the confirmation by the Royal Commission on arsenical poisoning of the opinions expressed in the Minority Report of the Beer Materials Committee issued five years ago, prior to the outbreak of the beer poisoning epidemic, that legislation or other provision was necessary to prevent the use of deleterious substances in the manufacture of beer, and that a court of reference, as recommended by the Committee on the Adulteration of Food Products (a recommendation since endorsed also by the Food Preservatives Committee), should be established for fixing standards of purity for the purposes of the Sale of Food and Drugs Act; and, if so, will he say what action it is proposed to take to give effect to the recommendations of the Royal Commission, more especially as regards the protection of the public against the use of injurious ingredients in beer, and the fixing of a standard of purity." This is answered by Mr. Long as follows:—"I had, before the issue of the Report of the Royal Commission on arsenical poisoning, had under consideration the expediency of promoting legislation with a view to the constitution of a court of reference for the decision of certain scientific questions in relation to food of the kind referred to in the question, and I had been in communication with the Board of Trade and the Board of Agriculture on the subject. I am continuing to give attention to the matter, but having regard to the large and important recommendations of the Arsenical Commission, I think it will be necessary that a conference should be held of representatives of the Government Departments concerned before a decision as to the course to be adopted can be arrived at."

Brussels Sugar Convention.

The President of the Board of Trade has been asked by Mr. Lough whether, having regard to the undertaking of the Government given on August 5, 1903, that if the Commission set up under the Brussels Sugar Convention should decide that sugared goods were not to be treated on the same basis as sugar by the contracting parties, steps would immediately be taken by the Government on behalf of the manufacturers in this country; and whether, seeing that this eventuality had now arisen, he would state what steps the Government proposed to take. In his reply, Mr. G. Balfour denied that the undertaking given on the date referred to was correctly described in the question. The statements made by the then Chancellor of the Exchequer and by himself were to the effect that if and when the necessity should arise the Government would take precautions to prevent our manufacturers from being injured by the unfair competition of imported sugared products enjoying a bounty or made with bountied sugar. To that pledge they adhered, but up to the present they were not aware that any appreciable quantity of sugared goods enjoying advantages of this nature were being imported into this country to the detriment of our manufacturers.

A Bill to Amend the Merchandise Marks Act, 1887.

Sir Howard Vincent is bringing in a Bill to prohibit the importation of goods which might be fraudulently sold as being of British manufacture. The Bill provides that all goods of foreign manufacture imported into the United Kingdom must bear the word "Imported" conspicuously and indelibly stamped upon each article.

Lead Glazing.

The Home Secretary was on Tuesday asked by Sir C. M'Laren if the rules relating to the use of lead glazing in heavy pottery had been definitely settled by him, or whether opportunity would be given for the expression of the views of the men and masters engaged in the sanitary ware industry, so that he might consider the effect of these regulations on the foreign export trade in these goods. In his reply, Mr. Akers-Douglas said that he had some doubt as to the classes of earthenware to which the hon. member referred. If he meant those for which rules were recently submitted to arbitration, the rules were settled by award on the arbitration after full opportunity for a hearing had been given to the masters and men of all the firms affected by the rules who desired it. As regarded other branches of the earthenware trade, any representations which might be made to him would be carefully considered.

SCHOOL AND COLLEGE NEWS.

Metropolitan College v. War Office III.—Played at Tooting. The Metros won by one goal to nil.

Football.—Metropolitan College v. London.—This match was played at Shepherd's Bush on February 3. After a very exciting game, in which both teams displayed fine form, the Metros ran out winners by one goal to nil. The Committee of the Pharmacy League have decided that the match between the "Square" and Metros which was not finished on January 30 will have to be replayed.

Westminster College of Chemistry and Pharmacy.—The annual dinner of this College, of which Mr. G. S. V. Wills, F.L.S., is the principal, is to be held at the Holborn Restaurant, London, on Monday next, the 15th inst. The programme for the evening includes a reception at 6.30 p.m., dinner at 7, a promenade concert from 9 till 10.30, and a dance from 10.30 until midnight.

Inter-Pharmacy League.—London College *v.* Muter's College, played at Acton on Saturday, February 6. Muter's won the toss and elected to play with the wind. The strong boisterous wind greatly interfered with the play. Muter's made fair use of the advantage of the wind, and before half-time found the net twice through Evans and Cardwell. On change of ends London played up well, and soon found the net. London tried hard to equalise, but failed to do so until ten minutes before time, when one of the Muter's halves handled in the penalty area, and from a penalty kick London equalised. The feature of the game was the stubborn resistance offered by the Muter's defence, who, in the second half, lost one of the backs early in the game through injury, but the remainder were equal to all occasions.

MISCELLANEOUS NEWS.

Divisional Secretaries and other Members of the Pharmaceutical Society are requested to assist the Editor by sending local newspapers containing items of interest to chemists and druggists.

Chemist's Will.—The late Mr. Thos. Holstead, 11, Venice Street, Bolton, chemist, left estate to the value of £1,148.

A Clean Slate.—Not a single sample of drugs has been taken under the Sale of Food and Drugs Acts in Stockton-on-Tees during the past two years.

Poisons and Their Antidotes.—At the fifth ordinary meeting of the Andersonian Chemical Society, Glasgow, held last Friday night, Mr. Holborow read a paper on "Poisons and Their Antidotes."

Hastings Analyst's Report.—Three samples of cod-liver oil were the only samples of drugs taken last year at Hastings under the Sale of Food and Drugs Acts. All were found to be genuine.

Midland Pharmaceutical Association.—The paper on "Plasters and Plaster-spreading," which Mr. A. W. Gerrard, President of the Association, had arranged to read on Thursday, February 11, will be read on Thursday, the 18th inst.

Conviction for Drugging.—A young man of respectable appearance, named George Hunter, was sent to prison for twelve months, at Glasgow Sheriff Court, for administering a quantity of chloral hydrate, or other narcotic, to a man whom he afterwards attempted to rob.

Pharmacy Breaking.—At Rotherham on February 4, three youths were again brought up charged with breaking into the premises of Mr. Percy Billington, chemist and druggist, of 79, Midland Road, Masborough, and stealing 5s. 6d. in money and goods to the value of 16s. Two of the defendants were committed for trial.

"Allenburys" Cricket Club.—The sixth annual Bohemian concert in connection with this club was held at the Cripplegate Institute, London, E.C., on Wednesday, February 10. Among those present were Messrs. W. R. Dodd, Reginald Hanbury, and F. Capel Hanbury. An excellent and varied programme of music was submitted, the evening being in every way successful.

A County Court Judge on the Companies Act.—Judge Edge, in the course of the hearing of a County Court summons recently, made the following comments on the Companies Act:—"No Act was ever made which was a greater assistance to fraud." "It is astonishing how such an Act can remain on the statute-book." "It is the most ludicrous thing in the world."

Stopping a Dog-fight.—A chemist living at Stoke Newington has been fined five shillings, with twenty-five shillings costs, for cruelty to two dogs. The dogs were fighting savagely, and the defendant left his shop and sprinkled over them a quantity of liquid ammonia, which caused each animal to become blind in one eye. The magistrate remarked that it was evident that the chemist had no idea of being intentionally cruel.

Adulteration Charges at Manchester.—Mr. Yates, one of the Manchester stipendiaries, has fined a local grocer 20s. and costs for selling a pound of strawberry jam containing salicylic acid as a preservative. Notice of appeal was given. In an adjourned case at Manchester, where a grocer was charged with selling white pepper adulterated with 13 per cent. of bleached husk, the summons was dismissed.

Wine Licences Granted.—Mr. D. H. Howells, chemist and druggist, of Caerau, Maesteg, was on Saturday granted a medicated wine licence by the Bridgend Bench.—At Southport, on February 4, Mr. J. B. Foggitt, chemist and druggist, of Southport, applied for the transfer of his medicated wine licence from 13, Neville Street, to 187, Lord Street, and the application was granted.—The Maryport justices on Friday granted a wine licence to Mr. David Wm. McVittie, chemist and druggist, of 73, Senhouse Street, Maryport.—At Pontefract Borough Licensing Sessions on Monday a medicated wine licence was granted to Mr. Alfred Collins, chemist and druggist, of the Corn Market.

A Dinner at York.—On the evening of February 6, the members of the Cricket Club of Messrs. Raimes and Co., wholesale druggists, York, dined together at the De Grey Rooms, where a most excellent repast was provided. The chair was occupied by the junior partner of the firm, Mr. W. C. Birks. After the tables were cleared a smoking concert was held, songs, toasts, and speeches following each other in rapid succession. "The Cricket Club" was toasted by Mr. J. R. Blanshard, and the Chairman intimated the wish of the firm to present suitable prizes for the best batting and bowling averages for the coming season. The utmost harmony and good-fellowship prevailed throughout the evening, and the organisers, Messrs. Johnston and H. Fowler, are to be congratulated on the excellence of their arrangements.

Edinburgh Chemists' Golf Club.—The annual general meeting of the Edinburgh Chemists' Golf Club was held in the Pharmaceutical Society's House, 36, York Place, Edinburgh, on Tuesday, February 9, 1904, Mr. W. B. Cowie, Captain, in the chair. The Hon. Secretary, Mr. James Stott, presented the annual report, which was of a very satisfactory nature, showing a membership of forty-seven, whilst the Hon. Treasurer, Mr. C. F. Henry, showed a balance at credit of £3 19s. 9d. The following were elected office bearers for the current session:—Hon. President, Mr. Robert Dick (Duncan, Flockhart, and Co.); Captain, W. B. Cowie; Hon. Secretary, James Stott; Assistant-Secretary, J. G. Robb; Hon. Treasurer, C. F. Henry; and as members of Committee, H. D. Alexander, James Anderson, A. S. Birnie, James Finlay, W. Lyon, Alexander McCutcheon, and George Roberston. A new rule was adopted giving more power to the Committee anent the conducting of the competitions

Mistakes by Public Analysts.—In the Tain Sheriff Court, on Wednesday, February 3, before Sheriff Shennan, William Ross, innkeeper, Barbaraville, was charged with having sold a bottle of whisky which was under strength, as ascertained by the Public Analyst for the county. The case was called at Tain on January 30, when the accused pleaded not guilty, and produced an analysis in his favour by Dr. Drinkwater, Edinburgh. The Sheriff remitted the remaining sample to Somerset House for analysis. The Somerset House analysts reported that the whisky in question was above the legal minimum of strength.

The Sheriff, in discharging accused, said it was a matter for the serious consideration of the county authorities that now for the third time an analysis by the County Analyst had been upset by independent and Government analysts. It was unfair to traders that prosecutions should be brought against them founded on incorrect analysis. He was sorry he could not award expenses.—According to a newspaper report, for the truth of which we are unable to vouch, it was stated at the meeting of the Hull Town Council on February 4 that proceedings against tradesmen for selling baking powder certified to contain 50·19, 45·79, and 50 per cent. of alum respectively, had been withdrawn, because "the analyst had mistaken another chemical substance, acid phosphate of lime, for alum."

Suspension of a Union Dispenser.—At the meeting of the Cardiff Board of Guardians on Saturday last, the report of the Dispensary Committee was presented, to the effect that Dr. Evans, medical officer of Canton district, reported that a bottle of medicine was brought to him on Thursday, February 4, by a Mrs. Williams. The bottle was said to have been made up for her daughter, aged 17, on his "repeat prescription" of January 28—viz., ammoniated citrate of iron and water. The bottle, however, contained either Condy's fluid or a solution of potassium permanganate. The dispenser, a Mr. Taylor, denied having dispensed permanganate on this prescription, in support of which he pointed out that the prescription was 8 oz., whereas the bottle would contain only 6 oz., and that he kept potassium permanganate in crystals, while he had a stock solution of iron and ammonium citrate. The Board requested Mr. Taylor to resign, and, on his refusal, decided to suspend him from the discharge of his duties. Some time ago, in consequence of certain complaints, a Local Government Board inquiry was held into Mr. Taylor's conduct, with the result that he was exonerated from all blame. He now declares his intention to again appeal to the Board against the decision of the Guardians.

Wine Licences Refused to Chemists.—At Windsor Licensing Sessions, on February 4, Mr. James Dorkin Harmer, chemist and druggist, applied for his off wines and spirits licence to be removed from 75 to 77, St. Leonards Road. A ratepayer objected. He did not think that the sale of intoxicating liquors should be mixed up with the sale of medicines and other things for healing the human body. If the application was granted persons would go to this place under the pretence of buying a box of pills, and lay out their money in wines and spirits. The Bench declined to grant the application.—On behalf of Fred Greenwood, described as a chemist, 11, New Road, Mytholmroyd, an application was recently made for a licence to sell wines to be consumed off the premises. Mr. Greenwood said he had often been asked for medicines containing wine, and a Dr. Thompson said it was desirable that these medicines should be sold in Mytholmroyd. On the other hand, it was submitted that there was no ground for the granting of this licence. Medicines which had been mentioned, such as Liebig's wines, Hall's wines, invalid port, Wincarnis, etc., ought not to be made an excuse for granting a wine licence. The Chairman announced that the application must be refused.—At Bridgend, on Saturday, an application for a licence for the sale of medicated wines, made by Mr. Rhys D. Morgan, chemist and druggist, of Maesteg, was refused.—Mr. R. H. Williams, of the Medical Hall, Holyhead, applied at the licensing sessions on Tuesday for an off spirit licence, but it was refused.

TRADE NOTES.

Renovene is the name of a liquid furniture polish prepared by the Anglo-American Manufacturing Co., Gateshead-on-Tyne. It is neatly packed in cartonned bottles to retail at 6d., and is a good selling line.

A Chemist's Almanack.—Mr. Llewellyn Williams, chemist and druggist, of New Buckenham, has issued a very complete trade almanack. This booklet comprises upwards of 200 pages, and is full of interesting and useful information. It is doubtless an excellent form of advertising.

The Asbestine Safety Night Light is an article particularly adapted for sale by chemists. The points to bear in mind are that it gives 250 hours' light at a cost of one penny for oil and burns from six to twelve hours without re-charging. For full particulars application should be made to Mr. W. Tylar, 41, High Street, Aston, Birmingham.

Royal Double-Cream Cheddar Cheese.—According to the analytical report this cheese is of the following composition:—Moisture, 35·24 per cent.; mineral matter, 3·84 per cent.; fat, 38·85 per cent.; and proteid, 22·07 per cent. This cheese, which is put up in small packages to retail at 4d., is manufactured by the Somerset, Dorset, and Devon Dairy Co., Limited, Chard, Somerset, and is of a very agreeable flavour.

India-Rubber Goods, etc.—Messrs. Burge, Warren and Ridley, Limited, is a firm well known to the trade as dealers in surgical instruments and druggists' sundries generally. Hot-water bottles, water-beds, enemas, teats, soothers, etc., are among their leading lines. Their quality is well known and the prices are moderate. Readers should apply to 91, Great Saffron Hill, London, E.C., for catalogues and full particulars.

PERSONALITIES, BUSINESS CHANGES, ETC.

Mr. F. T. Roper has, it is understood, purchased the business carried on by Mr. Vaughan Morris, chemist, High Street, Kingston.

T. and H. Smith, Limited, is now the style of the old-established business of T. and H. Smith and Co. Full particulars of the conversion will be found in the advertisement columns.

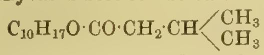
Mr. S. R. Atkins, President of the Pharmaceutical Society, is, we are glad to say, making good progress towards the recovery of his usual health. It is improbable, however, that he will be able to leave his house for some days.

NEW REMEDIES.

Thymol as an Anthelmintic.—According to Hedmann, thymol, in doses of 15 grains in gelatin capsules, every quarter of an hour, until three or four doses have been taken, followed by a purge of castor oil or aperient mineral water, is an efficient remedy for tapeworm, pleasanter to take than male-fern extract, and less risky.—*Pharm. Central*, **44**, 359.

Pyrenol.—This is a new name for pyrane, sodium-benzoyl-thymo-oxybenzoate, which has previously been noticed in this Journal (*P.J.* [4], **17**, 318). It is a readily soluble sweetish powder, which has been given as an analgesic in rheumatism and nervous diseases, also as an antispasmodic in asthma and whooping cough, in doses of 8 to 30 grains, or 30 to 90 grains in twenty-four hours. It is stated to exert no unfavourable symptoms.—*Pharm. Central.*, **44**, 560.

Bornyval.—Bornyval is borneol iso-valerianic ester—



$$C_{10}H_{17}O{\cdot}CO{\cdot}CH_2{\cdot}CH{<}^{CH_3}_{CH_3}$$

It has a slight but not unpleasant odour of valerian, is soluble in alcohol and in ether, but not in water. Its sp.gr. is 0·921 at 20° C. It is dextro-rotatory $+27° 40'$. It is stated to possess in a high degree the therapeutic properties of valerian. It is given in capsules containing 4 grains. The dose is two such capsules daily.—*Pharm. Zeit.*, **48**, 772.

BOOK REVIEW.

'Travaux du Laboratoire de Matière Médicale de l'École Supérieure de Pharmacie de Paris.' Price: 15fr. Paris: A. Joanin et Cie. 1904.

Under the above title Professor E. Perrot, the successor to the late Professor G. Planchon, has published several important papers in a convenient form. The work, of which it contains an account, has been done in the Materia Medica Laboratory of the Paris School of Pharmacy, and includes micro-chemical researches on some glucosides and vegetable tannins by M. A. Goris; researches on the family of the Oxalidaceæ, by M. F. Chauvel; histological researches on the family of Hypericaceæ, by G. Weill; by A. Duval on jaborandis; some researches by Prof. Perrot on some Madagascar plants, two of which were done in conjunction with MM. Lefevre and P. Guerin. M. Goris deals with the localisation of æsculin in *Æsculus Hippocastanum* and *Pavia rubra*, of fustine in *Rhus Cotinus*, of fraxine in *Fraxinus excelsior*, of daphnine in *Daphne alpina*, and of caffeine in *Thea sinensis* and *Cola acuminata*. Excellent plates illustrate the results obtained by the use of various reagents; but for the precautions necessary in the use of these the inquirer must consult the work itself. The Oxalidaceous plants examined by M. F. Chauvel include numerous species of *Oxalis* and plants of the genera *Hypseocharis*, *Averrhoa*, *Dapania*, *Connaropsis*, *Biophytum*, and *Eichlera*. The details on the comparative anatomy of the genera have led the author to the conclusion that the classification adopted by R. Reiche is perfectly satisfactory, being in accordance with the results obtained by the use of the microscope concerning the internal structure. The Hypericaceæ have been examined by M. G. Weill, more particularly with reference to the exact situation of the secretory apparatus in all the tissues of the plants. The author holds to the opinion that the glands of the leaves are of schizogenous and not of lysigenous formation. The genera examined by him are *Hypericum*, *Ascyrum*, *Cratoxylon*, *Eliœa*, *Vismia*, *Psorospermum*, *Haronga*, and *Endodesmia*. From the materia medica point of view the author regards the flowering tops of medicinal plants of this natural order as the most valuable part on account of the comparatively larger number of glands with which they are furnished. M. A. Duval's paper on jaborandi confirms the conscientious work of P. Geiger, and emphasises the conclusion that *P. selloanus* and *P. pennatifolius* cannot be separated as species, the former, which differs chiefly in the longer pedicels, being regarded as only a variety of the latter. Similarly, *P. subcoriaceus* is regarded as only a variety of *P. spicatus*. The distinctive characteristics of the different commercial kinds are very clearly pointed out and accompanied by useful illustrations. M. Duval states that *P. racemosus* is being cultivated by M. M. Andrieux-Vilmorin in the Comoro Isles, and hopes that it will supplant the Brazilian jaborandi in the French market. One of the Madagascar drugs described by M. Perrot is the Ksopo, an ordeal poison used by the Sakalaves, which is referred by him to the *Menabea venenata*, Baill., an Asclepiadaceous plant growing in dry regions in the west and north-west of Madagascar. An illustration of the plant and root is given, as well as details of structure of the flower. The author thinks the plant should be placed in a distinct tribe of the Asclepiadaceæ, characterised by having two pollinia in the anther cell, and by the absence of any apparatus for transferring the pollinia to the stigma. The other Madagascar plant described by MM. E. Perrot and P. Guerin, is the *Didiera Madagascarensis*, so named after M. Grandidier, the well-known monographer of Madagascar plants. It is remarkable for its resemblance in habit to plants of the *Cactus* family, or to the *Cactus*-like *Euphorbias*, although the flowers and fruit show that it must be placed in the Sapindaceæ. The authors give illustrations of the plant and of its histology, as well as details of the other known species allied to it, including two species of *Didierea* and four species of *Alluaudia*.

PHOTOGRAPHIC NOTES.

BY A PHARMACIST-PHOTOGRAPHER.

The Cause of Spots on Photographic Plates
is the subject of an interesting article by Mr. P. L. Mummery, B.A., in the *Photographic News*. After referring to the different kinds of spots met with, such as those caused by dust on the film, or by minute bubbles in the emulsion, both of which are easily preventable, the writer proceeds to the consideration of a variety of spots which cannot be ascribed to either of these causes, and has been a source of much trouble and loss to plate manufacturers. On investigating this trouble, he finds that it is due to the presence on the surface of the film of small colonies of micro-organisms which, under favourable conditions to their growth, are capable of producing large mould colonies, from which the organisms can easily be separated. Experiments were instituted in order to find whether these growths can be produced on the plate by artificial means; by inoculating the surfaces with a fluid culture of one of these organisms, with affirmative results, but with one slight difference, viz., that in the inoculated film, on microscopic examination, no dust particle was visible in the centre of each spot, which had formerly been the case. As these micro-organisms do not exist in the air as isolated units, but travel upon small or large dust particles in the case under consideration, the carrying medium most probably is the fine impalpable dust from which it is practically impossible to free the air of a building. In order that these organisms may grow into colonies of sufficient size to cause spots, they must be able to grow rapidly, there being only about twelve hours before the plate is dry in which they can grow; and they must also be capable of growing at the rather high temperature of 70° Fahrenheit. On testing some of the organisms causing the spots it was found that they grew best under exactly such conditions. A bacteriological examination of some of the gelatin used in the manufacture of plates, both in the raw state and in the form of emulsion, also revealed the fact that there were numerous organisms present. No means for the prevention of this troublesome defect is suggested; most dry plate manufacturers use the precaution to add a small quantity of a chemical antiseptic to the emulsion, but it is not possible to employ a sufficient quantity to destroy any organisms that may be present without damaging the plate for photographic purposes.

MARKET REPORT.

The quotations given below are the lowest prompt cash prices for bulk quantities, to which other charges have to be added. It is important that this should be borne in mind in making any comparison between the prices quoted and those of the wholesale drug trade.

General Markets.

London, Thursday, February 11, 1904.

A general rise in Japanese articles has been the chief feature on the Drug and Chemical Markets during the week. Otherwise, nothing of extraordinary interest has occurred, and things remain quiet. Camphor has, of course, advanced, and 4s. per lb. is now the phenomenal price of the English refined; and the market is in an excited condition. The fact that stocks are exceedingly low seems to suggest that top prices have not yet been reached. Japan refined has also increased in value. Menthol has improved since this day last week from 1s. 3d. to 1s. 6d. per lb., the price now asked for Kobayashi being 17s. per lb. It is reported that the Japanese mail ship "Bingo Maru," of the Nippon Line, which took fire on Monday evening in the Royal Albert Dock, had a cargo of Menthol on board. This, however, has not been confirmed; in any case, the quantity alleged to have been damaged was only 30 cases, so that the market is not likely to be influenced in consequence. As might have been expected, one effect of the war has been to harden the price of Quinine. The German makers have raised the official quotation to 1s. per oz. for the Sulphate; the halfpenny which has now been added was, it will be remembered, taken off only about a fortnight ago. In the second-hand market prices are only a fraction lower. Japanese Ginger has advanced in price. Other interesting fluctuations are noted below, and the probable effect of the war on several articles is dealt with in an editorial note.

ALUM.—Lump, £5 12s. 6d.; Ground, £6 2s. 6d.

ARROWROOT.—All the offerings were bought in at the sales on Wednesday. Fair manufacturing St. Vincent at 2d.

BICARBONATE OF SODA.—£7 5s. per ton, landed.

BISMUTH.—Carbonate, 8s. 1d.; Subnitrate, 7s. 4d.

BLEACHING POWDER.—English, £4 15s. to £4 17s. 6d.

BORACIC ACID.—Powder, £1 4s. 6d.

BORAX.—In powder, 14s. 6d.; crystals, 13s. 6d.

BUCHU LEAVES.—Good business has been done since last Thursday's auction. There is nothing now to be had under 9d.

CAMPHOR.—As anticipated, prices have advanced considerably, 4s. per lb. being now the value of English refined. The spot price for Japan refined has advanced to 3s. 2d.

CARBOLIC ACID.—Crystals, 39° to 40°, 5d.; crude, 60°, 1s. 6½d.

CASTOR OIL.—Is firm; Belgian 1sts, £20 2s. 6d.

CITRIC ACID.—1s. to 1s. 0½d. per lb.

CLOVES.—All the offerings of Zanzibar were bought in at Wednesday's sales. Privately Zanzibar are rather lower for delivery.

COCAINE.—11s. 9d. to 12s. 3d. per oz. for the Hydrochloride, according to quantity.

COCOANUT OIL.—Is firm. Cochin, £30 spot; Ceylon, spot, £26.

CODEINE.—8s. 11d. per oz. for the pure alkaloid.

COD-LIVER OIL.—Is very quiet.

CREAM OF TARTAR.—98 per cent. foreign powder, 87s.

GINGER.—Over 600 packages of Cochin were offered at the spice sales, and a little more than half sold, a good proportion without reserve at rather cheaper rates. Jamaica sold as follows: Small and medium bright at 40s., ordinary at 36s. 6d., small dark at 35s.

HYDRASTIS CANADENSIS.—Is dearer at 3s. 10d. to 4s. The stocks both here and in America, as well as on the Continent, are small, and a further advance at an early date is expected.

IODIDE OF POTASSIUM.—The Convention price is 8s. 9d. per lb.

IODINE.—9s. 9d. to 10s. per lb. for the resublimed, according to quantity.

IODOFORM.—11s. 8d. per lb.

LINSEED OIL.—Is firm and dearer. London, spot, pipes, £17 12s. 6d.; barrels, £18.

LOBELIA INFLATA.—Is dearer, 4¾d. to 5d. being the present prices.

MENTHOL.—Has advanced in value. The prices now wanted are from 1s. 3d. to 1s. 6d. higher than those obtained at the drug auctions last week. At the time of writing 17s. is quoted.

MERCURIALS.—Calomel, 2s. 8d.; Corrosive Sublimate, 2s. 4d.; Red Precipitate, 2s. 11d.; White Precipitate, 2s. 11½d.; Mercuric Sulphate, 2s. 4d.

MORPHINE.—4s. 6d. per oz. for the hydrochloride.

OIL OF STAR ANISEED.—It is reported that dearer prices have been paid than those recently quoted, 4s. 11d.

OPIUM.—Is quiet and unchanged, as are also the alkaloids of this drug.

OXALIC ACID.—2⅝d. delivered free London.

PEPPERMINT OIL.—Japan dementholised oil has advanced about 1s. per lb. during the week. The prices for Kobayashi on the spot are now 6s. 9d. to 7s., and for outside brands about 3d. per lb. less is quoted. American Oil is dull on the spot, and there is practically no demand whatever. Prices come higher for American, stocks there being very small. 12s. to 12s. 6d. c.i.f. is quoted for tin oils.

POTASSIUM BROMIDE.—1s. 11½d. per lb.

QUICKSILVER.—£8 5s.

QUININE.—German makers have put back the price to 1s. per oz. for the Sulphate; in the second-hand market quotations are a fraction lower.

NUTMEGS.—Were quiet at the spice sales.

SHELLAC.—Fair TN is quoted at 210s.

TURPENTINE.—Is firmer; American, spot, 46s. 2d.

VANILLA.—A good quantity sold at the auction at slightly easier rates.

GALLS.—The reports concerning the next crop of galls indicate that it will be a small one, owing, it is supposed, to the trees being somewhat exhausted by over-production during the last three years. The yield during 1900-1901 is estimated at 1,500 tons, that of 1901-1902 at 400 tons, and that of 1902-1903 at 120 tons, and the present year's crop is estimated at probably the last-named figure. Since Aleppo and Mousnel galls have attracted more attention in commerce those of Smyrna have become less important. The value of galls from the different districts is in the following order:—Aleppo, Mousnel, Trebizonde, Smyrna, and Greece (Morea). The first two are said to go chiefly to France, the green and white galls of Smyrna to Germany, and the black to the United States and England.—*Schweiz. Woch.*, **42**, 45.

PATENTS AND TRADE MARKS.*

New Patent Applications.

MANUFACTURE OF A NEW ODIFEROUS SUBSTANCE SUITABLE FOR PERFUMERY (No. 540 of 1903).—A. G. Bloxam, Birkbeck Bank Chambers, Southampton Buildings, London. (Communicated by Fabrique de Produits de Chimie Organique de Laire, 92, Rue St. Charles, Paris.) From various essential oils, such as essential oil obtained from cassia flowers, oil of ambrette seeds, the inventors have liberated a new and important substance, which they find to be a sesquiterpene alcohol (either primary or secondary) having the chemical composition $C_{15}H_{26}O$, and possessing a very pleasant odour of fresh flowers. To obtain this alcohol readily in a pure state the essential oils containing same are treated with anhydrides of acids, such as camphoric anhydride, benzoic anhydride, and the like, or, better, the fractions obtained from these essential oils by fractional distillation, between 150° to 200° C. at 20 Mm. pressure, are subjected to the treatment with the above-mentioned anhydrides. The ether-like substances then obtained are purified, and then saponified to liberate the alcohol.

PROCESS FOR CONVERTING FATTY ACIDS OF THE OLEIC SERIES AND DERIVATIVES THEREOF INTO LACTONES (No. 1570 of 1903).—A. A. Shukoff, Borowaja, No. 86, St. Petersburg. In this process the fatty acids of the oleic series are converted into lactones by treatment with sulphuric acid, which essentially consists in heating a mixture of oleic acid, or its equivalent, with a quantity of sulphuric acid for a number of hours to a temperature between 60° and 90° Centigrade. Example :—4,194 kilogrammes (or 300 poods) of oleic acid (or its equivalent) are well mixed with 1,965 kilogrammes (or 120 poods) of sulphuric acid of a specific gravity of 64° Beaumé. The mixture is heated to a temperature of from 70° to 80° C. for about twelve hours. The resulting mass is washed with hot water, preferably with hot water, to which is added some sodium sulphate, in order to prevent emulsification, the washing being repeated if necessary.

MANUFACTURE OF COMPOUNDS HAVING A NITRO-CELLULOSE AND CASEIN BASE (No. 3,045 of 1903).—H. Ensminger, Talmontier (Oise), France. The process consists in causing formic aldehyde to act upon compounds having a base of nitro-cellulose and casein for extracting the camphor which they contain, and thus obtaining products presenting no smell of camphor, this treatment also rendering such substances of a hardness equal to horn. Example: The product to be treated is immersed in formic aldehyde for a period varying from a few hours to a few days, according to the thickness of the product to be treated; then when the formic aldehyde has by penetration dissolved all the camphor contained in the mass, it is removed from the liquid and dried. The said liquid may be distilled and the camphor and formalin recovered.

MANUFACTURE AND PRODUCTION OF A NEW PHARMACEUTICAL COMPOUND (No. 5,772 of 1903).—H. E. Newton, 6, Bream's Buildings, Chancery Lane, London. (Communicated by the Farbenfabriken vormals F. Bayer and Co., Elberfeld, Germany.) The inventors have found that the hitherto unknown alkyl-oxy-alkyliden esters of salicylic acid, possessing great therapeutic value, can be obtained by treating salts of salicylic acid with alpha-halogen-dialkyl-ethers. Example: Into 16 parts of sodium salicylate, 9·45 parts of alpha-mono-chloro-ethyl-methyl-ether are stirred little by little on cooling. After the reaction is completed the resulting meth-oxy-ethyliden-salicylate is washed with water and a dilute solution of sodium carbonate, in order to remove the sodium chloride and the excess of salicylic acid contained therein, and subsequently dried with calcium chloride. On heating the new body acetic aldehyde is split off. When treated with dilute acids, alkali or water, it breaks up into salicylic acid, acetic aldehyde, and methylic alcohol. The ester is coloured violet by ferric chloride.

HYPODERMIC INJECTOR (No. 14,773 of 1903).—O. A. Elias, 123, Waller Road, New Cross, S.E. Consists of a hollow handle of metal or other suitable material with a piston-rod or plunger sliding longitudinally therein and engaging through an aperture at the base with a hollow needle or cannula. The plunger is governed by a detachable spiral spring wrapped round the rod to regulate its movement within the needle so as to eject the pellet resting in the hollow of the cannula when the plunger is operated, and the needle placed in position under the skin of the subject to be treated. Said spring may be situated at either end of the piston-rod to suit the convenience of the operator—*i.e.*, around the rod outside the handle between the button on the rod and the cap on the handle, or within the said hollow handle between the needle end thereof and a collar or stop fixed to the piston-rod.

Note.—Opposition to the grant of any of the above-mentioned Patents must be filed at the Patent Office on or before March 21, 1904.

New Trade Mark Applications.

"**HELION**," for chemical substances used in manufactures, etc., by O. Hehner, 11, Billiter Square, E.C.; and P. L. Thornton, 33, Rydal Gardens, Streatham, S.W. 259,336.

"**IMCOS," AND DEVICE FOR A COUGH MIXTURE**, but not including Tongue powders, by Walker and Darling, 51 and 53, Hudson Street, Tyne Dock, South Shields. 258,185.

"**ROBUSTOIDS**" ("Robusto" disclaimed), for medicated tablets, by Crowe and Co., 31, Wardour Street, W. 258,952.

"**APCEL**," for a medicinal preparation for the cure of rheumatism, by H. E. Smith, 5, Norman Road, Warrior Square, St. Leonards-on-Sea. 259,964.

"**PETRICOD**," for medicines for human use, by R. Dixon, Endcliffe Pharmacy, 673, Ecclesall Road, Sheffield. 260,113.

"**QUILLOL**," for instruments, etc., for surgical or curative purposes, by J. Quilliam and Co., Canterbury Works, Chapel Street, Salford, Manchester. 259,294.

"**SYMMETRION**" ("Symmetry" disclaimed), for instruments, etc., for surgical or curative purposes, by Sandow's Developer Co., 17 and 18, Basinghall Street, E.C. 259,861.

Label containing device of cardinal's, hat, shield, etc., for tooth paste, by Veuve Albert Séguin, 106, Rue Croix de Segney, Bordeaux, France. 255,083

"**EUCHRYMEO**" ("Eu" disclaimed), for a toilet cream for the complexion, by J. R. Barrett, 16, The Parade, Leamington. 259,190.

Note.—Opposition to the registration of any of the above-mentioned trade marks must be filed at the Patent Office on or before March 10, 1904.

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* These abridgments of new patent applications and particulars of new applications for trade marks have been specially compiled from official sources, for the *Pharmaceutical Journal*, by Mr. Reginald W. Barker, agent for procuring patents and registering trade marks and designs, 56, Ludgate Hill, London, E.C., from whom any information on the subjects may be obtained. Mr. Barker will also send copies of his 'Trade Mark Notes' and Patent Notes for Inventors' free on application.

PRACTICAL NOTES AND FORMULÆ.

Wallflower Bouquet.

Orange-flower extract, 16 fl. oz.; vanilla essence, 10 fl. oz.; tincture of orris, 10 fl. oz.; cassia extract, 10 fl. oz.; spirit of rose, 16 fl. oz.; essential oil of almonds, 5 minims.—*Spatula*, **9**, 549.

Ylang Ylang Bouquet.

Neroli oil, 6 minims; lemon oil, 6 minims; otto of rose 15 minims; ylang ylang oil, 50 minims; musk essence' 30 minims; alcohol (90 per cent.), 32 fl. oz.—*Spatula*, **9**, 549.

Sweet Pea Bouquet.

Otto of rose, 8 minims; tincture of storax, 1 fl. oz.; essence of vanilla, 2 fl. oz.; violet extract, 7 fl. oz.; rose extract, 10 fl. oz.; orange-flower extract, 10 fl. oz.; tuberose extract, 13 fl. oz.—*Spatula*, **9**, 547.

Rondeletia Bouquet.

Otto of rose, 1 drachm; bergamot oil, 5 drachms; clove oil, 6 drachms; lavender oil, 11 drachms; essence of ambergris, 2½ fl. oz.; essence of musk, 2½ fl. oz.; essence of vanilla, 2½ drachms; alcohol (90 per cent.) to make 48 fl. oz.—*Spatula*, **9**, 547.

Damask Rose Bouquet.

Essence of vanilla, 1 fl. oz.; essence of musk, 2 fl. oz.; tincture of Tonka beans, 2 fl. oz.; spirit of rose, 8 fl. oz.; tuberose extract, 8 fl. oz.—*Spatula*, **9**, 547.

Moss Rose Bouquet.

Otto of rose, 1½ drachms; essence of ambergris, 2½ fl. oz.; essence of musk, 1 fl. oz.; rose water, 5 fl. oz.; alcohol (90 per cent.), 16 fl. oz.—*Spatula*, **9**, 547.

Yellow Rose Bouquet.

Essence of musk, 3 fl. oz.; spirit of verbena, 4 fl. oz.; tincture of Tonka beans, 5 fl. oz.; violet extract, 10 fl. oz.; spirit of rose, 15 fl. oz.; rose extract, 24 fl. oz.; tuberose extract, 24 fl. oz.—*Spatula*, **9**, 548.

LETTERS TO THE EDITOR.

All Communications for the *Pharmaceutical Journal* must be addressed to the Editor, 17, Bloomsbury Square, London, W.C., and, if intended for publication in the current week's issue, should reach the Office not later than Wednesday, unless specially arranged for in advance. The matter should be written clearly and concisely on one side of the paper only and must be authenticated by the names and addresses of the writers, as no notice can be taken of anonymous letters. Articles submitted for the Editor's approval should be accompanied by stamped addressed envelopes, otherwise no guarantee can be given that they will be returned if not found suitable. Reprints of articles cannot be supplied unless the authors communicate with the Editor before publication. The right to reproduce all original matter and illustrations published in the Journal is strictly reserved.

Pharmaceutical Education.

The whole race of pharmacists is greatly indebted to Professor Wild for the thought and trouble he has bestowed upon them and the greater advantages he is endeavouring to secure for their benefit; may they be ready to appreciate by proving themselves worthy of such efforts and consideration. I regard Dr. Wild's proposed scheme for those endeavouring to enter the higher walks of our calling as strongly to be commended, for there is work in the direction he has indicated, and a need, here and there, for pharmacists to take up what may be termed "clinical laboratory work." I claim it to be the distinct duty and the very best aim of a pharmacist to exercise his highest abilities in assisting his neighbour-medical practitioner in his profession, not only by dispensing his prescriptions, but by undertaking for him the examination chemical and microscopical, of the urine, to estimate the hæmoglobin in the blood, or make a count of the corpuscles; to examine the sputum for the tubercle or other bacilli; to prepare sections of morbid specimens for the microscope, etc. All these things the medical practitioner at times requires to be done, and more often would have done if he had someone at hand to help him; and it goes without saying that the larger a doctor's practice the more often he has need of this work and less often the time to devote to it. I doubt, however, if the general condition of pharmacy will much improve until a compulsory curriculum has been established. It would be well worth while to forfeit the present three years' apprenticeship regulation if a curriculum at a recognised institution could be substituted, and having one qualification—that of pharmaceutical chemist—for all; that examination taken in two divisions, the first portion (Minor, if you please) taken at the end of six months, the remainder (Major) taken at the end of twelve months. For those wishing to proceed further in a purely pharmaceutical line the research laboratory should afford every facility and encouragement.

Torquay, February 8, 1904. Ernest Quant.

Administration of the Law.

I should like to express dissent from some of the remarks made by Mr. Currie at the last meeting of the Council. So far from thinking that we have a grievance because the law is administered differently in Scotland from what it is in England, most of us regard the Scottish system as superior. Mr. Bumble's opinion of English law no doubt sometimes applies with equal truth to the law of Scotland. One cannot help an occasional sheriff uttering an erroneous opinion; the same phenomenon is met with in English judges. I believe it is not open to dispute that in the case of a serious commercial swindle the law in Scotland is more readily put in action, and the offender more quickly brought to justice, than in England. We do not think we have much to learn from England in the matter of law, however far behind we may be in other departments of civilisation.

Edinburgh, February 8, 1904. D. B. Dott.

Medicine Stamp Duty.

In a recent issue of the *Confectioners' Union*, Messrs. Terry, of York, stated that "Sugar worm cakes and chocolate worm cakes" were "not liable according to label." As this hardly agreed with the present ruling on ailment names, we wrote to the Inland Revenue on the matter, and they inform us that the duplicate labels of the above in their possession are marked "Liable to Duty."

London, W., February 8, 1904. Rouse Bros.

Pharmacy and Pharmacist.

It is frequently quoted that the word pharmacist applies to a person possessing the Major diploma of the Pharmaceutical Society. Can a person who does not possess the above qualification call his place of business a pharmacy? It is done, and, if permissible, I consider it most unjust to pharmacists. On the Continent a system is in vogue which at once proclaims a chemist according to his qualifications. Why not give a Ph.C.

a distinctive badge? He would then receive a slight acknowledgment for his extra study and expenditure. Now that the Minor man can boast his "M. P. S.," the mere exemption from service on juries and the title "Ph.C." are inadequate rewards for passing such a stringent examination. Until something is done in this direction, I fear the Society will have to continue to deplore the fact of such a small percentage taking the higher examination.

February 9, 1904. "Pharmacist" (275/33).

A Warning to London Chemists.

I should like to warn, through the columns of your valuable paper, the numerous chemists in and around London against the infamous practice recently tried on me. A person, generally a woman, asks the chemist to get her direct two boxes of a certain female medicine made by a firm of foreign chemists not far from Fitzroy Square. They are 2s. 6d. per box, retail, costing about 2s. 1d. per box wholesale. A shilling is left as deposit on the two boxes, also an empty box (a new one, by the way). Needless to say, the woman is never seen again, so the medicine is left on the chemist's hands. I have heard the same fact from four different chemists in this neighbourhood, also from chemists in business in the City, so should like to see an end put to this unfair method of selling foreign goods. Hoping this will be taken notice of by your many readers.

London, S.E., February 9, 1904. "M. P. S." (275/41).

The Sale or Dispensing of Drugs by Medical Men.

Your correspondent "Equity," in his letter this week writes as follows: "I live quite close to a medical man who never sends to my shop only when in want of Lipton's tea, coffee, lamp oil, stiff starch, Hudson's dry soap, etc." I think the medical man in question is quite right in this case, and if a chemist keeps tea, lamp oil, etc., etc., and carries on a general huckster's business, he cannot expect medical men to patronise him, or send their patients to him. I should advise "Equity" to either carry on a chemist's business or that of a huckster, but not the two combined, or he does not deserve the support of the profession. Sidelines are certainly a necessity in some small businesses, but when it comes to lamp oil and Hudson's soap, if one sells them one should not grumble at the lack of support from medical men.

February 8, 1904. "F. C. A." (275/17).

Dispensing in Bombay.

Under the above heading attention was called in the *Pharmaceutical Journal* of January 2 to the statements made in *Truth* by a Bombay lady as to the alleged bad state of the dispensing chemists of Bombay. The writer would like to call attention to an article dealing with the "Chemists of India" which appeared in the *Pharmaceutical Journal* on November 30, 1901, from which it will be seen that the legitimate chemists of Bombay are of a very high order. There are in Bombay at the present time five large firms of qualified chemists, which carry on a high-class dispensing business, and the chemists employed in these establishments compare favourably with any chemists in the world. One Bombay firm alone employs seven chemists, each one of them experienced and fully qualified. On the other hand, there are large numbers of native establishments where dispensing is undertaken, and at such establishments it is quite possible that mistakes might occur such as those referred to in *Truth*. On the score of economy, prescriptions are often sent to be dispensed at these establishments of ignorant and unqualified people, and it is hardly fair to make a sweeping statement as to dispensing in Bombay when experience of the dispensing must have been gained by dealing at the unqualified establishments. It would be only fair to the qualified chemists of Bombay if the fair correspondent of *Truth* should qualify her statements in this regard.

Bombay, January 22, 1904. G. S. Drayton.

BIRTH.

James.—Recently at Nortonbury House, High Street, Cheltenham, the wife of Clarence James, of a son.

MARRIAGES.

Blair—Falconer.—On February 5, at the Masonic Temple, Greenock, by the Rev. J. T. Macpherson, B.D., Alexander Laird Blair, chemist and druggist, to Agnes Beatrice Robertson, eldest daughter of Wm. Falconer, Greenock.

Furber—Martin.—On February 2, at St. John's Church, Keynsham, Bristol, by the Rev. D. Percival Hatchard, John Furber, M.P.S., chemist and druggist, Chesterfield, to Gertrude Ellen Martin, second daughter of Richard Martin, late of Bath.

DEATHS.

Downing.—On February 8, Frederick Downing, Chemist and Druggist, Launceston. Mr. Downing, who was a member of the Pharmaceutical Society, died suddenly from "natural causes, accelerated by the injudicious use of narcotics." Mr. Downing was a Cornishman, and served his apprenticeship at Falmouth. After acting as assistant in Brighton, Torquay, and Pau, he went to Launceston, where he has been in business for over twenty years. He was an active member of the Town Council, Lieutenant of the Fire Brigade for some years, and a Past-Master of the Dunheved Lodge of Freemasons, and Provincial Officer of Cornwall. He was Divisional Secretary of the Pharmaceutical Society, and had always taken a great interest in its welfare.

Hill.—On February 4, at 102, Castle Road, Scarborough, Mary Ellen, the beloved wife of Richard M. Hill, chemist, 24, Victoria Road, Scarborough. Aged 46.

Keall.—On February 7, Frederick Peard Keall, Chemist and Druggist, Swansea. Aged 60. Mr. Keall, who was a member of the Pharmaceutical Society, went to Swansea, from England, about thirty years ago, and acquired an excellent business connection as a chemist and dentist.

Maurice.—On February 7, at Llwyncelyn Lan, Llanfyrnach, South Wales, James Maurice, Chemist and Druggist, formerly of 34, Bedford Street, Plymouth. Age 53. Mr. Maurice, who was a member of the Pharmaceutical Society for many years, was apprenticed at Cardigan, and went to Plymouth over thirty years ago as an assistant to Vicary and Co., to whose business he finally succeeded, only retiring last December.

Morrell.—On February 6, Frederick Morrell, Chemist and Druggist, Kennington Park Road, S.E. Aged 40.

Philp.—On January 30, Charles Philp, Chemist and Druggist, Martock, Somerset. Mr. Philp was the postmaster of the town until two years ago, when he resigned, and his son succeeded to the position.

REPLIES TO CORRESPONDENTS.

Information required by readers will be published in this column as early as possible, but the Editor cannot undertake to reply by post, even though stamped addressed envelopes accompany the queries. Replies will, in all cases, be referred to the sender's initials, and the registered number added in each instance should be quoted in any subsequent communication on the same subject. When formulæ are given without definite weights and measures, it should be understood that the solids are to be weighed and liquids measured. Plants for recognition should be addressed to the "Curator, 17, Bloomsbury Square, London, W.C.," accompanied by a stamped, directed envelope for reply. No notice can be taken of anonymous communications.

Gold Blocking Powder (C. P.—106/29).—Finely powdered sandarac is best for the purpose.

Names of Specialists (C. F. H.—106/26).—We regret that we are unable to give advice in such cases.

Douglas' Antiseptic (T. J. J.—106/27).—It may be boric acid, but we have no information on the subject.

Radium (W. J. H.—106/18).—Try Messrs. Hopkin and Williams, Ltd., 16, Cross Street, Hatton Garden, London, E.C.

Hard Gelatin Capsules (J. L.—106/22).—They can be obtained form Messrs. Parke, Davis, and Co., 111, Queen Victoria Street, London, E.C.

Stoneware Bottles (A. W.—106/21).—We believe Messrs. Price, Sons, and Co., Potteries, Bristol, make bottles of the kind you require.

Assaying (J. H. C.—106/28).—Your best course will be to consult one of the professors at the Technical College in the town from which you write.

Mineral Water Bottles (W. B. O.—106/23).—It is illegal to do so unless the bottles are your own property, and the proprietors can claim damages accordingly.

Urine (O. J.—106/25).—It is probably due to the presence of albumin, especially if it fails to dissolve on allowing a drop of nitric acid to run down the side of the test-tube.

Army Medical Compounder (J. A. B.—106/15).—It is necessary to enlist in the ordinary way. See the 'Manual for the Medical Staff Corps' (Eyre and Spottiswoode, 1s. 6d.).

Pharmacy in Ireland (E. M. T.—106/17).—It is necessary to hold the qualification of the Pharmaceutical Society of Ireland. Write to the Registrar, 67, Lower Mount Street, Dublin, for particulars.

Potassium Binoxalate (G. H. L.—106/13).—(1) It is not a scheduled poison, but the presence of free oxalic acid would render it illegal for unregistered persons to sell it. (2) It would be decidedly improper.

Dermolia Cream (R. S. B.—106/19).—We are unable to say, but you can find out by applying to the Comptroller, Patent Office, Trade Marks Branch, 25, Southampton Buildings, Chancery Lane, London.

Millilitre (A. E. F.—106/20).—You have misunderstood what is stated at page 430 of the British Pharmacopœia. A millilitre is equal to 1·00016 cubic centimetres. Read the article on the subject in the *P. J.*, of February 26, 1898, page 205.

Alcohol (J. A. J.—106/24).—The product should measure 150 fluid ounces, as you suppose. If you mix 106¾ fluid ounces of 90 per cent. alcohol with 57¼ fluid ounces of distilled water, both at 15·5° C., the product will measure one gallon.

Menthol Inhalation (E. R.—106/6).—Dissolve menthol, 1, in 90 per cent. alcohol, 8, and use with a tubular inhaler. Or, pack menthol crystals loosely in a glass tube, and plug it with cotton-wool at both ends, so that air can be inhaled through the tube.

Breeding Meal Worms (J. W.—106/10).—As you are probably aware, meal worms are the larvæ of a beetle, *Tenebrio molitor*, which is found in flour mills. They are not difficult to breed. Get a dozen or so of the worms from a bird fancier's, where they can generally be purchased for a penny. Put them in a tin with a few scraps of brewers' bung cloth, slightly moistened with beer, and plenty of barley and wheat meal. Tie over the top with muslin. When the worms pass into the perfect beetle do not let them escape. They will propagate, laying their eggs, which soon hatch out into small worms, in the meal. All they want is an occasional fresh dose of meal. After a while this gets the reverse of fragrant, so you had better keep them where the smell is not likely to be noticeable. Having once got a stock you will have no difficulty in keeping up the supply providing they are not exposed to too great cold.

PUBLICATIONS RECEIVED.

Formulaire des Médicaments Nouveaux. By H. Bocquillon-Limousin. Pp. 322. Price 3 francs. Paris: J. B. Baillière et Fils, 19, Rue Hautefeuille. 1904. From the Publishers.

A Manual of Botany. By J. Reynolds Green, Sc.D., F.R.S., F.L.S. Vol. 1. Third Edition. Morphology and Anatomy. Pp. xii. + 395. Price 7s. 6d. London: J. and A. Churchill, 7, Great Marlborough Street. W. 1904. From the Publishers.

Calendar for the Week (February 14—20, 1904).

Days of		Events of the Week.	Sun	
M	W		Rises	Sets
14	**S**	**Quinquagesima.**	7.19	5.9
15	M		7.17	5.11
16	Tu	●New Moon, 11.5 a.m.	7.16	5.12
		Shrove Tuesday.		
		Blackpool and Fylde Chemists' Association, Palatine Hotel, at 9 p.m.—Annual Meeting.		
17	W	Pharm. Soc. G.B., 36, York Place, Edinburgh, at 8.30 p.m.—Evening Meeting.	7.14	5.14
		Chemical Society, Burlington House, London, at 5.30 p.m.—Ordinary Meeting.		
		Western Chemists' Association (of London), Norfolk Square Hotel, Paddington, at 9 p.m.—Ordinary Meeting.		
18	Th	Bournemouth Pharmaceutical Association, Albert Restaurant, at 8.30 p.m.—"Co-operative Buying." By C. F. R. Pars.	7.12	5.16
		Burnley and District Chemists' Association, Empress Hotel, at 8.30 p.m.—Ordinary Meeting.		
		Chemists' Assistants' Association, 73, Newman Street, London, at 8.30 p.m.—Lantern Lecture.		
		Glasgow and West of Scotland Pharmaceutical Association, 94, West Regent Street, at 9.15 p.m.—"The Pharmacist as Optician." By R. Tocher.		
		Leicester and Leicestershire Chemists' Association, Grand Hotel, at 7.30 p.m.—Annual Dinner.		
		Linnean Society, Burlington House, London, at 8 p.m.—Ordinary Meeting.		
		Midland Pharmaceutical Association, The University, Birmingham, at 8.30 p.m.—Meeting postponed from February 11.		
		North-East Lancashire Chemists' Association, Blackburn, at 8.30 p.m.—Progressive Whist Party.		
19	F	Royal Institution, Albemarle Street, London, at 9 p.m.—"Condensation Nuclei." By C. T. R. Wilson.	7.10	5.18
		School of Pharmacy Students' Association, 17, Bloomsbury Square, London, at 5.30 p.m.—"The Expression of the Emotions." By F. G. C. Walker.		
20	S	Football (Inter-Pharmacy League).—Metros. *v.* Westminster College.	7.9	5.19

LETTERS, NEWSPAPERS, QUERIES, and other COMMUNICATIONS have been received from Messrs. Ashford, Austen, Barclay, Becham, Birkbeck, Bourne, Braddock, Braithwaite, Brearley, Brown, Carmichael, Coleman, Colley, Cope, Crombie, Dott, Drayton, Evans, Fardon, Farr, Furber, Hallett, Hindle, Hitchin, James, Johnstone, Jones, Lawson, Lloyd, Long, Maben, Martindale, Mitchell, Morgan, Orton, Palmer, Philp, Quant, Radford, Reynolds, Ripley, Sampson, Sargeant, Tilsley, Tocher, Tylar, Wills, Wilson, Woolley, Wright, Young.

Telegrams: "PHARMACEUTICAL JOURNAL, LONDON"
ESTABLISHED 1841
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FOR CHEMISTS AND DRUGGISTS.
The Oldest Organ of the Drug Trade in Great Britain.
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The Journal circulates widely in the United Kingdom, France, Germany, Austria, Italy, Russia, Switzerland, Canada, the United States, South America, India, Australasia, South Africa, etc. It is supplied regularly to the majority of the Chemists and Druggists in business in England, Scotland, and Wales, and to the whole of the members of the Pharmaceutical Society of Great Britain. Orders for Advertisements or for Copies of the Journal should be addressed to the Publishers, 8, Serle Street, London, W.C.

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CHANGES OF ADDRESS.

Instructions from Members of the Pharmaceutical Society, with reference to the transmission of the Journal, should be sent to the SECRETARY, 17, Bloomsbury Square, London, W.C.

The Pharmaceutical Journal Office.

Thursday, February 18, 1904.

Chemists who supply goods on the credit system should note the action in the King's Bench Division reported in this issue at page 229.

It Has Been Decided that proprietary medicines imported into Australia must pay duty on the retail value, and not on the invoiced price.

The Use of the Word "Pharmacy," to describe the place of business of any qualified chemist and druggist, is defended by two correspondents.

Attention is Drawn to the fact that in certain combinations mixtures containing ordinary doses of chloral hydrate might become dangerous.

At a Medical Meeting held yesterday a proposal to add to the Medical Act Amendment Bill a clause, making it illegal for doctors to dispense, was rejected.

The Pharmacy Bill will, it is expected, be introduced into the House of Commons by Mr. Thomas Lough, M.P., as soon as the debate on the Address is concluded.

The Inquest on the bodies of four women who were poisoned at the Portsmouth Borough Asylum has again been adjourned. It is not yet clear how the mistake arose.

Mr. F. W. Branson, F.I.C., has delivered two lectures on Radium during the past week, one to the Harrogate and District Pharmaceutical Association, and the other to the Leeds and District Chemists' Association.

A Divisional Secretary suggests in the correspondence columns that headmasters of elementary schools should be asked to educate their pupils in the use of poison bottles. The idea has been successfully carried out at Wath-upon-Dearne.

The Obligations which are imposed on the pharmacist with the privileges which he enjoys are not remembered so universally as they should be. That was the theme of an excellent address delivered by the Divisional Secretary for Lincoln to the Chemists' Association of that town.

Vol. 72, No. 3409. (4th Series, Vol. 18, No. 1756.)

At the Evening Meeting of the Pharmaceutical Society, held in Edinburgh yesterday, four communications were contributed. The subjects were "South American Orange Oil," "Dispensing Notes," "Note on an Arsenic, Iron and Quinine Mixture," and a "Suggested Test for Salicylic Acid in Bismuth Salicylate."

For Selling Cream of Tartar containing lead in the proportion of three-quarters of a grain to one pound, an East Ham tradesman has been fined £5 with 4s. costs. A similar charge against a Melton Mowbray chemist has been dismissed on the ground that the manufacturers had supplied him with a warranty.

'The Pharmaceutical Journal Formulary' is now in course of distribution and should be in the hands of all subscribers in the course of a very few days. It is hoped that a large number of those who receive copies of the book will fill up and return the post-cards enclosed for expressions of opinion on the work.

The Early Closing of Shops is to be dealt with in a Government measure during the course of the present Session of Parliament. Mr. T. C. Cornwell, Vice-President of the North Staffordshire Chemists' Association, suggests that chemists' shops should not be exempted from the provisions of a compulsory Early Closing Bill. The subject is one on which there are likely to be wide differences of opinion among pharmacists.

Camphor and Menthol continue to increase in value. Quinine is dearer, as also are several other items. The fortnightly Drug Auctions were held to-day, when fourteen catalogues, comprising new goods only, were offered.

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RENDERED TO CÆSAR.

To obtain repayment of money from a Government department is never the easiest of tasks. At Somerset House the Special Commissioners of Income Tax are probably more accustomed to refund portions of the taxpayers' hard-earned money than are the officials whose duty—a rather exhausting duty, one would imagine—it is to see that the revenue from three-halfpenny medicine stamps is duly gathered in. Messrs. Cummings Brothers, of Dundee, have, however, had the courage to essay the task of obtaining repayment of a compounding penalty paid to the Board of Inland Revenue under the Medicine Stamp Duty Acts before the Glyn-Jones decision. The label which had been held to incur liability to duty was worded thus:—"Codeine and Glycerin Jelly, for Coughs." Messrs. Cummings Brothers inform us that in 1891 the Board of Inland Revenue wrote that "Codeine and glycerin jelly is in itself a sufficient description of the article." Later, however, a penalty was demanded on account of the sale of the preparation unstamped, and a compounding sum of 10s. was paid. On December 7, 1903, Messrs. Cummings Brothers wrote to the Board as follows:—

> As it now appears you were not entitled to fine us for selling a medicine unstamped, the composition of which was declared on the label, we shall be glad to receive repayment of 10s., the sum we paid you.

In reply, the Secretary of the Board stated that the Commissioners were unable to accede to the application, as the decision in the recent case of Farmer *v.* Glyn-Jones could not be regarded as having retrospective effect. After further correspondence, which did not advance matters sensibly, Messrs. Cummings Brothers quoted, in another letter to the Secretary of Inland Revenue, the opinion of Mr. Edmund Robertson, K.C., M.P. That gentleman had said: "The question of retrospective effect arises or may arise in regard to a statute; a legal decision merely declares the law as it is, and the question of retrospective effect has no meaning in relation to it. If the Board claims a right to retain money not due to it by law, but obtained under threat of legal process, an important public question arises to which I should be willing to direct attention in Parliament." In due course this brought a reply from the Secretary of the Board of Inland Revenue, in which it was stated that the matter referred to in Messrs. Cummings Brothers' previous letter was now under consideration.

At the time of writing no further communication on the subject has been received from Somerset House. In the event of any question being asked in Parliament, it is conceivable that a paternal Government might order the return of "money not due to it by the law but obtained under threat of legal process." By Section 35 of the Inland Revenue Regulation Act, 1890, the Commissioners are given full discretion to remit, and presumably, to refund a penalty. According to that Section, "The Commissioners may, in their discretion, mitigate any fine or penalty incurred under this Act or any other Act relating to Inland Revenue, or stay or compound any proceedings for recovery thereof, or for the condemnation of any seizure, and may return anything seized, and may also after judgment further mitigate or entirely remit any such fine or penalty." But chemists and druggists who have paid penalties under the Medicine Stamp Duty Acts, whether or not the penalties were modified by consent, will be well advised for the present not to make any claim. It is necessary to remember that money paid in mistake of law is not so readily recoverable as money paid in mistake of fact, while there are various requirements of the law with regard to the time within which a claim may be entered, with which it may be necessary to comply, according to the circumstances in which the fine was paid. Further, the decision in Farmer *v.* Glyn-Jones may apply to a portion only of the cases in which penalties have been demanded or paid. The ultimate result of Messrs. Cummings Brothers' correspondence with the Board will be awaited with some interest.

One principle which affects the administration of the Acts dealing with the Inland Revenue was enunciated by Lord Chancellor Cairns in 1869. In the course of his judgment in the action Partington *v.* Attorney-General, Lord Cairns said: "If the Crown, seeking to recover the tax, cannot bring the subject within the letter of the law, the subject is free, however apparently within the spirit of the law the case might otherwise appear to be. In other words, if there be admissible in any statute what is called an equitable construction, certainly such a construction is not admissible in a taxing statute." It is a little difficult to say to what extent the principle stated in the above remarks has been taken into consideration with regard to Medicine Stamp Duty. When the language of a statute is so vague or indefinite as is the case in the Medicine Stamp Duty Acts, when phrases occur of disputable meaning—such as "original or first vendor," and "known, admitted and approved remedy"—the letter of the law, Lord Chancellors notwithstanding, must necessarily be considered as to some extent affected by the principle of "equitable construction." But with regard to the claim of limited companies to be placed on the same footing as individuals, the letter of the law is explicit enough. The Interpretation of Statutes Act, 52 and 53 Vict., c. 63, places a body corporate on the same footing as a "person" in respect of offences punishable on summary conviction, "unless the contrary intention appears." The words of the chemist's exemption—"who hath served a regular apprenticeship"—furnish surely as strong an example of the "contrary intention" as can be found in any Act on the Statute-book.

THE DISPENSING DIFFICULTY.

The proposal to ask Parliament to make it penal for doctors to dispense medicines has been rejected. At a meeting of the Central Division of the Metropolitan Counties Branch of the British Medical Association, held on Wednesday afternoon, Dr. G. A. Heron, a Harley Street physician, suggested that a clause to the above effect should be added to the draft Medical Amendment Bill, and, as was anticipated, the suggestion received practically no support. It was quite evident from the feeling expressed at the meeting that the medical mind is most strenuously opposed to any such prohibition, and the proposal met with scant sympathy. That many earnest medical men do desire that their profession should be entirely distinct from the calling of the chemist and druggist is beyond dispute; but very few of them are of the opinion that it is desirable to ask Parliament to interfere in the matter. And indeed it would seem that the wiser and the more certain, if slower, course to pursue is to allow the change to come by degrees; for it is undoubtedly a reform which would be more real and more lasting if it came about voluntarily. Moreover there can be little doubt that the time for the change is not yet at hand. The question has not yet been discussed as it should be by those most intimately concerned, namely the rank and file of the medical profession. A further indication of the hostility of doctors to the idea of being compelled to give up prescribing can be obtained from a very significant fact. Only a few months back the General Medical Council withheld its support from the Pharmacy Act Amendment Bill until it was made clear that the new Bill was not intended to take away from the medical profession the rights reserved by the Acts of 1868 and 1869. In other words the governing body of the medical profession showed that it was opposed to anything which might prohibit medical men from dispensing. It is evident, then, that for the time being, any attempt in such a direction can only be futile. It is interesting to recall that an attempt was made, more than a century and a-half ago, by the Corporation of Apothecaries to render it illegal for doctors to dispense. By a charter obtained by this body in 1748 it was not only intended to restrain druggists from practising pharmacy but to prohibit physicians and surgeons from preparing the medicines which they prescribed. It is hardly necessary to remind readers that the charter had no such effect. It may be mentioned here that Dr. Heron was the physician interviewed by a Journal representative in July of last year. The views then expressed by Dr. Heron (*P.J.* [4], **17**, 4) were substantially the same as those put forward at Wednesday's meeting.

"RADIO-TELLURIUM" OR POLONIUM?

In an article contributed to *Nature*, Mr. Frederick Soddy remarks that Professor Marckwald is alone in considering the radio-active substance which, as announced in last week's issue (see p. 183), he found in pitch-blende and named "radio-tellurium," to be a new substance. It would seem that both Madame Curie and Mr. Soddy are of opinion that the substance is polonium, the radiations from which are entirely of the *a*, or non-penetrating variety. But the activity of polonium is by no means permanent, and Mr. Soddy hopes that Professor Marckwald will give some account of the measurements by which he has concluded that the activity of "radio-tellurium" does not diminish. Mr. Soddy remarks that most men of science will agree with Madame Curie in protesting against a new name being given to a radio-active substance in the present state of knowledge.

STILL MORE ABOUT AUSTRALIAN TARIFFS.

The question as to whether goods imported into Australia should be charged duty on their invoiced price or on their retail value has been decided by a Court of First Instance. It will be remembered that the matter was referred to in a recent editorial note, when the question was still under the consideration of the Sydney Police Court magistrates. The details of the case are of especial interest to chemists in that a proprietary medicine was concerned. A consignment of "Doan's Backache Pills," which, according to the invoice, was valued at £308 6s. 8d. was stopped by the Customs authorities, who alleged that, after boxing and packing, the retail value of these pills was very considerably greater; in fact, the retail price was estimated at £10,070, and the pursuers claimed duty on this amount. A subsequent report puts the selling value at £3,728 8s. 5d., and the magistrate, in fining the importers £25, decided that duty must be paid on the selling value of the goods. If this decision is upheld there will be no necessity for proprietary medicine manufacturers to disclose their profits even to the Customs authorities.

CHLORAL HYDRATE AS A POISON.

The recent fatal results which followed on the administration of sleeping-draughts to four female patients of the Portsmouth Lunatic Asylum recalls the death of a great scientist. Dr. Tyndall, it will be remembered, succumbed to the effect of a dose of syrup of chloral hydrate, administered in mistake for a simple medicine, in the December of 1893. The attention of the public will have been directed, however, to another aspect of the case. For to those who lack experience in such matters it comes as a matter of surprise that at an important public institution where patients are frequently being treated with potent drugs, no qualified chemist should be employed. At the present stage of the inquiry, however, it is impossible to comment on the circumstances surrounding the death of these four unfortunate lunatics, and until the coroner's jury has given a verdict, it is useless to conjecture how the accidents occurred, and premature to suggest how the catastrophe might have been avoided. Chloral hydrate is hardly what might be termed a popular poison; that is to say, it is not so commonly used by suicides as other narcotic drugs which occur to the mind. During six years the number of cases in which this drug was taken by suicides totalled ten only. During the same period, on the other hand, this drug was fatally administered in no less than forty-eight "accidental" cases. The following table is of interest, showing the number of deaths in England and Wales due to chloral hydrate during six years:—

	Accidents.	Suicides.
1896	6	0
1897	11	3
1898	10	2
1899	5	4
1900	8	0
1901	8	1

As regards the pharmacy of chloral hydrate, it is well known to dispensers that in certain combinations small doses of this drug become dangerous. A good example of this may be found in the following prescription:—

℞ Potassii bromidi	gr. xii.
Chloralis hydratis	gr. xv.
Elixir aromatici, *q.s.* ..ad	ʒi.

This draught when dispensed separates into two layers; the upper portion, which has an oily appearance, is butyl-chloral alcoholate. If, however, the quantity of each ingredient in a drachm of the mixture does not exceed 10 grains, the chloral alcoholate is not likely to separate. Moreover, if a little more alcohol were contained in the prescription the two fluids would not be so liable to separate, as the alcoholate is soluble in excess of alcohol. It is apparent from these facts that mixtures containing chloral hydrate, a bromide and alcohol should be dispensed with particular caution.

THE APRIL EXAMINATIONS.

The April Examinations will be late this year, owing to the incidence of Easter and the fact that the School of Pharmacy does not close for the vacation until March 30. In London the practical chemistry and dispensing for Minor candidates will probably commence on April 5 and go on from day to day until the list of candidates is exhausted. The *vivâ voce* portion of the work can scarcely be taken before April 18. The Major candidates will, it is expected, be summoned for the latter part of the week ending April 16, and the Scottish Majors will doubtless be required to attend at York Place on April 15, 16, and 18. Minor candidates who elect to sit at the Edinburgh centre may regard April 11 as the date provisionally fixed for the opening of the practical work. Intending candidates must give notice to the Registrar, 17, Bloomsbury Square, and pay the prescribed fees by Tuesday, March 15.

THE PHARMACY BILL.

The Pharmacy Bill has not yet been introduced, as it has been felt that no good purpose would be served by its introduction while the debate on the Address lasted. In addition, the ballot for priority in the introduction of private members' Bills did not result in a good place being secured by Mr. Lough, or, indeed, by any of the backers of the Bill. Mr. Lough will, however, introduce the Bill as soon as possible after the conclusion of the debate on the Address.

ABSTRACTS—SCIENTIFIC AND TECHNICAL

A REVIEW OF CURRENT WORK IN PHARMACOPEDICS AND ALLIED SCIENCES

Salicylic Acid in Wild Cherries.

In addition to the previously recorded (*P.J.* [4], **16**, 557, and [4], **13**, 523) fruits which normally contain salicylic acid in their juices, Jablin-Gonnet names the wild cherry, the "merise" of Brittany and Normandy, the juice of which is largely used to colour syrups of other fruits. This juice is found to contain not less than 20 to 30 milligrammes per litre of salicylic hydride, which is readily oxidised into salicylic acid.—*Annales de Chim. Analyt.*, **8**, 371.

Oil of Rice.

Decorticated rice contains about 15 per cent. of an oil semi-solid in winter, but liquid and brownish in summer, and depositing crystals of fat on standing. Its specific gravity at 99° is 0 8907; acid number, 166·2; saponification number, 193·5; iodine number, 91·65; melting point of the insoluble fatty acids, 36°. The oil is not altogether transparent above 47°. The free fatty acids of Rangoon rice constitute 31·6 to 77·2 per cent. of the total fat, this high percentage being attributed to the presence in the bran of a lipase which acts on the glyceride, and sets free the fatty acids. The actual presence of a ferment and its hydrolysing action upon the oil of rice, have been definitely ascertained.—*Schweiz. Woch.*, **42**, 66.

Calumba-Root Oil.

Calumba-root oil has not hitherto been distilled, nor has it been mentioned as a constituent of the root, owing probably to the fact that only quite small quantities are found in the root. In his *Quarterly Report* (January, 1904), Heinrich Haensel states that he has obtained a yield of 0·00568 per cent. Calumba-root oil is of dark brown colour, liquid at ordinary temperatures, and acid in reaction; its density is 0·9307 at 15° C. The oil appears to be optically inactive. On account of its dark colour its optical behaviour could only be observed in 5 per cent. alcoholic solution in 20 Mm. tube, and $a_D = +0$ was found. The acid number was determined to be 24, and the saponification number 54. Calumba-root oil dissolves easily in absolute and 96 per cent. alcohol; with more difficulty and with separation of brown, flocculent matter in 80 per cent. alcohol. Its odour is peculiar, distinct from all others, and its flavour bitter.

Mother of Thyme Oil.

The essential oil introduced into commerce under this name principally comes from France. It is not the distillate of the leaves and flowers of *Thymus serpyllum*, but is said to be manufactured by distilling together a mixture of thyme, sage, spike, and peppermint. Naturally this product is much cheaper than when the wild thyme or mother of thyme is employed. The dried plant of *Thymus serpyllum*, L., which is well-known under the term herba serpylli, by distillation with high-pressure steam in order to obtain genuine mother of thyme oil, gave the following results:—The yield of essential oil was 0·196 per cent.; it exhibited a brownish colour and a slightly acid reaction, and possessed a pleasant fragrance like the concentrated odour of the drug. The specific gravity was 0·9144 at 15° C., the optical rotation $a_D^{20°} = -11°$, the acid number 8·4 and the saponification number 42·7. The solubility of the oil was slight, only turbid solutions being obtained with absolute alcohol or 96 per cent. alcohol in the proportion of 1 to 50 alcohol.—*Heinrich Haensel's Report*, January, 1904.

Determination of Bile-salts in Urine.

The presence of bile-salts in urine diminishes the surface-tension, and on this fact Otto Grünbaum has devised a method for determining them. The urine is filtered and diluted to a specific gravity of 1·010. A glass pipette, of about 2 C.c. capacity and fitted with a quartz needle, is filled with urine, and the number of drops which form on allowing it to empty is counted. The pipette is previously standardised by adding known amounts of glycocholate of soda to urine and counting the drops for each strength. A curve can thus be arrived at, and by working with the same pipette under the same conditions an accurate estimate can be made. Sugar, albumin, and abnormal pigments do not influence the result.—*Journ. of Physiology*, **30**, 3 and 4, *Proc.* xxvi.

A Delicate Test for Bile-pigments in Urine.

To about 10 C.c. of the urine in a test tube 2 to 3 C.c. of chloroform and 1 C.c. of a 10 per cent. solution of barium chloride are added, and gently shaken. The mixture is then centrifuged in a hand centrifuge, by which the chloroform layer with precipitate separates at the bottom. The supernatant fluid is poured off, the tube is filled up with distilled water, and again centrifuged. The watery layer is poured off, and 5 C.c. of alcohol is added, and the mixture, after being gently shaken, is poured into a test tube. To this is added 2 to 3 drops of an iodine solution, the mixture is gently warmed in a water-bath at 70° C. for a few minutes, and then filtered. According to A. Jolles, the smallest trace of bile-pigment gives a greenish tint to the filtrate. The iodine solution is prepared by dissolving 0·63 Gm. iodine in 125 cubic millimetres of alcohol, 0·75 Gm. of mercuric chloride in the same quantity of alcohol, mixing, and then adding 250 cubic millimetres of concentrated hydrochloric acid. This solution should be preserved in the dark.—*Biochemisches Centralblatt*, Bd. II., 4, 104.

Commercial Pepper.

J. W. Gladhill has examined several samples of different kinds of pepper, the ash, "ether extract," piperin, and oleo-resin having been determined for each sample. His conclusions are summarised thus:—The ash should not be above 6·5 per cent. for black pepper, and 3 per cent. for white pepper. None of the samples examined gave so high a percentage of ash; 1 per cent. is allowed for sand and other material introduced in the packing of the pepper; the highest ash was 5·5 per cent. for black pepper and 2·8 per cent. for white pepper, which was a very dirty sample. The "ether extract" should be between 7·5 and 10 per cent. for black and between 6 and 9 per cent. for white pepper. In only one case did the ether extract exceed 9 per cent., and that was in coriander pepper, which sometimes yields as much as 11 per cent., but this variety is never ground for white pepper, being sold in bulk whole. Piperin should be present in from 5·5 to 9 per cent. in a good black pepper. Any samples that do not show this percentage are not to be considered good peppers, and while they may be used to blend the flavour they should not be used in such quantity that the percentage of piperin would fall below 5·5 per cent. The author examined only one of the adulterants used in black and white peppers besides the hull, and that was coco-nut shells. The result was as follows:—Ash, 8 per cent.; ether extract, 0·42 per cent. If this is added to the pepper the ash will be high and the percentage of ether extract, piperin, and oleo-resin will be low. There is no piperin in the hull, only oil and resin; but there are on the market hulls which contain broken pepper and from 1 to 2 per cent. of piperin. The ash, however, is never less than 7 per cent.—*Amer. Journ. Pharm.*, **76**, 71.

SOUTH AMERICAN ORANGE OIL.*

BY JOHN C. UMNEY, PH.C., F.C.S., AND C. T. BENNETT, PH.C.

About twelve months ago we were called upon to report on a sample of orange oil which was shipped to this country from Buenos Ayres without any description as to its source. A preliminary examination of this sample showed that its characters more closely resembled those of orange-leaf than of orange-flower oil, but the odour was so decidedly pleasant that it was considered advantageous to obtain further shipments of the oil, an extended analysis of which has now been conducted.

The oil has much resemblance to the ordinary Paraguay variety of petitgrain oil, but appears to have a more delicate odour and contains a higher percentage of free alcohols and a lower percentage of esters than a normal Paraguay oil. This may be accidental or not very constant, but it seemed worth while to make a more complete examination of this oil, especially as we had previously conducted an examination of a Chinese neroli oil on which a paper was read at a meeting of the British Pharmaceutical Conference at Dundee in 1902.

The most noticeable feature in connection with this oil was the absence of more than traces of the most characteristic constituent of neroli—viz., methyl anthranilate. At all events, this ester does not exist in sufficient quantity to be separated by Erdmann's method, although fractions showing a blue fluorescence have been obtained. The general characters of this oil, shown in comparison with those of Chinese neroli oil, French neroli oil, and petitgrain oils, are set out in the subjoined table:—

—	South American Oil.	Paraguay Petitgrain Oil.	French Petitgrain Oil.	French Neroli Oil.	Chinese Neroli Oil.
Spec. Gravity ..	0·887	0·891	0·885 to 0·900	0·870 to 0·880	0·850
Optical Rotation	+2°	+0° 30″	—2° about	+1° to +5°	+35°
Esters as Linalyl Acetate	36·5 p.c.	52·4 p.c.	50 to 75 p.c.	10 to 20 p.c.	4·79 p.c.
Free Alcohols as Geraniol......	38·4 p.c.	18·9 p.c.	25 to 35 p.c.	20 to 25 p.c.	21·4 p.c.
Total Alcohols..	67·1 p.c.	60·0 p.c.	—	—	25·17p.c.

It will be seen from these figures that this so-called South American oil contains at least 75 per cent. of odoriferous constituents, a very low percentage of terpenes being present. It is therefore readily soluble, even in 70 per cent. alcohol (two volumes). This is also shown by fractionation under atmospheric pressure, which gave the following results:—

Below 190°	5 per cent.
Below 195°	12 per cent.
Below 200°	25 per cent.
Below 205°	35 per cent.
Below 210°	54 per cent.
Below 215°	65 per cent.
Below 220°	80 per cent.
Above 220°	20 per cent.

Extensive analyses have been conducted by Messrs. Hesse and Zeitschel and Messrs. Schimmel and Co. on the composition of neroli and petitgrain oils, and the following constituents have been isolated:—

—	Neroli.	Petitgrain.
Terpenes	Pinene, camphene, dipentene	l-Pinene, l-camphene, dipentene
Alcohols	Linalol, geraniol, nerol, nerolidol (a sesquiterpenic alcohol), phenyl-ethyl-alcohol, terpineol	Linalol, geraniol, nerol, d-terpineol
Esters	Linayl acetate, geranyl acetate, neryl acetate, methyl anthranilate	Linalyl acetate, geranyl acetate, neryl acetate
Acids	Phenylacetic, benzoic, acetic and palmitic (traces)	
Other constituents	Traces of indol	A basic body

The alcohol nerol was stated by Tiemann to be identical with linalol, but it has been since shown by Von Soden and Zeitschel to more closely resemble geraniol, from which it differs only very slightly in properties. Both nerol and linalol are isomeric with geraniol, but the constitution and characters of the first-named have not yet been thoroughly established. Nerol, like geraniol, combines with phthalic anhydride to form an acid ester, but boils at a slightly lower temperature, and does not form a solid compound with calcium chloride.

We have thought well to place on record some of the results of our examination of this South American oil, and append the following figures, obtained by fractionating under reduced pressure, which may be of interest:—

Fractions.	Specific Gravity.	Optical Rotation.	Refract. Index.
I.	0·851	+0°	1·4737
II.	0·856	+0°	1·4705
III.	0·861	+0° 30″	1·4705
IV.	0·864	+0° 30″	1·4700
V.	0·869	+1°	1·4687
VI.	0·873	+1°	1·4677
VII.	0·875	+1° 30″	1·4673
VIII.	0·881	+1° 30″	1·4666
IX.	0·885	+1° 30″	1·4658
X.	0·888	+1° 30″	1·4655
XI.	0·890	+1° 30″	1·4653
XII.	0·891	+2°	1·4650
XIII.	0·894	+3°	1·4650
XIV.	0·895	+2°	1·4652
XV.	0·898	+2°	1·4654
XVI.	0·900	+3°	1·4656
XVII.	0·903	+4°	1·4665
XVIII.	0·905	+4°	1·4670
XIX.	0·907	+4°	1·4685
XX.	0·910	+3°	1·4703

The residue from the distillation was comparatively slight. Refractionation of first and last fractions:—

Fraction I.				Fraction XX.			
Fraction.	Specific Gravity.	Rotation.	Refract. Index.	Fraction.	Specific Gravity.	Rotation Refract.	Index.
1	0·841	−4°	1·4755	1	0·908	+2° 30″	1·4678
2	0·837	−2°	1·4757	2	0·908	+2° 30″	1·4681
3	0·838	−1°	1·4759	3	0·909	+2° 30″	1·4691
4	0·838	+0°	1·4781	4	0·910	+3°	1·4695
5	0·839	+2°	1·4755	5	0·910	+3°	1·4698
6	0·856	+2°	1·4725	6	0 911	+3°	1·4699
7	0·877	+0°	1·4665	7	0·912	+2°	1·4702
8	0·892	+0°	1·4650	8	0·912	+2°	1·4702
9	0·917	+3°	1·4691	9	Contained decomposition products.		
10	residue.			10	residue.		

The figures for optical rotation are only given to the nearest half degree, but they suffice to show a gradual rise, accompanied by a decrease of index of refraction with increase of specific gravity and boiling point.

Fraction I. consisted largely of terpenes, and on refractionation showed the presence of a lævo-rotatory body, which was identified as pinene. It was contained in the fraction boiling at 160° to 165°. The portion boiling at 172° to 178° was found to consist chiefly of dipentene, the inactive form of limonene. Camphene was not detected, but reactions for furfuraldehyde were obtained.

Fraction XX. consisted very largely of esters, the powerful odour of geranyl acetate predominating.

From the intermediate fractions linalol and geraniol were separated in a fairly pure condition. The proportion of geraniol appeared to be greater than the linalol from the experiments made with phthalic anhydride. The odour of terpineol was evident in two of the fractions, but attempts to isolate it in the solid state failed.

Paraguay generally is a great orange-producing country, the particular district in which the orange culture is carried on to a very large extent being known as "Villa Pilar." It is not at all impossible—in fact, it is probable—that this oil is derived from this district, and finds its way to the port of Buenos Ayres by the River Parana. Whatever its source, the feature to which we wish to call particular attention is the variation that may occur in these oils, according as they are distilled from the flowers or leaves of the bitter orange. Thus there may be a very decided difference in the value of oils even from the same district. In our opinion this oil is capable of considerable use for soap-scenting and perfumery purposes, and in point of odour value will compare most economically with petitgrain oil, derived from the South of France. Further examinations of the oil from time to time are desirable, as there is no doubt constant supplies will soon be forthcoming.

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* Communication to the Pharmaceutical Society of Great Britain, read at an Evening Meeting in Edinburgh, Wednesday, February 17, 1904.

NOTE ON AN ARSENIC, IRON, AND QUININE MIXTURE.*

BY AGNES T. BORROWMAN.

Several weeks ago a mixture prepared according to the following prescription:—

℞	Tinct. ferri perchlor.	ʒiiss.
	Liq. arsenici hydrochlor.	ʒiss.
	Quininæ sulph..........................	gr. xxiv.
	Syrupi	℥ss.
	Aq. chloroformi ....ad	℥viii.

Misce.

was returned with the complaint that, two days after it had been dispensed, it commenced to deposit, and at the same time the bitter taste became more pronounced.

The patient had had, some time before, a supply dispensed from the same prescription, and no change had been observed in it. On inquiry it was ascertained that on these two occasions slightly different methods of dispensing had been followed.

On the first occasion the quinine sulphate was added to the tincture, and when the former had passed into solution, 4 or 5 oz. of the vehicle were added, then the solution of arsenic and syrup.

On the second occasion the solution of arsenic was added directly to the undiluted quinine sulphate and tincture.

The above preparations of iron and arsenic are frequently prescribed in mixture form, but, so far as can be ascertained, no deposit has ever been reported. A combination of these two and quinine, however, must be rare, for no notice can be found of such in dispensing work or in any of the journals of pharmacy. For this reason, and also because the matter is of considerable interest to dispensers, some experiments were carried out, with a view to finding out the cause of the reaction and consequent deposit.

(*a*) A quantity of the mixture was prepared in the following manner:—The quinine sulphate was mixed with a little of the chloroform water, and the tincture of perchloride of iron then added. When solution was complete the mixture was diluted to 7 oz. with the vehicle, the hydrochloric solution of arsenic and syrup being then added, and finally sufficient of the vehicle to produce the desired quantity—8 oz.

(*b*) A further quantity of the mixture was prepared by the following method:—The quinine sulphate was added directly to the tincture, then the solution of arsenic and syrup were added, and finally sufficient of the vehicle to produce the desired quantity.

(*c*) Equal portions of hydrochloric solution of arsenic and tincture of perchloride of iron were mixed and placed in a bottle.

(*d*) Quinine sulphate and tincture of perchloride of iron, in the proportions as prescribed, were likewise mixed and put in a bottle.

(*e*) Hydrochloric solution of arsenic and quinine sulphate in the prescribed proportions were mixed and sufficient diluted hydrochloric acid added to produce a clear solution.

The behaviour of these was carefully watched and the results noted:—

(*a*) Remained clear for ten days, then began to deposit slightly.

(*b*) Became cloudy within twenty-four hours, and then deposited copiously.

The fact that (*a*) remained clear for ten days, by which time the mixture would have been consumed by the patient, accounts for the fact that no complaint was made anent the first supply.

(*c*) Showed no signs of deposition even at the end of three weeks.

(*d*) Soon became cloudy and afterwards slightly gelatinous.

(*e*) Remained clear.

It was at first thought that since the above preparations of arsenic and iron are frequently prescribed together in mixture form, and since no record of deposition could be found, that the deposit was some compound of quinine and arsenic, such as quinine arsenite or the double salt quinine and iron arsenite. Analysis of the deposit, however, proved this supposition to be wrong, for it consisted solely of ferric arsenite.

This result raised the interesting question, What part does the quinine sulphate play in bringing about the formation of the salt?

In considering this question it should be kept in mind that both the tincture of perchloride of iron and the hydrochloric solution of arsenic contain a certain amount of hydrochloric acid, a portion of which will be removed by the quinine sulphate in order to form a soluble salt. Probably this is a mixture of bisulphate and bihydrochloride, or perhaps the so-called hydrochlorosulphate (*Journ. Chem. Soc.*, February, 1893, 1, 115). This, however, is a matter for experiment. Suffice it meantime to say that the conversion of 24 grains of quinine sulphate to the more soluble bi-salt requires almost the whole of the free acid contained in 2½ drachms of tincture of perchloride of iron and 1½ drachms of hydrochloric solution of arsenic.

It has already been shown (*vide c*) that the formation of ferric arsenite is either prevented by hydrochloric acid, or, if it is formed, that in the nascent condition it is dissolved by the acid. That this is so is supported by the fact that when the bisulphate of quinine is used instead of the ordinary sulphate no precipitation occurs.

Further confirmation is found by neutralising some hydrochloric solution of arsenic and mixing it with an almost neutralised solution of tincture of perchloride of iron, when a copious precipitate of ferric arsenite is quickly formed. This precipitate, when collected, washed and dried, was found to be soluble in cold dilute hydrochloric acid (10·5 per cent.).

When 24 grains of hydrochloride of quinine are used in place of the sulphate in preparing the above mixture there is no precipitation of ferric arsenite. At first thought this result is rather puzzling, since it seems contradictory to the results of the experiments with the sulphate. When, however, the difference in solubility is taken into consideration (1 in 35 parts instead of 1 in 800 parts), it is at once seen that the two cases are not strictly comparable, inasmuch as the 24 grains of quinine hydrochloride require only 14 drachms of water for complete solution, whilst the similar weight of sulphate requires 40 oz. It is, therefore, impossible for the latter to entirely dissolve in the 8 oz. of menstruum without withdrawing the free acid from it in order to form the soluble bi-salt, whilst the former may do so.

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* Communication to the Pharmaceutical Society of Great Britain, read at an Evening Meeting in Edinburgh, Wednesday, February 17, 1904.

In order to make a fairly comparative test 24 grains of the hydrochloride were added to 2½ drachms of tincture of perchloride of iron and 1½ drachms of hydrochloric solution of arsenic, and then diluted to 1 oz. with chloroform water. Solution of the quinine was complete, and this could only have been brought about by the absorption of hydrochloric acid so as to form the bihydrochloride, since there was only sufficient water present to dissolve about one-half of the quantity, reckoned as normal hydrochloride. In the course of a few hours this mixture began to deposit ferric arsenite just as happened in the case of the prescription prepared with the sulphate. This result indicates that in the case of the mixture (*i.e.*, 24 grains of hydrochloride, etc., in 8 oz. of chloroform water) the non-formation of a precipitate is, in all probability, due to the solubility of the hydrochloride being greater than that of the sulphate and not to any actual difference in their behaviour in the presence of iron and arsenic salts when similar conditions prevail.

Another interesting point in connection with the use of quinine hydrochloride is this. When 24 grains of the hydrochloride are added to 2½ drachms of tincture and 1½ drachms of solution of arsenic, the whole quantity goes into solution. Now this can take place only by its conversion into the bihydrochloride, which necessitates the removal of practically the whole of the free acid contained in the tincture and solution. Yet when this mixture is diluted with water it does not give a precipitate of ferric arsenite as does the sulphate when it is similarly treated. Whether this be due to dissociation of the bihydrochloride into the normal salt and free hydrochloric acid, the latter preventing the precipitation of ferric arsenite, or to some other cause is a matter for further investigation.

A SUGGESTED TEST FOR SALICYLIC ACID IN BISMUTH SALICYLATE.*

BY WILLIAM LYON.

It has been frequently shown by investigators that the official test for this impurity is unreliable, since the alcohol exerts a decomposing action upon the bismuth salicylate, thus giving a reaction with ferric chloride, indicating the presence of free salicylic acid when such does not exist in the sample.

It is doubtless true that practically the whole of the bismuth salicylate sent out by manufacturers at the present day is very carefully prepared, and is the real salt bismuth salicylate, and not a mere mixture of bismuth oxide and salicylic acid; still, it is desirable that pharmacists should have at their command a reliable method of determining the absence of salicylic acid.

What is wanted is a substance which will readily dissolve the free salicylic acid without causing decomposition of the bismuth salicylate. Of all the substances tried, benzol (90 per cent.) appears to fulfil, most satisfactorily, the conditions. The test, which is easily applied, is carried out in the following manner. In a test-glass, or a graduated measure, containing a little of the test solution, a small glass funnel with a fairly thick filter paper is placed. A small quantity of the sample to be tested is put on the filter paper, and some benzol poured upon it. When the solvent percolates through the paper it, being immiscible with water, forms a layer upon the surface of the test solution, and, if free salicylic acid be present in the sample, a violet ring appears where the liquids are in contact.

The official test solution of ferric chloride may be used, but it is preferable to use a much weaker solution, since the nearer it is to being colourless the more markedly does the violet ring stand out in contrast. A 1 in 3,000 solution of ferric chloride or the official test solution of ferrous sulphate gives a very pretty reaction.

The filter paper used should be of a thick close texture, otherwise small particles of the bismuth salicylate might be carried through by the solvent and cause a false inference, and, further, it is advisable to have the end of the funnel reaching to within an inch or so of the test solution, so as to prevent the drops of the solvent being driven into the centre of the test solution by the impetus of their fall. Pharmacists who are interested in bismuth salicylate should subject this testing method to repeated trials in case there should be some disadvantage connected with it which has not been observed.

DISPENSING NOTES.*

BY MARTIN MELDRUM, PH.C.

The following brief notes are submitted in the hope that, as they deal with points occurring in every-day dispensing, they may be of some interest. No matter what experience a dispenser may have, he occasionally meets with some new combination of drugs, the proper dispensing of which gives him some thought, and an interchange of the little problems met with and solved or otherwise forms a very effective topic of mutual interest for pharmacists.

I.

℞	Potass. iodidi	gr. v.
	Hydrarg. biniodidi	gr. 1/24
	Excipient	*q.s.*

Ft. pil.

The selection of a suitable excipient for this pill gave some trouble at first. The 'Art of Dispensing,' and other authorities, were consulted, but not much information could be gleaned from them. Glucose was first tried but this made rather a soft pill, and also a somewhat bulky one. The addition of a little powdered tragacanth lessened the size of the pill, but gave the mass that "rubbery" consistency which is one of the drawbacks to the use of tragacanth. The use of compound powder of tragacanth with sugar of milk and a few drops of simple syrup resulted in a pill of moderate size but soft, like that made with glucose.

The *modus operandi* was then varied, and to the powdered chemicals a drop or two of water was added and then sufficient powdered acacia and sugar of milk was rubbed in to form a firm mass. The consistency of this mass was an improvement on any of the others, but the pill was too bulky.

Simple syrup was next tried in the place of water, and the sugar of milk omitted. This resulted in a pill about the ordinary 5-grain size and of a good firm consistency—the working formula adopted being:—

℞	Potass. iodidi	ʒi.
	Hydrarg. biniodidi	gr. ss.
	Syrup. simplicis	♏iv.
	Pulv. acaciæ	gr. xv.

Div. in pil. xii.

In a dry atmosphere the pill keeps firm, but if exposed to damp goes soft. It is best dispensed in a pill phial. Some dispensers adopt the method of making the potassium iodide and the mercuric iodide into separate pills, and direct one of each to be taken, but there seems to be no special advantage to be gained by this method.

II.

Paraldehyde.—The use of paraldehyde as a soporific is much in vogue with some medical men, and, as the odour and taste of the drug are both somewhat pungent, they prescribe various flavouring agents along with it. The drawback to the majority of these is that the paraldehyde separates out from the adjuvant. For example, in the case of such a prescription as the following:—

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℞ Paraldehyde,
Syrup. aurantii .... aa ℥i.
Mix, and direct a dessertspoonful each hour.

The paraldehyde and syrup are quite immiscible, and though thoroughly shaken up before pouring out the dose, they tend to separate even in the act of pouring. The use of ordinary suspending agents, such as acacia and tragacanth, is futile, and emulsification is out of the question.

Some practitioners adopt the method of simply prescribing the pure drug, and directing half or one teaspoonful, as the case may be, to be taken in warm water. This certainly modifies the flavour, and gives the drug a more pleasantly acid taste, but other prescribers contend that it also modifies the therapeutic effect, and that when thus given the paraldehyde is not so effectual.

Its acidity as tested by litmus is certainly increased when the drug is added to warm water, and it seems only probable to conclude that the conversion of a portion of it into acetic acid takes place, and that thus its therapeutic value is reduced. One obstacle to this theory is that paraldehyde contains no COH group. That, however, is another question, and we are at present considering the dispensing of the drug.

Recently a prescription for 1 oz. of paraldehyde was presented with directions to flavour as was thought best and send out, to be taken in teaspoonful doses. Several methods of flavouring were tried, and the following was deemed the most successful:—

℞ Paraldehyde,
Tinct. aurantii .... aa ℥i.
Ess. limonis .... ʒss.
Saccharin .... gr. viii.
Aquam .... ad ℥viii.
Sig. One ounce to be taken for a dose.

The whole of the paraldehyde is not soluble in this mixture but the small excess is readily diffused by a slight shaking, and a "shake the bottle" label is sufficient.

III.

The following prescription was handed over the counter a few weeks ago:—

℞ Quin. hydrochlor. .... gr. iii.
Sodii salicylatis .... gr. xx.
Tinct. iodi .... ♏xx.
Glycerin. boracis .... ʒiv.
Aquam .... ad ℥iv.
Fiat lotio.

This is a doubly incompatible combination, and might be dispensed in various ways. The following was the method adopted. The quinine hydrochloride was dissolved in 1 oz. of water, and the sodium salicylate in a like quantity. The two solutions were mixed, and the salicylate of quinine thrown out in a very fine precipitate, which readily diffused through the menstruum. The tincture of iodine was then diluted with water to 1 oz., and this added to the other ingredients. Little difference could be observed beyond the slight increase in the flocculence of the precipitate. The glycerin of borax was then made up to 1 oz. with water, and added to the rest of the mixture. When completed the precipitate formed diffused readily through the mixture on shaking, but tended to aggregate at the top on standing.

As the lotion had been previously dispensed, and there was, of course, no indication on the prescription as to the *modus operandi*, some doubts were entertained as to whether the result of the above method might be satisfactory to the patient, as there seems a tendency on the part of the public to ascribe any difference in the appearance of a mixture when re-dispensed to a mistake on the part of the second dispenser. In this instance, however, the second method proved more satisfactory than the first, as the patient afterwards declared that the lotion seemed better "mixed" than on the previous occasion on which he had had it dispensed, it being on that occasion full of little hard lumps.

IV.

That the order of mixing and the method of dilution are essential points in dispensing goes without saying. In the foregoing mixture the formation of a precipitate of some sort is unavoidable, but in the following a precipitate may or not be thrown out according to the degree of dilution.

℞ Potass. acetat.,
Magnes. sulph. .... aa ʒiv.
Spirit. ætheris nitros. .... ʒvi.
Liq. ammon. acet. .... ℥i.
Aquam .... ad ℥vi.

If the solutions of potassium acetate and magnesium sulphate be made strong, say one in two, and mixed, sulphate of potassium is thrown out, but if diluted to 1 in 4 this precipitation is prevented, and the other ingredients can be added.

THE STUDENTS' COLUMNS.

THE PRESERVATION OF DRUGS (2).

The substances contained in vegetable drugs which are most readily attacked by fungi are the proteids, or albuminous substances, and gums. Neither of these classes of proximate principles is soluble in alcohol, and the addition of the latter to fluids, such as fluid extracts, usually results in the formation of a clot or precipitate composed of one or both, which subsides readily, clarifying the fluid, and in many cases practically sterilising it by the clot carrying down all the suspended matter. The removal of proteids is often accomplished by simply heating the fluid to about 100° C., when coagulation of many varieties of proteids usually occurs. Gums cannot, however, be so removed; but the removal of both is highly desirable, since they seldom exercise any important share in the medicinal activity of the drug, and their presence only renders the product more liable to fermentative changes. The process given for preparing green extracts in the Pharmacopœia includes the direction to heat the liquors to 200° F., with the object of coagulating and removing, by filtration, the useless and inert proteids.

The use of antiseptics other than alcohol is rather limited, partly on account of the marked alteration of flavour which some of them cause, and partly because their addition renders the substances, to which they may be added, liable to unexpected colour reactions. Thus chloroform, even in the proportion of 1 in 400, is usually able to preserve fluid extracts and infusions from putrefactive decomposition; but in addition to the objection which may be raised to the flavour imparted by the added chloroform, it is found that chloroform in dilute aqueous solution is somewhat uncertain in its preservative action, being readily lost by evaporation and disappearing finally as the result of chemical decomposition. Benzoic and salicylic acids are also most efficient antiseptics, but their use is comparatively limited owing to the precipitates and colour reactions to which they give rise with many metallic salts. Moreover, in alkaline solutions their efficiency is notably diminished, the alkaline benzoates and salicylates being much less powerful antiseptics than the free acids. Alcohol, therefore, remains the most widely used antiseptic for the preservation of galenical preparations.

Another series of changes to which drugs are liable is due to the presence of enzymes, secreted by the tissues themselves and unconnected with the presence of foreign parasitic organisms. The wide distribution of these enzymes has only been suspected within recent years, and continued investigations only tend to show that they are of almost universal distribution, both in the animal and vegetable kingdom. It is also becoming apparent that their influence may be exerted for good in some cases and for evil in others. Thus, the maturing of wine, and the marked alteration produced by methods of harvesting certain drugs are now known to be due to enzymes; while in other cases undesirable changes are produced, as, for example, in kino. In kino the enzyme present in the dried juice causes the tannic acid, of which the fresh juice is chiefly comprised, to change into an insoluble substance, which is entirely devoid of astringency. The variation in activity shown by many drugs, after the most careful storage to exclude any putrefactive changes, is also referable to the same cause—cascara sagrada being a notable example. The enzymes so far investigated have been of a most varied nature, but a large number may be classed together under the title of oxydases, because the changes they induce are distinguished by the absorption of oxygen from the atmosphere, or possibly, in some cases, from the medium in which they exert their action. These oxydases are comparatively highly resistant to the action of heat, and may continue to exert their influence in presence of comparatively large proportions of alcohol, whereas the activity of many of the enzymes with which we have been long familiar—pepsin, for instance—is inhibited by comparatively dilute alcohol. The action of others is exceedingly slow, and is the chief cause, perhaps, of their presence having been for so long overlooked. The whole subject is one likely to yield noteworthy results in the future.

The action of light and of alterations in temperature are also of importance in connection with the preservation of drugs and galenical preparations. With regard to the action of light little can be said at present. The bleaching effect produced by exposure to strong light is observable in many cases, and therefore, as a general rule, it is desirable to avoid this exposure. The rapid change produced in silver salts and the combination of hydrogen and chlorine under the influence of sunlight show how marked those changes may be, and they probably occur unsuspected in many cases where their production gives rise to less obvious reactions.

Temperature changes are also the cause of some changes in the physical appearance of galenical preparations such as liquid extracts and tinctures. Many of these galenical preparations are, from their method of manufacture, saturated solutions of the various proximate principles contained in the drug from which they have been prepared. Hence, when cooled, they may deposit a portion of the dissolved substances and become turbid. This may happen in winter time, or during storage in a cool cellar, and such deposits should not be filtered out until the fluid has again attained the temperature at which it was originally prepared. Deposits often occur, however, owing to the action of enzymes, referred to above, and it has been suggested that preparations liable to such changes should be subjected to the action of heat in order to destroy the activity of the enzymes. Anything like a general application of such a method of treatment is, however, inadmissible in the present state of knowledge.

Ryde Bouquet.

Lemon oil, 1 drachm; otto of rose, 80 minims; essential oil of bitter almonds, 7 minims; neroli oil, 30 minims; grain musk, 14 grains; rasped orris root, 3 oz.; crushed Tonka beans, 2 drachms; jasmin extract, 4 fl. oz.; alcohol (90 per cent.), 44 fl. oz. Macerate for seven days and filter.—*Spatula*, 9, 548.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN.

EVENING MEETING IN EDINBURGH.

Wednesday, February 17, 1904, in the Society's House, 36, York Place, Edinburgh, Mr. D. B. Dott, F.I.C., F.R.S.E., in the chair.

The minutes of the last meeting were read and approved.

Apologies for absence were intimated from Messrs. Boa, Currie, Davidson, Dunlop, Lothian, McCutcheon, Meldrum, Robertson, Rowland, Stephenson, and Storrar.

The first communication was on

South American Orange Oil,

by Messrs. J. C. Umney, Ph.C., F.C.S., and C. T. Bennett, Ph.C. The paper, which is printed at page 217, was illustrated by specimens of the oil, and of some American petitgrain oil (Paraguay), French petitgrain oil, and French and Chinese oil of neroli. Also by specimens of the various terpenes, alcohols, and esters, separated by fractionation. The characteristic furfural pink reaction with aniline chloride was shown.

The Chairman said they were greatly indebted to Messrs. Umney and Bennett for this interesting communication. It would be interesting to know if any alteration in optical rotation was produced by redistilling the oil with water.

Mr. Rutherford Hill said he much regretted the absence of Mr. Boa, who had intended being present. Mr. Boa had seen the oils, and, in a note, said he liked the South American oil very much; it was somewhat stronger than neroli, but had not the conventional eau de Cologne flavour. It had, however, a large proportion of it, and the suggestion of petitgrain was more fragrant and less rank than the flavour of petitgrain itself. He (Mr. Hill) was struck by the neroli-like odour of the South American orange oil, but it had also the piquancy of the petitgrain oil—a sharpness about it, but a much finer and more agreeable odour. It was generally supposed that the reason why South American petitgrain oil had a right-handed rotation, whereas French petitgrain oil had a left-handed rotation, might be owing to the presence of immature fruits in the distillation process of the former. It would be interesting to know whether the pronounced right-handed rotation of this oil, which was believed to be a leaf oil, might not be due also to immature fruits in the distillation process. He agreed with the authors that it promised to be a very useful oil for perfumery purposes, if, as they suggested, the supply was likely to be constant and good.

The Chairman proposed that they send hearty thanks to the authors.

The next communication was

Dispensing Notes,

by Mr. Martin Meldrum, Ph.C. The paper is printed at page 219.

Mr. Hill read a letter from Mr. Lothian, Glasgow, in which he said, with regard to Mr. Meldrum's Mixture No. 4, that, taking the solubility of potassium sulphate as given in Watt's Dictionary, the solution must be supersaturated if it remained clear. That was proved by sowing the solution with a minute speck of potassium sulphate when a crop of crystals was deposited, leaving a saturated solution. Many potassium salts—notably cream of tartar—remained obstinately supersaturated. The mixture would yield 215 grains of potassium sulphate, which was more than the water could retain if the temperature fell below 15° C., disregarding the effect of the spirit. Two solutions made as directed on the day of writing when mixed showed a deposit, so that the order of mixing did not affect the ultimate result. Two mixtures commonly met with in Glasgow were: (1) Magnesium sulphate, 6 drachms; potassium bromide, 4 drachms; infusion of quassia to 4 oz. (2) Sodium salicylate, 160 grains; magnesium sulphate, 6 drachms; potassium iodide, 150 grains; aromatic spirit of ammonia, 2 fl. oz.; water to 8 oz. Both these mixtures deposited a large quantity of potassium sulphate.

Mr. McCutcheon, Edinburgh, also wrote that he frequently dispensed paraldehyde mixtures, and the formula he found to give satisfaction was as follows:—Paraldehyde, 1 drachm; tragacanth, 3 grains; tincture of orange, 1 drachm; Symington's essence of coffee, 3 drachms; syrup to 1 oz. Give with an equal quantity of water. Another form frequently prescribed was:—Paraldehyde, 1 drachm; oil of cinnamon, 5 minims; mucilage of acacia, ½ oz.; water to 1 oz.

Mr. Lyon said, in reference to the potassium iodide pills, the formula suggested made a very good mass, but he feared the quantity of gum acacia would make them very hard in three or four days. He would reduce the acacia, and use tragacanth. Although this gave a slightly rubbery mass, it was much more easily broken up in contact with liquid. He did not think the flavour of Mr. Meldrum's paraldehyde mixture was good. He thought the quantity of saccharin was excessive. Martindale gave a formula containing alcohol, glycerin, oil of cinnamon, and only ¼ grain of saccharin. The example III. was an extraordinary combination. Mr. Meldrum's method gave a precipitate which collected at the top, and that was undesirable. The addition of a little tragacanth caused the precipitate to diffuse, and he saw no objection to that being done. The fourth example illustrated a thing that might easily cause trouble, especially if the salts were rubbed together in a mortar.

Mr. McEwan said no doubt Mr. Meldrum's formula gave a good mass, but contained too much acacia. He had tried mixing the two salts, and adding a drop of water, and then ½ grain of powdered liquorice. The result was a good pill of smaller size, and more readily disintegrated. He could not agree that it was futile to emulsify paraldehyde. A common formula was:—Paraldehyde 2 drachms, mucilage of tragacanth ½ ounce, syrup of orange 1 ounce. This made an emulsion which kept fairly well, was easily poured, and gave every satisfaction. Paraldehyde was used in cases of nervous diseases where a sedative action was desired, and an alcoholic stimulant was contra-indicated. He was, therefore, doubtful of Mr. Meldrum's formula, because of the alcohol it contained.

Mr. Sclater said it was sometimes recommended to give paraldehyde in capsules. He had recently met with a case in which a patient had kept the capsules for some time, and then brought them back with a complaint that they were half empty. The paraldehyde had evaporated.

Mr. Glass said he supposed the best way to administer paraldehyde was in capsule form. He thought the lotion as prepared by Mr. Lyon was better than the form suggested by Mr. Meldrum.

Mr. Hill said he noticed that the iodine colour of the lotion was disappearing somewhat rapidly. The addition of half an ounce of glycerin caused the precipitate to be finer and diffuse much more rapidly. He observed on adding the tincture of iodine to the sodium salicylate dissolved in an ounce of water that there was a distinct diminution in iodine colour. He then added the glycerin of borax, and heated to about 40° C., when the solution became quite colourless, and on adding the quinine hydrochloride a pure white precipitate separated, and the lotion had a distinct odour of iodoform. His experience did not agree with Mr. Meldrum's, that addition of warm water increased the acidity of the paraldehyde. As to the suggestion that conversion into acetic acid diminished the therapeutic value of paraldehyde, he was inclined to suggest that warm water might cause it to revert to ordinary aldehyde. It was well known that if paraldehyde was distilled with water conversion into aldehyde took place.

The Chairman said he agreed with the suggestion of Mr. McEwan regarding the pills. These interesting and complicated prescriptions that came up in communications of this kind very frequently showed how not to do a thing. He thought such examples should be brought to the knowledge of teachers like Dr. Sillars or Professor Stockman, so that they might teach medical students not to prescribe such combinations. They ought not to prescribe anything if they did not know how it would react.

The next communication was on a

Suggested Test for Salicylic Acid in Bismuth Salicylate,

by Mr. Wm. Lyon. The text of the paper appears at page 219.

The Assistant Secretary said Mr. Lothian, in a note, wrote that he had found Mr. Lyon's test simple and effective. He had often used benzol for removing salicylic acid from acid solutions by agitation. He did not consider the B.P. method of making bismuth salicylate satisfactory, as it was liable to contain free acid. It was better to form the basic salt by warming freshly-precipitated bismuth hydroxide on a water-bath with the salicylic acid until combination took place. Of course, in mixtures with water salicylic acid would be set free by hydrolysis and a more basic salt deposited. He (Mr. Hill) had tried this test, which he thought a very neat one, and found that it readily detected one part of free acid in 5,000 of bismuth salicylate. He thought that by shaking up the benzol percolate with the ferric chloride solution a depth of colour corresponding to the percentage of free acid would be obtained which could be compared with a standard solution, and thus the test might be made roughly quantitative. He was inclined to recommend the ferric rather than the ferrous salt.

The Chairman said he did not see much good in testing at all for a minute quantity of free salicylic acid in this salt. The commercial salt always gave evidence of traces, but he did not think that could be objectionable. He was, therefore, inclined to regard the test as superfluous. If it had been arsenic or anything like that it would have been different.

Mr. Lyon, in replying, said Mr. Lothian appeared to be referring to the bismuth oxysalicylate alluded to by Thibault three or four years ago, which had a different formula from the B.P. salt. Even that was decomposed by water, but was claimed to stand the alcohol test. He had been unable to get a sample of Thibault's salt, and was unable to say whether it was really superior to the B.P. article. One objection to the test as a quantitative one was that the colour with ferric chloride quickly deepened, but it might do as a rough indication. There was no need to trouble about the quantity. If a sample indicated free acid at all it should not be used, and in this he differed from Mr. Dott. Some time ago, when bismuth salicylate was made by mixing the oxide with salicylic acid, a prescription was dispensed with a well-known brand of so-called bismuth salicylate, and the patient complained of a burning sensation in the throat, caused by the free acid.

The next communication was a

Note on an Arsenic, Iron and Quinine Mixture,

by Miss Agnes T. Borrowman. The text of the paper is printed at page 218.

The Chairman said this was an interesting paper, and the question had been very thoroughly worked out.

Dr. Dobbin said, assuming that the precipitate was ferric arsenite, its formation was not surprising, as there would be hydrolysis of both the ferric chloride and the arsenious chloride, and there would then be present all the materials for the formation of ferric arsenite, which would be deposited if there was not sufficient acid to retain it in solution. Determination of the exact part played by these quinine salts might require elaborate experiment, but, assuming that some of the acid was withdrawn as a solvent, it was easy to see why ferric arsenite would be precipitated. It remained to be seen whether the whole of these precipitates consisted wholly of ferric arsenite or whether some salt of quinine might not also be present.

Mr. **Rutherford Hill** said this note was of chemical, pharmaceutical, and therapeutic interest. The cause of the precipitation had been, he thought, correctly explained by Miss Borrowman, but there was a good deal more about it that might be well worth hearing. He heated the mixture to hasten the precipitation, but the iron was immediately thrown out like a bulky ferric hydrate precipitate, and the supernatant liquid was nearly colourless. That the acid was withdrawn by the quinine was indicated by the fact that, after standing awhile, the mixture was nearly neutral, that it gave a blackish precipitate of ferrous sulphide with sulphuretted hydrogen, and scarcely indicated the slightest effervescence with sodium bicarbonate. The conditions were such as to make it almost certain that the salt formed was the hydrochloro-sulphate of quinine discovered by Grimaux. It occurred to him that if Miss Borrowman's theory was correct, precipitation would be hastened by adding alkali to reduce the acidity. He therefore divided the 8 oz. mixture into two, and to one-half added sixteen drops of Liquor Potassæ. To his great surprise this remained clear, while the other half had thrown down a considerable precipitate.

The **Chairman** said they were apt to regard those solutions as containing the salts which had been put into them, but that was really not so, for the moment solution took place they had a new condition, in which they had assumed some different position. Although quinine was a monoacid base, it was well known that it formed acid and double salts with two molecules of hydrochloric acid, or the sulphate might absorb hydrochloric acid to form an acid double salt. As to the precipitation on boiling, that was very apt to happen with a ferric salt when very little acid was present, or when they heated a solution of a ferric salt of a weak acid such as the acetate. Their best thanks were due to the authoress for this interesting communication.

Attention was directed to the additions to the Library, and, on the motion of the **Chairman**, votes of thanks were awarded to the authors of papers and donors of books, and the meeting then closed.

HARROGATE AND DISTRICT PHARMACEUTICAL ASSOCIATION.

ORDINARY MEETING.

Friday, February 12, 1904, at the Church Institute, Harrogate, Mr. C. E. J. **Eynon** in the chair. There was a full attendance of pharmacists, and, by special invitation, a large number of medical gentlemen and others interested in the subject were present.

Mr. F. W. **Branson**, F.I.C., F.C.S., gave an interesting lecture on

Radium and Some of Its Properties.

Mr. **Branson** summarised the steps which led to the discovery of radium, and described many of the properties of the substance. The lecture was illustrated by many curious experiments, including a diamond rendered luminous by radium rays.

At the close of the lecture a hearty vote of thanks was accorded Mr. Branson.

BRITISH MEDICAL ASSOCIATION.

(CENTRAL DIVISION OF THE METROPOLITAN COUNTIES BRANCH.)

Wednesday, February 17, 1904, at the Medical Society's Hall, Chandos Street, London, W.

Dr. G. A. **Heron** proposed that the following clause be added to the draft Medical Act Bill:—

> No person registered under this Act, excepting only as hereinafter indicated, shall dispense or supply drugs or other medicaments to anyone.

The exemptions and penalties will be found in the *Pharmaceutical Journal* of January 30 at page 115.

Dr. **Heron** having given reasons for his proposal, the motion was seconded *pro forma* by Dr. **Comyns Berkeley**.

Dr. Burslem Rotheroe and others opposed the motion. Among the speakers who took part in the discussion were Dr. Crosby, Dr. Bateman, Dr. C. O. Hawthorne, and Sir Victor Horsley. The motion was rejected by an overwhelming majority.

LINCOLN AND DISTRICT CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Thursday, February 11, 1904, at Lincoln, the **President**, Mr. Battle, in the chair.

The Executive of the Buying Committee reported having a full stock of the leading lines of "patents," in which a brisk business had been done during January.

A letter was read from a wholesale firm of lozenge-makers, stating that, to meet the requirements of Somerset House, they would only be able to supply cough lozenges in 4 lb. boxes, and that the retailer must not sell in a parcel fastened with gum, wax, or string. The meeting considered this a very unsatisfactory way, and thought the wholesale house in question should disclose the active ingredients of their cough lozenges.

A letter was read from the Reading Association, requesting the Lincoln Association to approach manufacturers of proprietary articles, asking them to protect their goods. The meeting thought that as they had already sent two or three letters of this character, it was not expedient to do anything more at present.

Mr. J. T. **Birkbeck** then read a paper on

The Privileges and Obligations of the Pharmacist.

Mr. **Birkbeck** said: I have promised to take upon myself the *rôle* of preacher to-night, and to deliver a lay sermon which has been very near my conscience for some time past. But before going into my subject, I desire to make it clear that the observations I am about to give are not intended to have a special or particular application to any individual in this room; nor do I wish to appear in the light of the "one just man" who, by superior virtue, has acquired a prescriptive right to chide his more erring brethren. We are associated in our local organisation for the purpose of mutual help and encouragement, as well as for the advancement of those general pharmaceutical interests which are identical in all localities; hence it is the duty of each one of us, when we become aware of tendencies which appear to be detrimental to, or subversive of, the calling to which we belong, to bring the matter before his colleagues for earnest consideration and careful deliberation. That is the position I now occupy. A Divisional Secretary has, perhaps, more opportunities than unofficial members of the pharmaceutical body of seeing things in their proper perspective—of perceiving those relationships which are not always apparent when one's view is taken solely from behind the counter. At any rate, I have found during my tenure of office that certain procedure in the conduct of one's business which formerly appeared innocent enough becomes, in the larger field of public policy not only wrong, but fraught with grave danger to the status of the qualified chemist and druggist in the eyes of the Government and the public. If we look at the Registrar's annual report it is apparent that there are qualified men who carry on businesses by the hands of unqualified persons, and I have very little doubt that the prosecution of those unregistered assistants seems absolutely tyrannical to the minds of the employers. Perhaps they even give expression to their feelings by withdrawing their support to the Society, or by abusing the Council in trade papers. But does it ever occur to them, or even to us, that the reproaches should come from the other side, and the repudiation should come from the body-politic which has, to the extent of each prosecution, been damaged in its reputation and hampered in its legitimate work? Do they, or do we, sufficiently realise that more harm is done to pharmacy when a duly registered chemist, unmindful of his obligations, neglects or ignores the spirit as well as the wording of the Statute, than by all the efforts of unqualified traders put together? I do not think they do. I do not think *we* do, and for that reason I ask you to give the matter serious attention. We have all, at one time or other, had something to say about our privileges—those special advantages which are statutory, and which we claim on the basis of training, examination and registration—but we must remember that Parliament does not grant privileges to a class except for the public good, and with the privileges it imposes obligations, or, to put it rather more accurately, the conditions are prescribed on public grounds and the privileges are the compensating corollaries thereof. If the conditions are ignored there can be no public justification for the recognition of a privileged class, and there will be none. In fact, "responsibility" and "privilege" obey a species of Daltonian law of constant combining proportions. The chemist and druggist, as created by the Act of 1868, exists solely for the purpose of safeguarding the health of the general community, and if the State should become convinced that that purpose is not being fulfilled, the chemist and druggist will lose his special legal status. As Mr. Bremridge pointed out to us when he visited Lincoln last year, there are a number of active and influential people in Great Britain who are vigorously engaged in trying to convince Parliament and Government Departments that the Pharmacy Acts are not so much a public protection as the instruments of a private monopoly. The evidence given before the Poisons Committee contained many statements to that effect, and a very determined attempt was made to persuade the Privy Council that the objects of the Legislature in 1868 were not being carried out. Of course, it should not be difficult for the Society to prove the exaggeration and hollowness of the charges, but the facility or difficulty of the task lies in the hands of the chemists and druggists of Great Britain, and my point is that every departure from the requirements of the Statute (which should be regarded as the pharmacist's minima in the handling of poison) is an added load to the Pharmaceutical Council, an additional danger to the calling, and another weapon in the armoury of the enemy. Whatever may be said as to whether chemists and druggists are entitled to the style of tradesmen or members of a profession, there can be no doubt that the dispensing, compounding and retailing of medicines and of poison partake of the nature of professional acts, and should be conducted in a professional spirit. In these respects chemists should be "standards of natural equity and public advantage," and no formality, whether statutory or suggested by expediency, should be omitted in transactions with the public. And professionalism, too, implies a rigid code of conduct between members of the calling, every individual pledging himself to honourably adhere to the standard set and disdaining to become by his acts a weak link in the chain of independence which should bind him to his fellows. "Men of character," says Emerson, "are the conscience of the society to which they belong," and I would like to see chemists throughout the kingdom become men of character in that high sense of the phrase, for we should then fear no reproach, and our councillors at Bloomsbury could approach our legislators at Westminster without any embarrassing anticipation of disheartening revelations. The first step in the direction of fulfilling our responsibilities is, naturally, to know them, and I am inclined to think that in many cases the provisions of the Act of Parliament under which we work are but imperfectly known. How many qualified men in the country, for instance, possess a copy of the Pharmacy Acts, and how many have taken the trouble to consult with headquarters as to the interpretation of ambiguous, but possibly important, lines in those Acts? These things should be looked to, and a not inappropriate method of calling attention to them is that which I have ventured to adopt to-night. If I have succeeded in conveying the truth that reform in the condition of the law relating to pharmacy must be preceded by reform in whatever is open to reproach in our own businesses, I shall feel that my sermon has been helpful to my calling, to which, in common with all chemists and druggists, I am a debtor.

Mr. F. P. Watson, in opening a discussion, said that they were very much indebted to Mr. Birkbeck for his very necessary paper. As pharmacists they should all be desirous to observe the "obligations" or canons of their craft. The pith or essence of the paper, and the moral desired to drive home, was, he took it, that where privileges were granted certain obligations must be faithfully kept. He submitted it was just as true an axiom that, when obligations were adhered to, privileges should be assured. Unfortunately, that was not the case in pharmacy. Unfortunately, the great majority of pharmacies were one-man businesses—or, rather, it would be a better definition to say that the business would only support one qualified man—the proprietor—and he had to give up a great deal of social life, recreation, and participation in public matters, and become a recluse. It was not quite so easy for that man to comply with the regulations as his richer brother, and, of course, he could not "think Imperially." He did not suggest that any man was in any way justified in ignoring his duties to his fellow men, but it should act as a stimulus to them all to try, by united action, to improve the professional status of the one-man businesses. He thought the silver lining was appearing, however—the great activity and increase of local associations assured that, showing the awakening at last of the individual chemist. It was said that "the greatness of a nation does not depend upon its laws, but upon the character of its individual subjects," and every unit of the calling must be brought to recognise his responsibilities, that he does not live to himself alone. When that was accomplished chemists' battles will be half won. His panacea was in dispensing becoming carried on by chemists. He did not doubt that in ten years, if their case was properly put, a race of doctors would grow up willing that it should be so. It could not be restricted to chemists solely, of course, in country districts. The speaker concluded thus:—"Let us, then, belong to the Society, the P.A.T.A., the Chemists' Defence Fund, the Pharmaceutical Conference, and anything that will be helpful, and so carry on our business that Parliament may recognise we may be trusted with the safety of the public in respect to the supplying of medicines, and that the medical men and the public may be taught that we have a right to this privilege of dispensing as a reward for obligations faithfully kept."

Mr. **ELMITT** feared that chemists did not realise their privileges to the full, for they looked at them from their own point of view. Very few thought of the more general privileges which they, as a body, enjoyed. With regard to the Registrar's Annual Report, he was afraid the ordinary run of chemists looked upon the matter with a certain amount of indifference, more especially where none of the details of the various cases were known outside the locality. Hence they were inclined to give free expression to opinions and sometimes take foolish actions which they afterwards regretted.

Messrs. **BATTLE**, **DIXON**, **HILL**, and others took part in the discussion, which was reluctantly closed owing to the late hour.

NORTH STAFFORDSHIRE CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Thursday, February 11, 1904, at the Roebuck Hotel, Stoke-on-Trent, Mr. T. C. **CORNWELL**, Vice-President, in the chair.

The principal business was an address by Mr. **CORNWELL** in favour of

Compulsory Early Closing.

In opening, the speaker said after many years the voluntary movement had proved a comparative failure, the keen competition in trade absolutely preventing its success. Not only was this the case, but in many instances a reactionary movement had actually taken place, and shop hours in many places were later than ever. He gave three reasons why chemists should be included with other shopkeepers on the matter of early closing:—(1) The principal, as often happened in a chemist's business, was single-handed; the hours were always long, and, with regard to a number of men, it practically amounted to a life's service. (2) The assistants, on whom devolved much of the details of the chemist's shop, could scarcely be expected to keep uniformly to that high standard of efficiency the public were entitled to expect from a man of high training and education. Again, the apprentice question was a very serious one, as, although there was no scarcity of qualified chemists and candidates for examination, they had received no proper apprenticeship in chemists' shops, but obtained their previous necessary qualification from doctors' surgeries, dispensaries, hospitals, etc., where the hours obtaining were much shorter than in shops. (3) The public had to be considered. Much was made of the alleged inconvenience to the public by shorter hours, but he was convinced that they had no feeling whatever in the matter, and whatever the hours were, when they got to know them, they accommodated themselves to them. The industrial classes did not resent closing at a reasonable hour. What he might almost describe as the subservient attitude of the late-closer was also worth attention. It was possible, he believed, to be too much the slave of the public, who, in the long run, would place too low a value on the chemists' services. In conclusion, the speaker contended that the time was opportune for chemists to avail themselves of the coming legislation. Chemists and druggists should be included in any Shop Hours Bill, with the proviso that medical and surgical necessities must be supplied in emergency. If this opportunity of joining the majority of shopkeepers in the proposed legislation be missed, this generation, at least, might never obtain this much-needed reform. He asked them to pass a resolution in favour of compulsory closing by a substantial majority, and to direct the Secretary to send a copy of it to the M.P.'s for North Staffordshire. He also expressed the hope that other pharmaceutical associations might take up this subject, and notify their respective M.P.'s of their wish to be included in any Shop Hours Bill that might come before them.

Letters were read from the President of the Association and from Mr. Emery approving of the principle of compulsory early closing for chemists.

Mr. **CHARLES** was not in favour of compulsory closing, and he did not believe the suggestion to supply medicine in urgent cases was workable. How were they to distinguish between urgent and non-urgent cases? He would prefer to see the hours shortened by a local movement, and Sunday opening might be done away with, as there was no necessity for it.

Mr. H. P. **JONES** supported Mr. Cornwell. If it was made compulsory for other shops to close at a reasonable hour chemists might do so too, for no one would be about to do business of any kind.

Mr. **ALLISON** believed that nothing short of compulsory closing would have any effect.

Mr. **SHELLEY**, Mr. **MORRISON**, and Mr. **BRINSON** having spoken,

Mr. **WESTON POOLE** objected to compulsion, but would support any scheme that would give shorter hours to the assistant, but believed the master should be allowed to work as long as he liked. They could not put the chemist in the same category as the ordinary trader; they were professional men, and, therefore, had responsibilities that sometimes entailed a little extra time and thought.

Mr. Cornwell's motion was put, and was carried by an overwhelming majority, only two voting against it.

It was decided that at the next meeting Mr. Blades (Leek) should give a paper on the Medicine Stamp Act, and that afterwards a smoking concert be held.

The annual dinner, which will be held in Easter week, was discussed, and a committee appointed to carry out the necessary arrangements.

BRADFORD AND DISTRICT CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Thursday, February 11, 1904, at the Royal Hotel, Bradford, Alderman H. **DUNN**, President, in the chair.

The **HON. SECRETARY** said he had had a letter from Mr. E. J. Young, of Bristol, adverting to the buying section in connection with the Bradford Association, and asking for price list and particulars, with a view to the establishment of a similar buying section at Bristol. It was decided that the information should be forwarded.

Messrs. Sutcliffe and Dutton were elected delegates to the Bradford Chamber of Trades, and the President was elected to office as Vice-Chairman, with a seat on the Council of the Chamber.

Mr. R. C. **COWLEY**, of Liverpool, gave an address upon

The Attitude of Pharmacists Towards Education.

Mr. Cowley said he was afraid that the subject was scarcely as interesting to pharmacists as it ought to be, and one of his chief reasons for coming there was to awaken a certain amount of sympathy with education. He had selected the subject because (1) he could lay claim to some familiarity with it; (2) he wished to have a full and open discussion on it; and (3) he felt pharmacists did not realise the importance of education in relation to present and future wants. The first difficulty was the fact that the pharmacist had to fulfil many requirements in his relation to the public, and it was obviously absurd to enforce uniformity in the education of men destined for such diverse duties. It was frequently stated that an unqualified assistant was a better man than a qualified one, and that a Minor man was a long way ahead of a Major man in general utility, yet it might be fairly inferred that it was not education which was at fault. If ever the history of the Pharmaceutical Society were written he feared it would be stated that during the first sixty years of its existence it did more injury to British pharmacy than any similar body controlling the fortunes of a trade or profession has ever done. He felt certain he was not going too far in saying that they would all have been better off had the Pharmaceutical Society never existed. The most important charges he had to make were that it had omitted to test the candidate for examination in practical pharmacy, and had utilised the fees extracted from the candidate for other purposes than education. Their attention was constantly drawn to the defective means or the complete want of facilities for teaching pharmacy at Bloomsbury Square. If pharmacy could not be taught in the Society's own School, where could it be taught? The answer was simple: Pharmacy was not taught; it was becoming a lost art, except in wholesale druggists' laboratories. There was no good in tinkering with the matter, and, from past experience, they must not expect much from Bloomsbury Square unless they cleared out the whole crop and started afresh. They must begin in the provinces, and there was no better place in which to begin the movement than in the North of England. He had very little faith in legislation to improve the status of the pharmacist. It was necessary that the present attitude of the pharmacist towards education should be altered. Education should be cheap, and so likewise should examination, although, after all, the latter was only a very secondary matter. He should like to see pharmaceutical education as cheap as technical education. He went on to show that academic training in pharmacy could not take the place entirely of shop experience, and he commended a combination of the two. The apprentice of the future, however, must be treated differently to the way in which they themselves were treated. The laboratory suited for the training of the future pharmacist must be equipped with up-to-date machinery, to familiarise students with modern manufacturing processes. The cost of education must be cheapened and apprentices and junior assistants must have time to make use of the advantages. He would like to see an enforced curriculum, but he had reluctantly come to the conclusion that the trade would not accept it. The Pharmaceutical Society might assist such a scheme. He thought there was a reasonable prospect of carrying his views on this important question into execution in a few of the important towns, but the main difficulty was want of money, as he could see no prospect of educational improvement without reducing the cost to a mere trifle. He had every reason to suppose they would be able to overcome this difficulty in the North of England in conjunction with the new universities, and it was the duty of all to further such a scheme to the best of their ability. He hoped that Liverpool would soon be able to give a lead in the pharmaceutical education of the country. They proposed to put up a large building and fit it with elaborate machinery, and they would get a grant from the corporation to deal with the matter in the way he had suggested. What was possible in Liverpool was possible in any other large centre.

Mr. Silson, in initiating a discussion, said that Liverpool was in a much better position than Bradford to train students. There were eminent firms in the district to which the students might pay periodical visits. He failed, however, to see how large towns like Bradford and Liverpool were going to establish individually large concerns, costing several thousands of pounds, just for the sake of pharmacy. In Bradford one or two hundreds had been spent in the laboratory at the Technical College, but as far as being a financial success, they knew it was not so, and it was in very serious competition with Leeds. It was doubtful whether it would ever pay. No doubt it would be an advantage to have such a school of pharmacy such as Mr. Cowley suggested at Leeds, but the Bradford technical authorities might feel slighted in the matter.

The President said he could not accept the doctrine that the Pharmaceutical Society had done more harm than good. He was satisfied that but for the Society the position to-day would have been most melancholy. All honour to the Society for what it had done. How were they to ascertain the qualifications of those who wanted to be registered except by education. If pharmacy were a lost art it was the fault of the pharmacist. It seemed to him that the proposal was very much like getting a steam hammer to crack a nut. All this expensive machinery was not absolutely necessary to train the pharmacist as a rule. Mr. Cowley spoke entirely of the student as one who had become an assistant. He (the President) thought the training should begin with the apprentice, who should have scope for his efforts, and it was possible for a youth to get this training during his apprenticeship without this wholesale machinery on the steam-hammer principle.

Mr. Hanson also said that the Pharmaceutical Society had done a great amount of good, and, at any rate, it was the best organisation they had to look to. If the master and apprentice mutually discharged their duties the latter would have an opportunity of a training which would be sufficient to fit him for the position of chemist in business for himself.

Mr. Waddington, in seconding a vote of thanks to Mr. Cowley, which had been moved by the President, said he could not help thinking that the scheme which Mr. Cowley had commended was more fitted for the training of pharmacists in regard to the wholesale aspect, and that it would rather unfit, instead of fit, the student for the life of a retail pharmacist. He disagreed with Mr. Cowley as to the need of elaborate apparatus. What was needed to equip the ordinary pharmacist was a training which would fit him for the so-called pettifogging matters. Locally the technical instruction authorities had done their best, and he had no doubt as time went on they would do very much better than at present.

Mr. Cowley, in acknowledging the vote of thanks, said that the main idea was to make men of pharmacists, men not only in the larger affairs of the craft, but also men who could handle the pestle and mortar and make pills properly. He said he was a member of the Pharmaceutical Society, which was an eminently respectable body, and the object of his remarks was to make it yet more eminently respectable.

EDINBURGH CHEMISTS', ASSISTANTS', AND APPRENTICES' ASSOCIATION.

VISIT TO GLASS WORKS.

Wednesday, February 10, 1904. The members visited the glass works of Messrs. John Ford and Co., South Canongate, Edinburgh, where they were courteously received by Mr. Rankin, who conducted them to the melting pots. Here a most interesting time was spent watching the glass-blowers at work making fancy lamp-shades, wine-glasses, glass shades for street lamps, and the like. Several secured specimens of glass animals, which the workmen obligingly made for them out of the molten glass. The annealing chambers were visited and explained, while the materials used in making the glass—white sand from France, red lead, potassium carbonate, and sodium carbonate—were also pointed out. One article that was being made was a fancy lamp-shade, which was partly red, from ruby glass tinted with gold, and partly greenish, from a green glass tinted with uranium. The margins of the shade were opalescent; from the presence of calcium phosphate, which was seen to separate out as the glass cooled.

In reply to a vote of thanks, proposed by the **President**, Mr. Currie, the party was cordially invited by Mr. **Rankin** to come some day to see the other departments.

BRIGHTON ASSOCIATION OF PHARMACY.

ORDINARY MEETING.

Thursday, February 11, 1904, at 122, King's Road, Brighton, at the kind invitation of the **President**, Mr. W. H. Gibson, F.C.S., who was in the chair.

A letter was read from the Reading and District Chemists' Association, asking for co-operation in an effort to induce proprietors of certain well-known "proprietaries" to place their articles on the "protected" list, and it was agreed that the Brighton Asociation would do what it could, the Secretaries being instructed to draw up a letter to such proprietors.

The **Secretary** reported that he had written to invite the President of the Pharmaceutical Society to attend that meeting to assist them in the discussion of the Pharmacy Bill, and had received a reply regretting that owing to illness the President was not able to come to Brighton.

The **Secretary** also reported having received a communication from the West Ham and District Association asking for particulars of the formation of the Buying Club. These he had supplied, and had received a letter of grateful acknowledgment.

The **Secretary** further announced that he had received the names and subscriptions of four new applicants for membership of both the Association and Buying Club. This was considered very satisfactory.

The Pharmacy Bill

next came under consideration, and copies of the draft Bill were on the table. Mr. R. A. **Cripps**, F.I.C., expressed the opinion that Clause 7 was not sufficiently strong to give the necessary protection.

After an animated discussion it was proposed by the **President**, and agreed, to invite Mr. M. Carteighe to Brighton to a special meeting to give an address on the subject of the Bill to the Brighton Association and district chemists.

The formation of the proposed deputation to the local M.P.'s was further deferred pending the result of the special meeting.

The 1905 Conference.

Mr. Councillor **Yates** reminded the members of the coming Conference, and suggested, in view of the visit to Brighton next year, as many Brighton chemists as possible should go to Sheffield this year. Brighton, he thought, had not been very largely represented in the past.

Benevolence.

He (Mr. **Yates**) made a further special appeal on behalf of the Benevolent Fund, in view of the very heavy calls which will be made on its resources; in March about £750 has to be paid out, and subscriptions are urgently needed. About £4 was subscribed then and there, and promises of more were received.

The **President** stated that he had sent up his usual annual subscription quadrupled, and that he would be willing to receive any sums to be sent up as a subscription from the Brighton Association of Pharmacy.

Mr. J. **Padwick** suggested that new subscribers should be sought by the members of the Association, and Mr. R. A. **Cripps** volunteered in the course of his business peregrinations to do what he could to find some new subscribers.

Mr. **Franklin** proposed a vote of thanks to the President for kindly inviting them there at his residence, and for so ably taking the chair.

Mr. R. E. **Brown** seconded, with some very congratulatory remarks, and the vote was accorded with enthusiasm.

BLACKPOOL AND FYLDE CHEMISTS' ASSOCIATION.

ANNUAL MEETING.

Tuesday, February 16, 1904, at the Palatine Hotel, Blackpool, Mr. **Turver**, President, in the chair.

Annual Report.

The **Hon. Sec.**, Mr. Sankey, reported an increase in the attendances at the eight meetings held during 1903, an increase in members, and—more important—in active members. He gave a *résumé* of the work accomplished during the year, including the deputation to Mr. Hanbury *re* Poisons Committee report, and deputation to Mr. Worsley Taylor asking his support for the draft Pharmacy Bill.

Mr. **Buckley** (Hon. Treasurer) read his financial report and balance-sheet, duly audited, which showed an increased balance in hand.

Election of Officers.

Considerable pressure had to be brought to induce Mr. Turver to accept the presidency for another year, but eventually he consented to accept the position.

Mr. Buckley was re-elected Hon. Treasurer and Mr. Sankey was re-elected Honorary Secretary.

The following officers were also elected:—Vice-Presidents, Mr. Laurie and Mr. Lofthouse (Fleetwood); Committee, Messrs. Ashton, Johnson, Bailey, Boothroyd, and Greenwood; Auditors, Messrs. Withers and O. L. Jackson.

Mr. **Turver** thanked the members for re-electing him President, and assured them the position was not sought by him. He was persuaded by some of the older members again to accept the position he had taken, and should continue to take a great interest in the Association. He thanked the members for their support of the chair during the past year, and hoped the coming year would be one of progress for chemists and the Pharmaceutical Society.

LEEDS AND DISTRICT CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Thursday, February 11, 1904, at the Great Central Hotel, Leeds, Mr. G. W. **Worfolk**, President, in the chair.

Mr. F. W. **Branson**, F.I.C., gave a lecture on

Radio-Active Elements.

The lecturer made brief allusion to the discovery of helium, first in the sun, then in a terrestrial mineral and, finally, in the emanation from radium in a sealed tube. He then gave some experiments to illustrate some of the properties of radium. Amongst the exhibits provided by Mr. Branson were the spectrum of helium, a diamond rendered luminous by invisible radiation from radium, thorium and thorium X prepared by the lecturer on the previous day, the temporary disappearance of radio-activity from a freshly-prepared sample of thorium oxide, and the gradual recovery of radio-activity in the same; also the exhibition in inverse order of similar properties in thorium X. A series of excellent lantern slides was effectively utilised.

At the conclusion of his lecture Mr. Branson answered a series of questions, and also gave further experiments, thus greatly enhancing the value of his instructive demonstration.

Mr. Sargeant, in moving a vote of thanks to Mr. Branson for his excellent demonstration, said that the difference between the natural mineral waters and those imitations looked upon as practically identical was probably due to radio-active substances.

Mr. Beacock seconded the motion, which was carried with great heartiness.

CHEMISTS' ASSISTANTS' ASSOCIATION.

CINDERELLA DANCE.

Thursday, February 11, 1904, at the Portman Rooms, Baker Street, London. This was the second Cinderella dance this year organised by the Association. Although the number present was not so large as at the previous dance, this Cinderella was quite a successful function. Credit is due to Mr. C. W. Martin, M.C., to Mr. A. Latreille, Hon. Secretary, and to the dance committee, the members of which were Messrs. Britton, Arrowsmith, Haylings, Parker and Presant.

WESTERN CHEMISTS' ASSOCIATION (OF LONDON).

ORDINARY MEETING.

Wednesday, February 17, 1904, at the Norfolk Hotel, Paddington, W., Mr. J. W. Bowen, President, in the chair.

A letter was read from Mr. Henry Mathews, thanking the Association for their resolution of condolence on the death of his brother, and for sending a wreath to the funeral.

A communication was also read from the Secretary of the Pharmaceutical Society, thanking the Association for the contribution to the Benevolent Fund, which was collected at the last meeting of the Association.

COUNCIL OF LEGAL EDUCATION.

LECTURE ON POISONING.

Thursday, February 11, 1904, at Lincoln's Inn Hall, London, Judge Marten, K.C., in the chair, Dr. F. J. Waldo, Coroner of the City of London, delivered a lecture on

Poisoning in its Medico-Legal Aspects.

It was pointed out that neither lawyers nor medical men have any universally accepted definition of the term "poison." It would be obviously incorrect to call vitriol a poison when thrown into another person's face with intent to commit bodily injury. On the other hand, if administered internally, the vitriol would be considered a poison both by lawyers and by medical men. Powdered glass, again, formed an extremely ancient method of causing death by mixing it with food. For all that, it is not a poison, although it kills after internal administration. The "poison" must, in other words, not only be taken internally, but must exert some kind of chemical action upon the tissues. The Pharmacy Act, 1868, was discussed at length by the lecturer, who pointed out various ways in which its scope of usefulness might be enlarged. He agreed with Dr. Wynn Westcott in recommending the addition of the strong mineral acids, ammonia, sulphonal, and certain other poisons to the scheduled list. The evidence of poisoning as produced in Court was then considered. The simulation of various diseases by poisoning and *vice versâ* was described, as, for instance, the similarity of lockjaw and strychnine poisoning, and the resemblance of slow arsenical or antimonial poisoning to typhoid fever. The important subject of the evidence of poisoning to be derived from an examination of the dead body having been exhaustively dealt with, the limitations and the powers of chemical analysis were described. In the case of some powerful alkaloids the dose was so minute that it would be almost impossible to detect their presence. Fortunately, both clinical and moral evidence were often available in these cases.

HULL CHEMISTS' TRADE ASSOCIATION.

ORDINARY MEETING.

Tuesday, February 16, 1904, at Mr. Chapman's, 54, Charles Street. There was a large attendance, and the evening was, as usual, crowded with business. One new member was admitted.

The Treasurer was authorised to accept a special offer of 5 cwt. of liquorice juice, on behalf of the members. A tender for the year's supply of plasters was accepted, and orders placed for immediate requirements of silver nitrate sticks, hydrokinone, bismuth lozenges, black currant lozenges, chocolate worm cakes, bismuth carb., ext. cascar. liq., sheet gelatin, etc.

The Secretary and Treasurer were authorised to make arrangements for a conference with members of West Riding associations to discuss the question of federation.

The meeting expressed its strong and unanimous disapproval of the action of the proprietors of Seigel's Syrup in assisting, by means of co-operation in a novel advertising scheme, a well-known drug company in Hull, to the prejudice of the chemists in that city, the action being the more unreasonable, because the drug company in question pushes the sale of a substitute for Seigel's Syrup.

NOTES IN PARLIAMENT.

Sanitary Inspectors.

Sir W. Foster has questioned the President of the Board of Trade as to the number of persons seeking certificates of competency as sanitary inspectors who have been examined in each year by the Board of Examinations constituted by the Local Government Board, under Section 108 of the Public Health (London) Act, 1891, and the number to whom certificates of competency have been granted in each year. From the reply of Mr. Long, we learn that in 1899 the number of applicants for certificates was 18, and the number of certificates granted was 16. The figures for 1900 were respectively 21 and 12; 1901, 27 and 24; 1902, 70 and 57; and 1903, 69 and 46.

Poisoning of Dogs.

From a reply made by the Irish Chief Secretary to Mr. Sloan, it appears that a number of dogs have recently died in the neighbourhood of Howth from the effects of poison. There is no evidence, however, to show that the poison in these cases was maliciously laid. The police are inquiring into the matter. Mr. Wyndham adds that poison has been placed on the lands of two gentlemen in the neighbourhood, but in both of these cases the requirements of the law have been duly observed.

Poisonous Trades.

The Home Secretary was questioned on this subject by Mr. Coghill on Tuesday last, and from his reply it appears that the number of deaths from lead poisoning in the pottery trade in 1903 was three. The trades of house-painters and plumbers do not come within the Factory Act, and returns of deaths are not required to be made to the Home Office. It is gathered, however, from information supplied by the registrars of deaths, that there were in the same year in the whole of the United Kingdom thirty-nine cases in which the deaths of persons stated to be employed in these trades were attributed directly or indirectly to lead poisoning. Mr. Akers-Douglas does not propose to introduce legislation this session with regard to these trades.

Registration of Firms.

A Bill for the registration of firms and persons carrying on business under trade names has been brought in by Mr. Emmett and read a first time.

Dispensary Doctors in Ireland.

Sir T. Esmonde has asked the Irish Chief Secretary if he would consent to the repeal of Section 6 of the Local Government (Ireland) Act of 1902, with a view to the settlement of the difficulty which has arisen in Ireland regarding the appointment of dispensary doctors. Mr. Wyndham, in his answer, states that the necessity for this section of the Act was explained by him in the committee stage of the measure on December 12, 1902. He cannot, for reasons then stated, agree to the repeal of the section.

LEGAL INTELLIGENCE.

Sale of Food and Drugs Acts.

Cream of Tartar.

On Saturday, February 13, 1904, at Stratford Police Court, Joseph Picken, of 21, High Street North, East Ham, was summoned for selling cream of tartar not of the nature, substance, and quality demanded, on December 22.

Mr. Ricketts appeared to prosecute; Mr. Passmore defended, and admitted the facts.

Mr. Ricketts said 2 oz. of cream of tartar was served by the defendant himself, and on being submitted to the public analyst it was found to contain lead in the proportion of three-quarters of a grain to one pound.

Mr. Passmore called attention to the extremely small quantity of this foreign matter. In the old Pharmacopœia the presence of lead was never suspected, and it came about through preparing the substance in leaden vessels.

The Bench imposed a fine of £5 and 4s. costs.

On Tuesday, February 16, 1904, at the Melton Mowbray Petty Sessions, before Mr. R. Dalgliesh and other magistrates, Robert Whiteley Brownlow, chemist, of Melton Mowbray, was summoned for selling cream of tartar not of the nature and substance demanded. Mr. Rowlatt, from the office of the Clerk of the Peace of the County of Leicester, appeared to prosecute, and Mr. Kirby, of Messrs. Neve, Beck and Kirby, appeared for the defence.

Mr. Rowlatt, in opening, said that on January 8 Mr. Superintendent Mantle purchased from defendant a quantity of cream of tartar, which on analysis was found to contain ¾ gr. of lead to the pound, and this, in the opinion of the analyst, was prejudicial to the health of the consumer. Mr. Rowlatt, continuing, said that if a person sold an article on which he had obtained a warranty as to purity, he could, providing it was proved that the article before the Court was the particular one comprised in the warranty, be absolved from the consequences of selling the article, and it was then, if the drug was found impure, the duty of the prosecution to proceed against those who had given the warranty. In this case it appeared that Mr. Brownlow had purchased the cream of tartar under a warranty, the letters B.P. appearing opposite the name of it in the price-list of the wholesale house. According to the British Pharmacopœia, cream of tartar should give no reaction under the tests for lead; but, on the other hand, it was necessary that the proceedings against the warrantors should be taken within six months of the time of the giving of the warranty, and in this instance it was given on May 18. It was thus not possible to take proceedings against the wholesale house. He (Mr. Rowlatt) was prepared to admit that Mr. Brownlow could be dismissed from the case.

Mr. Kirby then called the defendant, who stated that the drawer from which the cream of tartar in question was taken had been filled with the article just as it had been received from the wholesale house. He recognised the order produced as relating to the consignment from which this particular sample had been taken, and he had bought no cream of tartar from any other firm for over two years. The order expressly called for cream of tartar of B.P. strength, and he was perfectly clear that it was sold in the same condition as received.

The Chairman said the Bench had no difficulty in dismissing the case, as they thought the fault lay entirely with those who had given the warranty of the standard quality, and those who would suffer were the British public.

Mr. Kirby intimated that the defence would have been prepared to question the analysis if necessary.

High Court of Justice: Chancery Division.

A Fuller's Earth Action.

On Thursday, February 4, 1904, Mr. Justice Bucknill, on the application of the Somerset Fuller's Earth and Ochre Company, Limited, granted, with costs, an injunction to restrain Elijah John Barton, trading as the Mendlip Fuller's Earth Company, from carrying on the business of a manufacturer of, or dealer in, Fuller's earth, ochre, lime, etc., within a radius of five miles of the plaintiff company, Emborough, Somerset.

High Court of Justice, King's Bench Division.

Giving Credit to Married Women.

On Wednesday, February 17, 1904, before Mr. Justice Phillimore and a jury, a West End dressmaker sued a commercial traveller for a debt incurred by his wife. The goods supplied were articles of clothing, deemed to be "necessaries." The whole of the defence rested on the simple basis that the husband had told his wife that she must not contract debts in his name, and that he had given her an allowance sufficient to make it unnecessary for her to do so. The defendant had never directly forbidden the plaintiff from supplying his wife with dresses on credit. The jury found that the plaintiff did not give credit to the defendant personally, that the latter had forbidden his wife to pledge his credit, and had paid the allowance which he said he had made to her. They also were of opinion that the amount allowed was sufficient. On these findings the judge said that the verdict amounted to one for the defendant, and judgment was given in his favour.

Stone County Court.

Action Against a Chemist's Executor.

On Monday, February 15, 1904, at Stone County Court, North Staffordshire, before his Honour Judge Mulholland, K.C., Mr. B. Howson, a sanitary ware manufacturer, who resides at Burston, near Stone, sued Mr. Frank H. Jenkins (as executor for the late T. H. Jenkins, chemist and druggist), of Stone, Staffs, for £11 loss alleged to have been caused by the forced sale of a heifer, and for the veterinary fees of Mr. Carless, of Stafford.

Plaintiff's case was that he had a valuable heifer, which had some warts on its teats. A man named Locksley, who had charge of the plaintiff's cattle, sent a note to the late Mr. T. H. Jenkins asking for "something to remove warts from a calving heifer's teats." The ointment was supplied by the assistant, and was duly used by Locksley, and on a second application the heifer was in evident pain. The heifer got worse, and was sold for slaughtering purposes. It was contended that the ointment, which contained arsenic, was an improper remedy for warts on teats.

The defence was that the ointment was a proper remedy, but that it had been administered by an improper hand and one unaccustomed to its use.

Alfred Martin, assistant to the late Mr. Jenkins, said the ointment was composed of 1 drachm of arsenic to 1 oz. of soft soap, and that was the ordinary formula. He told the boy who brought the note that he must be careful in its use.

The defendant was also called, and said the proper thing to have done was to have called in a veterinary surgeon, and had the warts removed by operation.

His Honour held that the remedy was a proper one, which had been applied by an unaccustomed hand, and he gave a verdict for defendant.

POISONING CASES AND INQUESTS.

The deaths by poisoning reported during the seven days ended Wednesday, February 17, 1904, numbered nine.

Poison.	Accident.	Suicide.
Carbolic Acid	—	1
Carbon Monoxide	1	—
Hydrocyanic Acid	—	1
Morphine	1	1
Opium	1	—
Oxalic Acid	1	—
Sulphuric Acid	—	1
Wheat Dressing	—	1
Total	4	5

Carbolic Acid.—A labourer at West Hartlepool committed suicide by taking carbolic acid.

Carbon Monoxide.—One death and three other serious cases of poisoning are reported from Sheffield, as due to carbon monoxide.

Hydrocyanic Acid.—Harry Lea, described as a chemist, but not on the Register, committed suicide at Birmingham by taking hydrocyanic acid.

Morphine.—A stockjobber's clerk committed suicide in a London hotel by taking morphine. A compositor at Birmingham took about twenty doses of a mixture which contained 7½ minims of Liquor Morphinæ Acetatis to the dose. He drank it out of the bottle in the dark. The man subsequently died.

Opium.—A woman at Heanor, who had been a confirmed opium taker, died from syncope, accelerated by drink and opium taking.

Oxalic Acid.—A girl at Upper Islington died from "oxalic acid poisoning self-administered."

Sulphuric Acid.—A clergyman at Leckhampton committed suicide by taking a quantity of sulphuric acid.

Wheat Dressing.—A woman, who had been employed on a farm near Birmingham, committed suicide by taking a quantity of wheat dressing, consisting principally of copper sulphate.

Resumed Inquest at Portsmouth.—The inquiry into the misadventure by which four female patients in the Portsmouth Borough Asylum were accidentally poisoned after taking an opiate prescribed for them by Dr. Marion H. Watson, one of the medical staff, was resumed on Monday afternoon by Mr. T. A. Bramsdon, J.P., the borough coroner. Dr. Watson was recalled and, in reply to questions put by the Coroner, she said that on Wednesday, the 3rd instant, she filled the four phials from the dispensing bottle in the surgery, which contained the draught administered to the four women who had died, a mixture of chloral and bromide, and since then she had put nothing whatever into it—she did not know whether anyone else had. She was quite sure she did not fill the draught bottles from a bottle containing pure chloral. She was 22½ years of age and had been registered as a medical practitioner for eighteen months. Two or three other witnesses were called to prove that there had been no tampering whatever with these bottles. Amongst them was Dr. Frederick Louis Henderson, *locum tenens* for one of the resident medical officers at the asylum, who said that the dispensing bottle containing the mixture of chloral and pot. brom. was quite empty on Tuesday evening, the one preceding the night of the occurrence, and a draught that he wanted he took from the stock bottle in the stock room. Neither on the Tuesday nor the Wednesday did he fill the dispensing bottle, nor had he since tampered with it. Questioned as to the relations between the lady doctor and the rest of the staff, he said that neither he nor Dr. Watson got on very well with Dr. Merry (the acting superintendent). He admitted that generally there was throughout the profession an ill-feeling towards Dr. Watson as filling a position a man generally occupied, and he thought that feeling was entertained by Dr. Merry, but he did not share it. Mr. F. C. Adlam, the surgery attendant, was recalled to speak to a statement which Dr. Henderson in his evidence had attributed to Dr. Watson, and he said that about nine o'clock on Thursday morning (the morning following the misadventure) when he and Dr. Watson were discussing the sad occurrence, he told her he had noticed on Tuesday night that the dispensing bottle was empty. She then told him that she had filled the chloral and bromide bottle, and that Dr. Henderson had offered to help her, but she afterwards corrected this and said she was mistaken, it was the bromide bottle and not the chloral and bromide bottle that she had filled. The two bottles were exactly alike, but stood at opposite sides of the surgery. Dr. Watson, again recalled, said, in reply to Mr. Hobbs, that on the occasion when Dr. Henderson offered to help her she was prescribing bromide of potassium for an epileptic. She was filling the bromide dispensing bottle from the stock bottle. Here the inquiry was adjourned until the 25th inst., when the evidence of the analysts will be taken.

AMERICAN PHARMACEUTICAL NOTES.

(*By Our Special Correspondent.*)

The Phenacetin Crusade.

The phenacetin situation is becoming more and more urgent. Several "crusades" have broken out during the past year, and it looks as if the immediate future would soon develop a fresh crop. British chemists of course understand that phenacetin sells in this country for five or six times the price that it brings in the country of its manufacture (Germany), or even across the border in Canada. This condition has always aroused the ire of the druggists of the United States, and they have made every effort to defend themselves against what they consider exploitation of the most selfish and brazen sort. Having no love for the foreign manufacturers, and disliking to pay six prices for phenacetin if they can possibly get along with paying but one, a good many pharmacists have dealt in contraband phenacetin smuggled over the Canadian border. Indeed, men make it a business to go about the leading cities of the country peddling the Canadian product to druggists. Oftentimes, however, it happens that the stuff they sell is not phenacetin made for the Canadian market, but is a product cheapened by anywhere from 25 to 75 per cent. of acetanilid. Realising thoroughly what was going on, the Farbenfabriken of Elberfeld Co. has been carrying on a campaign in the large cities of the country, and has been bringing many druggists to court for the sale of illicit products. The Company appears to have enlisted the support of several boards of health in their crusades. The last city to undergo the experience is Boston. Two or three pharmacists have lately been convicted and fined, and it is said that others are about to be placed on the rack.

The Trading Stamp.

One of the devices which American ingenuity has created is the trading stamp. I do not know whether this pest has been adopted in Great Britain or not. It has created considerable trouble and annoyance in America. Merchants give a trading stamp with each purchase of goods of a specified amount, and these stamps, when collected in sufficient numbers by the customer, are handed back to the dealer or to the trading stamp company for a premium. It will thus be seen that the trading stamp is really but another method of cutting prices. Druggists have used it as well as dealers in other lines of trade, and it has caused the National Association of Retail Druggists a good deal of annoyance in its efforts to bring about full or satisfactory prices on proprietary medicines. An organised attempt is now being made to abolish the use of the trading stamp by legislation. The Merchants' Association of New York City is responsible for the movement. Two or three Bills were passed in as many State legislatures last year, but at least one of them has since been declared unconstitutional. The Merchants' Association, however, believes that it can draft a Bill avoiding this horn of the dilemma, and if such a measure gains a place on the Statute books of New York State it will very likely be adopted elsewhere throughout the country. Druggists and merchants of the better class are heartily in sympathy with the movement.

To Prevent "Cutting."

The campaign of the fourteen patent medicines proprietors to correct the cut rate situation in America proceeds apace. It looked for a time as if very much in the way of success would not be achieved, but more recently a considerable triumph has been gained in San Francisco. San Francisco has been a fierce cut-rate centre for two or three years. Prices have been slashed there unmercifully. Mr. R. E. Queen, one of the fourteen proprietors, and president of the California Fig Syrup Co., has proved his title as a diplomat by bringing about peace and harmony in the city. A definite schedule of prices is now observed by every retailer, and this represents an advance of at least 25 per cent. over the prices which previously obtained. In the meantime other members of the Proprietors' Committee are at work with the problem presented in Greater New York, although it does not seem that they are meeting with any particular success. In that city the great department stores present an awkward obstacle. They insist on having prices a little bit below the druggist, and some of them also want to retain the use of trading stamps. To give out a trading stamp is, of course, to cut the price on a product, and until this practice is abandoned nothing can be done.

VETERINARY NOTES.

BY A VETERINARY SURGEON.

Lambing Notes.

The lambing pen is now absorbing much attention in those districts where ewe flocks are maintained, and, despite the vast growth of the "cold" mutton trade with Argentina and our own Colonies, mutton production continues to be one of the best departments of farming. Everywhere one finds the medicine cases of well-known advertising animal medicine vendors, representing a great trade, wholly diverted from the legitimate pharmacist. Why is it that he does not participate? I have often thought that I would attend a meeting of some local pharmaceutical association and ask the assembled company, but, by the courtesy of the Editor of the *Pharmaceutical Journal*, I am enabled to put it to a very much larger number of chemists. Why is it, gentlemen, that you who best understand the compounding and dispensing of medicines for man and beast should allow distant firms to support a score of travellers to snatch a remunerative branch of trade from under your very noses? It is not because you have not formulæ, for most of the popular compounds are of very ancient origin. If you wish to take up "approved" veterinary remedies you will find a good selection of both old and new in the 'Pharmaceutical Journal Formulary,' just published; but *revenons à nos moutons*, for it is to offer a few practical remarks as a veterinary surgeon that I have been invited to a column or two in your journal.

Things that are Wanted at Lambing Time.

Fine, dry weather (not likely to be in stock), disinfectants, cordials, stimulants, opiates, astringents, suture needles, bandages, Stockholm tar, lime, raddle, and a few instruments and appliances, which will be referred to in their places. Disinfectants are wanted both for internal and external use. For internal employment they will be antiseptics, and in this capacity more of service than disinfectants after the germs of disease have obtained access to the body.

The majority of losses among the ewe flock are caused by the introduction of septic matter and absorption by the membrane of the genital track. The shepherd, acting as accoucheur, passes from the skinning of a dead subject to the delivery of the next ewe in difficulties, and with unwashed hands and long and dirty finger-nails. A slight abrasion caused by the latter is sufficient to introduce septic metritis, and then your best remedial agents will have but a poor chance of saving her.

If the accoucheur is provided with a 1 in 20 carbolised oil, "nosed" and coloured as your own preparation, and can be persuaded to employ it upon his hands, a danger will be averted to a very great extent. If your label has upon it a printed recommendation to wash and pare the nails (among other advice) it will be received as disinterested, and make your other suggestions more acceptable. The same preparation will be of value as a pain-killer and sedative if introduced into the passage, to allay after-pains or "straining," as it is commonly called. It is a suitable application for all scratches incurred during parturition, but would come under the stamp duty if advised for the man's own injuries. Any portion left over after lambing time may be utilised for killing the maggots caused by the fly later on, and this should be an inducement to the purchaser to invest in a large rather than a small bottle. Sore places about the udder, or under the tail from late belching or clatting, need only a dressing or two with this lotion.

For the disinfection of places and utensils, and for temporarily rendering dead animals innocuous while awaiting removal, we may supply a gallon or two of phenol, or a less quantity, without being obliged to recommend another "bottler," whose prices are higher to the purchaser, but not affording so good a profit to ourselves. Stimulants! The time appears to be coming when the pharmacist will have one of his privileges restored in the exclusive right to sell medicinal spirits, such as spt. æther. nit., and I should like to be corrected if this does not apply to veterinary medicines equally to those prepared for human use. None of the modern remedies for exhaustion after prolonged labour have been found so good as the combination of equal parts of spt. æther. nit. and tr. opii, and this may be put up with or without aqua dest., and in any form the individual pharmacist may fancy. A safe dose is 1 drachm of each of the ingredients above named. It may be safely repeated in three or four hours. Tinctura opii in 1 drachm doses is hardly a stimulant from the human practitioner's point of view, but in combination with spt. æther. nit., and for the particular purpose here advised, it does so act. The "dose" for a sheep, according to Finlay Dunn, is from 2 drachms to 6 drachms, and small doses such as that above advised are stimulants. It is in such matters as these that the counter prescriber for animals fails if he arranges a mental posological table based on the relative weights of animals to men. An average sheep weighs less than an average man, yet he can safely take a dose that would prove a lethal one to his owner.

Cordials.

Here, again, is one of those differences between human and veterinary practice which should be clearly grasped by the dispenser for animals. Spiritus ætheris nit. is often used as a stimulant pure and simple. We are not afraid of too much diuresis, or of "opening the skin" to a chill. It is a matter of practical experience that horses and ruminants can go on taking several doses without any bad effects, but with the desired action. For a prostrate ewe, or a feeble lamb unable to get on his feet, we may put up a mixture containing the above-named, together with tincture zingib. and gent. co., and advise two or three doses with perfect safety. If equal parts of the ingredients named are made up as a mixture, we may prescribe 1 drachm in 2 oz. of water for a lamb, and a tablespoonful for a ewe in twice that amount of water, or in thin gruel for the latter. Shepherds are very fond of giving gin in a little ewe's milk drawn by the finger and thumb, but it is not nearly so effectual a restorative as that above.

When straining has gone so far as to cause eversion of the uterus, the need of "opiates" is found. We may give the smaller breeds 4 or 5 drachms of tinct. opii for a dose, or six to eight to a big Lincoln or Leicester ewe. The replacement of the uterus is not so difficult a matter as its subsequent retention. The proper method is to first apply the carbolised oil liberally, and free the organ from any foreign matter it may have attracted, and then, while an assistant holds the animal up by the hind feet, dress one's hands with the same preparation, and push it slowly back with continuous gentle force. The ancient custom was to put two or more sutures through the labiæ, taking a very wide hold to prevent tearing out, and it is for this that needles are mentioned at the beginning of these notes. Long blanket pins are sometimes used, and narrow bandages wound round in figure of eight, but to the former plan there is objection to tearing out when the patient strains, and to the latter the difficulty of urination and the passage of discharges. There is a cheap and admirably adapted instrument which might be stocked by country chemists, and known as West's clamp. It is regulated by a screw, and permits of the ordinary functions being carried on, and it can be slackened to accommodate the swelling which may be expected to follow any pressure upon or sutures placed in the labiæ. Whatever mechanical appliance is employed, there should be no failure to keep it dressed with an antiseptic, such as the carbolised oil. Lime is recommended for disinfecting the ground where soiled by uterine fluids. Various coloured raddles are used for marking twins or ewes to be weeded out of the flock as not desirable to breed from again.

NEW REMEDIES.

The Notes in this column embody recent suggestions in therapeutics, for the information of dispensers; they deal with novel applications of drugs and preparations in common use, in addition to new remedies strictly so-called.

Biogen and Dermogen.—These new names have been applied to the peroxides of magnesium and of zinc, previously introduced into commerce under the names of hopogan and ektogan respectively. At the Fifth International Congress of Applied Chemistry held last year in Berlin, M. Frenkel discussed the properties of these, devoting special attention to magnesium peroxide or biogen. In doses of 6 to 7 grains, biogen, containing 25 per cent. of pure MgO_2, repeated three times a day for a fortnight proved to be an efficient intestinal disinfectant and produced no disagreeable effects. Much larger doses may be given with safety.—*Amer. Drugg.*, **41**, 269.

Infusion of Ipecacuanha for Acne.—A. Robin finds that infusion of ipecacuanha, combined with the following treatment, is an effectual remedy in the treatment of acne. For *acne rosacea* the inflamed area is first rubbed gently for half a minute with a piece of soft soap the size of a millet seed; in two days' time the application is again made to the same spot, and also to its immediate neighbourhood. In the interval the parts are to be bathed with a tepid infusion of ipecacuanha 1, in water 32, and dusted over with the following powder:—French chalk, 50; oil of verbena, 1; powdered boric acid, 25. Seborrhœa of the face is thus treated. Each comedone is expressed and washed with a 4 per cent. solution of boric acid mixed with the following toilet water:—Eau de Cologne, 100; oil of verbena, 1; menthol, 1·25; thymol, 0·30. Every evening the infusion of ipecacuanha as prescribed above should be used as a wash, and the face should be dusted at night and during the day with the boric acid and French chalk dusting powder. If preferred, orris powder may be used as the perfume instead of verbena oil. Every Thursday and Sunday, instead of the boric acid solution, wash the face with an infusion of quassia, 2; quillaia bark, 2; in water, 100; making the wash lather over the whole face, washing off with boric acid solution, then applying the dusting powder of French chalk and boric acid.—*Nouv. Rem. Formulary*, **19**, [13].

MISCELLANEOUS NEWS.

Divisional Secretaries and other Members of the Pharmaceutical Society are requested to assist the Editor by sending local newspapers containing items of interest to chemists and druggists.

Workhouse Drug Supplies.—The Isle of Thanet Board of Guardians has decided to obtain prices of drugs from several London firms in addition to inviting the local chemists to tender.

Newcastle Dispensary.—The annual report of the Newcastle-on-Tyne Dispensary shows that the cost of the drugs used during 1903 was £221 more than seven years ago. The medical staff cost £538 more.

Will of Mr. John Barclay.—The estate of the late Mr. John Barclay, B.Sc., of the firm of Messrs. Southall, Bros. and Barclay, Limited, Birmingham, has been sworn at £9,593 10s. 8d. net.

Wholesale Chemists' Dinner.—On Tuesday, February 16, Messrs. Hedges and Son, Birmingham, entertained their assistants to dinner at the Métropole Café, Mr. W. R. Hedges, sen., presiding. Thirty sat down to an excellent repast, and after various toasts a smoking concert was held.

Charge Against a Chemist's Traveller.—At Burnley on Friday the 12th inst., Edwin Barlow, traveller for the Padiham Chemical Company, was charged with embezzling £3 4s., it being alleged that he was paid this sum by customers of the firm, and that he failed to account for the money. The defence was that there was no intention to defraud, and the Bench dismissed the case, there not being sufficient evidence to convict.

Some Coming Social Functions.—Next week two annual functions, both of which are always well attended, are to be held in London on successive evenings. On Tuesday, the 23rd inst., the annual dinner of the School of Pharmacy will be held, and on the following night the Junior Pharmacy Ball will take place. Communications respecting the ball should be addressed to Mr. Percival Trick, Hon. Sec., Salisbury House, London Wall, E.C.

Wine Licences Granted.—Mr. Fredk. Kaye Taylor, pharmaceutical chemist, of 3, Oak Lane, Bradford, was, on February 11, granted an off wine licence, on condition that only medicated wines were sold.—The Salford Bench, on Friday, granted a spirit licence to Mr. Henry Hoseason, pharmaceutical chemist, of 2, Kirkley Street, Salford, on condition that the spirits were for scientific purposes only.—Mr. Alfred Collins, chemist and druggist, of Pontefract, has been granted a medicated wine licence.

An Unqualified Drug-Seller.—At Wigan, on February 11, Edward Stanley Larminie, of 789, Ormskirk Road, Pemberton, applied for a wine licence. Applicant was stated to be "a chemist who was not registered to sell poisons, but he hoped to be fully qualified in a year's time." Dr. Wolstenholme supported the application, and said that he had occasion sometimes to prescribe port wine as a medicine, and it would be a convenience to have a place near to obtain it. The Bench refused the licence.

The Arsenic in Beer Case.—On Tuesday, the 16th inst., in the King's Bench Division of the High Court of Justice, Mr. Justice Bruce began the hearing of counsel's arguments on the question of the amount of damages recoverable by Messrs. Bostock and Co., Limited, from Messrs. J. Nicholson and Sons, Limited, for breach of contract in that a large quantity of sulphuric acid, contaminated with arsenic, had been supplied to plaintiffs, who subsequently used the acid in the manufacture of invert sugar for brewing purposes.

Chemist's Charge for Bovril.—At a meeting of the Isle of Thanet Joint Hospital Board at Margate, on February 10, it was pointed out that the chemist who supplied Bovril to the hospital charged 38s. per dozen, whereas it could be obtained from any wholesale grocer at 32s. 6d. per dozen. It was suggested that drugs, as well as other articles, should be tendered for instead of being bought at retail prices. There was considerable opposition to drugs being supplied by tender, and in the end the suggestion was not adopted.

Agricultural Analysts.—East Sussex County Court has re-appointed Mr. Samuel Allinson Woodhead, B.Sc., F.I.C., F.C.S., of the Uckfield Agricultural College, as district analyst, under the Fertilisers and Feeding Stuffs Acts, at a fee of £1 1s. for each analysis.—Cambridgeshire County Council has re-appointed Mr. J. West Knights as district agricultural analyst, at a retaining fee of £5 5s. a year. Some years ago Mr. Knights was appointed at a retaining fee of £10 10s., but not a single sample has ever been submitted for analysis.

The Metric System.—The Liverpool Chamber of Commerce has forwarded to Lord Avebury, for presentation to the House of Lords, a memorial on the subject of the metric system of weights and measures. The memorial recites the steps which have been taken in recent years to have the system adopted in this country by Chambers of Commerce and other kindred associations, and points out that in most of the countries of Europe and South America the metric system obtains. The memorial prays that the House of Lords will do their utmost to pass the Bill providing for the compulsory adoption of the system within a reasonable time, as recommended by the Select Committee of the House of Commons which reported on the subject in 1895.

Enamelling of Metals.—Miss A. M. Anderson, principal lady inspector of factories, and Mr. T. M. Legge, M.D., medical inspector of factories, have prepared a "special report on dangerous or injurious processes in the enamelling and tinning of metals." "It has been sufficiently brought out in the report," writes Dr. B. A. Whitelegge, C.B., chief inspector of factories, in a letter which is circulated with it, "that while there has been disuse of lead in some enamelling processes, such as the hollow-ware and sign-plate industries, its use is still common in others—*e.g.*, the enamelling of baths and copper letters, which industries have hitherto escaped any special regulation." Several recommendations are made at the end of the report for the better protection of persons employed in enamelling processes.

The Soap Industry.—On Monday evening, at the Society of Arts Theatre, John Street, Adelphi, Dr. J. Lewkowitsch lectured on "Oils and Fats; their Uses and Applications." The lecturer dealt in the first instance with the modern processes of saponification by means of water, describing minutely certain machines used for the purpose, and the hydrolysis of oils and fats by means of cottonseed ferment. The theory put forward was that water alone, if properly assisted by some accelerator, is capable of saponifying fats and acids. The hydrolysis of tallow was next dealt with, followed by a description of the acid saponification process and the mechanism used in the candle industry. Touching upon the recovery of glycerin from soap lyes, Dr. Lewkowitsch said that England led the way and America and France followed.

Wine Licences Refused to Chemists.—The Gateshead Licensing Justices, on February 10, refused the application of Mr. Robert Glendinning, chemist and druggist, of 76 and 78, Saltwell Road, Gateshead, for an off wine licence.—At the Manchester County Licensing Sessions, on February 11, Mr. Leonard Edward Beedle, chemist and druggist, of Stretford Road, Old Trafford, applied for an off wine licence. He explained that it was his intention to sell medicated wines for the conveniences of doctors, who had asked him to make the application. Mr. J. M. Yates, K.C., Stipendiary, expressed willingness to assist doctors, but he pointed out that the Bench had no power to restrict the licence to the sale of medicated wines. There were licences in the neighbourhood, and under the circumstances they could not grant the application.

The Chemist's Motor.—At Andover County Court, on the 10th inst., Francis Blake Wride, chemist, of Southampton, was sued by Wm. John Randall, motor agent, Andover, to recover the sum of £1 15s. 5d. for repairs to a motor cycle. Defendant had paid 7s. into Court, and disputed the remainder of the claim on the ground that the repairs had not been satisfactorily executed, and an expert exhibited the essential part of the cycle in Court, and explained to his Honour in what particulars the repairs gave evidence of bad workmanship, and the effect these had on the cycle. The Judge (Judge Gye) showed considerable knowledge of the inner parts of a motor cycle, and, after putting a series of pointed questions to the plaintiff and his workmen, came to the conclusion that defendant's contention was justified, and gave judgment only for the amount paid into Court, with costs for the defendant.

Poor-Law and Expensive Medicines.—The Stowmarket Board of Guardians, on February 11, discussed at some length the question of obtaining expensive drugs and medicines by tender from chemists instead of the medical officer supplying them out of his salary, the Local Government Board having recommended this course in order to ensure that the poor should not in any way be under a disadvantage during medical treatment. Recently a committee was appointed to confer with the medical officers, and select a list of expensive drugs and medicines, and consider the best way in which they could be supplied. It was stated that the extra cost per quarter, excluding cod-liver oil and the sera preparations, would amount to a considerable sum. The Board eventually decided to ascertain what other Boards of Guardians were doing in reference to the Local Government Board's recommendation.

Analysts' Reports.—Last quarter six kinds of drugs were obtained in Staffordshire for analysis under the Food and Drugs Act, and of these one alone—camphorated oil—was complained of. Of five samples of this drug two contained 14 and 22 per cent. less camphor than prescribed for by the B.P.—The Public Analyst for Leicestershire reports that last year thirty-three samples of castor oil and thirty-two of sweet spirit of nitre were taken for analysis, but none of these were adulterated, all being up to the B.P. standard of purity and strength. The Analyst for Monmouthshire reports that during the last quarter he received 125 samples of food and drugs for analysis. One sample of cream of tartar contained one-twelfth of a grain of lead per lb., and one of lard contained cottonseed oil to the extent of nearly 4 per cent. He did not advise a prosecution on the cream of tartar, for the amount of lead was, in his opinion, not sufficient to warrant the plea of the substance being injurious to health. In the case of the lard sample containing cottonseed oil the analyst observes, "There have been cases precisely similar, wherein it has been conclusively proved that the mere fact of feeding the pigs upon cottonseed causes the lard to furnish abundant proof of the presence of the oil when it has not been added as such to the fat, and as I could obtain no positive proof of fraudulent addition of the oil to the lard, I did not consider that there was any justification for certifying to adulteration." The analyst further remarks that camphorated oil, which had given them "such trouble in the past," had this quarter proved of excellent quality, and well up to the standard of the British Pharmacopœia.

Royal Photographic Society of Great Britain.—The annual general meeting of this society was held at 66, Russell Square, W.C., on February 9, 1904, Mr. Thomas R. Dallmeyer, F.R.A.S., past-President, in the chair. Sir William de W. Abney, K.C.B., F.R.S., etc.—unfortunately prevented by illness from being present—was re-elected as President of the society, and the following were elected as vice-presidents:—The Rt. Hon. the Earl of Crawford, K.T., F.R.S.; Mr. Thomas R. Dallmeyer, F.R.A.S.; Major-General Waterhouse, I.A., and Sir Henry Trueman Wood, M.A. Mr. John Sterry was re-elected as hon. treasurer, and the following were elected as ordinary members of the Council:—Messrs. H. W. Barnett, H. W. Bennett, James Cadett, St. Lawrence Carson, Douglas English, T. E. Freshwater, Dr. Grindrod, A. Haddon, Sir W. J. Herschel, Bart., J. Hodges, Dr. G. Lindsay Johnson, J. C. S. Mummery, C. H. Oakden, E. S. Shepherd, John Spiller, Joseph W. Swann, Prof. Unwin, M. Ward, and B. Gay Wilkinson. The net increase in the membership of the society amounted to fifty-five, and the balance-sheet showed eminently satisfactory results. One of the most important items brought forward had reference to the research laboratory, which it is proposed to establish, particularly for purposes of elucidation of photographic problems. The committee appointed to deal with this matter was, it was stated, devoting careful attention to the question of the possibility of conducting the laboratory as part of the society's work, also to the question of raising the necessary funds for fittings, instruments, and maintenance. The "Progress Medal" was awarded to Mr. Frederic Eugène Ives, of New York, a member of the society, in recognition of his contributions to the solution of the problem of photography in colours by the three-colour method.

PERSONALITIES, BUSINESS CHANGES, ETC.

Mr. John Francis has bought the business carried on by the late Richard Llewellyn at 148, High Street, Merthyr Tydvil.

Messrs. D. Morgan and Co. announce that they have purchased the well-known and old-established high-class chemist business formerly carried on by Mr. John Munday at the corner of High Street and Duke Street, Cardiff, which will now be conducted under the personal supervision of Mr. D. Morgan.

Bro. W. Watson-Will was, on Wednesday, February 10, at the Freemason's Hall, Great Queen Street, W.C., installed in the chair of the ancient Lodge of Fidelity, No. 3. Amongst those present were Bros. F. Bascombe, P.M. Galen 2,394, R. Haselwood Jones, A. O. Jones, and W. Phillip Want also members of the Galen Lodge.

SCHOOL AND COLLEGE NEWS.

Westminster College of Chemistry and Pharmacy.—The annual dinner of this college was held on Monday, February 15, 1904, at the Holborn Restaurant, Mr. A. C. Pensam in the chair. Mr. Percy Carr, of Sheffield, said it afforded him great pleasure to propose the toast of "The Westminster College." He alluded to the untiring energy of Mr. Wills in his work and the success of his teaching. Mr. Wills, in his reply to the toast, thanked Mr. Carr for his exceedingly kind remarks, both to himself and the college. He cordially welcomed all those present. It was now thirty years since the college was founded, and he was pleased to say that, with all the competition of the present day, it was still holding its place in the front. He wished to point out the many advantages the college offered to students, more especially the inclusive fee, which enabled a man to study at the college until he had qualified. He also referred to part-time work, which, he maintained, did a lot to help students of slender means. Afterwards, the toasts of the "Staff," "Students," and "Visitors" were proposed and responded to. Mr. Murray, on behalf of the students, presented Mr. Wills with a silver fruit salver for a birthday gift, and as a token of regard for their principal. The Chairman then presented the prizes to the successful students. He congratulated Mr. Wills on the success of the students in the past year. The company then repaired to the Council chamber, where a concert and dance completed the programme of the evening.

PRACTICAL NOTES AND FORMULÆ.

Walnut Hair Dye.

Bruised green walnut shells, 45; alum, 3; distilled water, 12; are macerated together for forty-eight hours and pressed. The liquid thus obtained is preserved with alcohol, 30; set aside to deposit, and filtered.—*Pharm. Zeit.*, **48**, 526.

Lanoline Hair Emulsion.

A. Spintler recommends the following basis for preparing a lanoline hair-wash, which is claimed to be an effective application for the hair:—Quillaia bark, 4, is macerated for several days in water, 36, strained and filtered, and alcohol, 4, added to the filtrate. The liquid is then warmed to above the melting point of lanoline, and shaken with 12 parts of anhydrous wool-fat. Finally, sufficient dilute alcohol (15 per cent.) is added to make the whole up to 300. To this basis any active ingredient, such as quinine, tincture of cantharides, or any desired perfume may be added.—*Pharm. Zeit.*, **48**, 456.

Skin-Coloured Ointments and Varnishes.

H. Rausch recommends the following tinted applications for various affections of the face:—(1) Red bole, 1 grain; glycerin, 12 drops; zinc ointment, 5 drachms. (2) Red bole, 4 grains; glycerin, 20 drops; solution of eosine (2 in 1,000), 8 drops; zinc oxide paste, 1½ oz. (3) Ichthyol, 6 to 24 grains; zinc oxide paste, 1½ oz.; eosine solution (2 in 1,000), 24 to 40 drops. (4) Red bole, 1 grain; eosine (2 in 1,000 solution), 54 grains; distilled water, 1 oz. 5 drachms, to 1 oz. 7 drachms; gelatin, 185 to 230 grains; glycerin, 150 to 185 grains; zinc oxide, 300 to 400 grains. The above may be made more or less soft by lessening the quantity of water and glycerin, or by increasing the amount of zinc oxide and gelatin. (5) Red bole, 1 grain; solution of eosine, 6 drops; zinc oxide, 20 grains; glycerin, 140 grains; gelatin, 1 oz. 7 drachms 30 grains. The last has proved an excellent remedy in dry facial seborrhœa.—*Bull. Gén. de Thérapeut.*, **145**, 752.

Dentifrice Soap Paste

Potassium chlorate, 20 Gm.; powdered white soap, 10 Gm.; precipitated chalk, 20 Gm.; peppermint oil, 15 drops; clove oil, 5 drops; glycerin, *q.s.* to mass. To be used with a soft brush. *Pharm. Zeit.*, **48**, 855.

Cold Marking Ink.

Manganese phosphate, 1 oz.; hydrochloric acid, 2 oz.; anthracene, ½ oz.; potassium chromate, ¼ oz.; gum acacia, *q.s.*; distilled water, ¼ oz. Dissolve the phosphate in the acid, add the anthracene to the chromate and the water. Mix and add sufficient gum to give the necessary consistence.—*Spatula*, **9**, 545.

Honeysuckle Bouquet.

Neroli oil, 12 minims; otto of rose, 10 minims; essential oil of almonds, 8 minims; essence of musk, 1 oz.; tincture of storax, 4 fl. oz.; essence of vanilla, 6 fl. oz.; cassie extract, 16 fl. oz.; tuberose extract, 16 fl. oz.; violet extract, 16 fl. oz.; rose extract, 16 fl. oz.—*Spatula*, **9**, 479.

Hyacinth Bouquet.

Hyacinthin, 1 drachm; neroli oil, 10 minims; essence of musk, 50 minims; tincture of benzoin, 100 minims; extract of jasmin, 10 drachms; orange-flower water, 5 drachms; alcohol (90 per cent.), 10 fl. oz.—*Spatula*, **9**, 480.

White Lilac Bouquet.

Terpineol, 75 minims; essence of ambergris, 40 minims; essence of musk, 40 minims; jasmin extract, 7 fl. oz.; jonquil extract, 7 fl. oz.; orange-flower extract, 7 fl. oz.; rose extract, 7 fl. oz.; tuberose extract, 7 fl. oz.—*Spatula*, **9**, 480.

Method of Preparing Tannalbin.

Egg albumin, 20, is dissolved in water, 200, and the solution filtered. The filtrate is treated with tannin, 13, collected on a cloth, washed with water, 200, pressed, dried at 30° C., and rubbed to powder. The powder is then again dried at 115-120° C for six hours. Tannalbin is thus tested: 1 Gm. is digested for three hours at 40° C., with pepsin, 0·25 Gm., 1 C.c. of hydrochloric acid, and water, 100 C.c. The undigested residue is collected, dried, and weighed. Another similar quantity is treated in the same manner, but the residue is then digested for another three hours with a 1·5 per cent. solution of sodium carbonate. The insoluble portion is also collected, dried at 100° C., and weighed. The difference between the two weights should not be less than 0·2 Gm. Tannalbin should not give more than 1 per cent. of ash.—*Pharm. Centralh.*, **44**, 413.

Creosote Pills.

Raoux finds that equal quantities of extracts of kola and of coca, massed with powdered liquorice root, affords an excellent excipient for creosote when prescribed in the form of pills. The mass is compounded thus—Creosote, 2; extract of kola, 1; extract of coca, 1; powdered liquorice root, *q.s.*, or about 4. Mass and divide into suitable pills.—*Bull. Comm.*, **37**, 520.

COMPANY INTELLIGENCE.

Sanitas Co., Limited.—The directors of the "Sanitas" Co., Limited, recommend a final dividend of 4½ per cent. and a bonus of ½ per cent., making with the interim dividend a total distribution for the year ended December 31, 1903, of 7½ per cent. per annum.

MARKET REPORT.

The quotations given below are the lowest prompt cash prices for bulk quantities, to which other charges have to be added. It is important that this should be borne in mind in making any comparison between the prices quoted and those of the wholesale drug trade.

The Drug Sales.

LONDON, THURSDAY, FEBRUARY 18, 1904.

The drugs offered at the fortnightly auctions held to-day consisted of new goods only. The catalogues numbered fourteen, and the offerings were not heavy. A greater disposition to buy was evinced, but, generally speaking, the lots sold were knocked down at easier rates. The chief features of the sales were a fall of about 6s. in Cape Aloes and a drop of from 4d. to 6d. in Ipecacuanha, otherwise the auctions passed off without animation. In the course of the auctions Mr. Charles Umney pointed out that a package described in one of the catalogues as Cartagena Ipecacuanha was spurious, and the broker explained that the article had been catalogued in error. For the Cod-Liver Oil offered no bids were forthcoming. The price paid for best English Dandelion Root was 30s. per cwt. Forty cases of Crude Antimony sold at £14. Wax was disposed of as follows:—Calcutta, £6 5s.; Madagascar, £6 10s.; Benguela, £7 2s. 6d.; Montana, £6 17s. 6d.; Jamaica £7 2s. 6d. to £7 5s. Jamaica Sarsaparilla realised 1s. to 1s. 1d. and Lima 9½d. to 10½d. Cape Aloes were decidedly cheaper, 29s. 6d. was paid for dull and 36s. 6d. for fair hard bright. For dull black livery Curaçoa 16s. 6d. was paid, and 18s. 6d. for fair black Capey. Buchu Leaves were sold at 8½d. for fair green rounds. Grey and very dusty Cape Argol was knocked down at 46s. 6d. Forty serons Crown Bark were disposed of; for bright Loxa 10½d. and 11d. were paid, and for bright Huanoco 1s. 1d. Cartagena was bought in at 4½d. Nine cases of brownish green Ceylon Coca Leaves were knocked down at 8d. per lb. For Russian Aniseeds, offered without reserve, 18s. 6d. to 19s. 6d. were the prices paid. Twenty-four cases of Castor Oil, catalogued as "tins more or less rusty," sold without reserve at a low figure for a poor sample. Menthol was held at 17s. 6d. for Yazawa. For Lime Juice, ordinary West Indian, 10½d. was paid, and for Lime Oil (distilled) 1s. 3d. A number of packages of Rhubarb were disposed of, the bulk consisting of rough round high-dried, which realised 7d. and 7¼d.; two cases round Shenshi were sold for 2s. 10d.; two cases bold flat high-dried sold at 1s. Calumba Root was knocked down without reserve at 14s. 6d. to 15s. for washed bright part Tongue sorts. For Colocynth 10d. was paid for Spanish. Cardamoms were in fair supply, and were full up for good qualities and about steady for other sorts. A fair quantity of Ipecacuanha was disposed of at lower rates. 1 bale Cartagena sold at 4s. 4d., the rest of this kind being held for 4s. 6d. Mattogrosso sold at 4s. 4d. for ordinary to 4s. 7d. and 4s. 8d. for fair bold. A fairly good price (10d.) was paid for Gelatin-cut Orange-peel. There was little demand for Sumatra Gum Benjamin. A small quantity of fair medium seconds Gum sold at £6. The Senna offerings consisted of small to medium greenish to yellowish leaves; there was a good demand, and these sold at about late rates, 1¾d. to 2d.

General Markets.

With the exception of one or two articles, the drug and chemical market has been very flat during the week ending to-day. Japanese articles continue to advance in price, and it is hardly probable that they will get any cheaper until the war is over. For Camphor no price can be quoted, and Menthol is considerably dearer than it was this time last week. One German factory has again raised the price of Sulphate of Quinine ½d. per oz., and in second hands the article is much firmer; another rise should not come as a very great surprise. Oil of Star Aniseed, Veratrine, and Linseed are all dearer.

ALUM.—Lump, £5 12s. 6d.; Ground, £6 2s. 6d.

ARROWROOT.—There was no demand at the sales on Wednesday, and St. Vincent was held at 2d. to 3½d., according to quality.

BICARBONATE OF SODA.—£7 5s. per ton, landed.

BISMUTH.—Carbonate, 8s. 1d.; Subnitrate, 7s. 4d.

BLEACHING POWDER.—English, £4 15s. to £4 17s. 6d.

BORACIC ACID.—Powder, £1 4s. 6d.

BORAX.—In powder, 14s. 6d.; crystals, 13s. 6d.

CAMPHOR.—The market continues very excited. Stocks are diminishing, and prices are daily advancing. As rates change at such short intervals it is useless to give any quotation.

CARBOLIC ACID.—Crystals, 39° to 40°, 5d.; crude, 60°, 1s. 6½d.

CASTOR OIL—Is firm; Belgian 1sts, £20 2s. 6d.

CASCARA SAGRADA.—A better feeling exists, and higher prices should not come as a great surprise. The demand on the spot is not great.

CINCHONA BARK.—The London auctions were held on Tuesday, and the offerings were much smaller than usual. The total number of packages catalogued was 543, against 836 at the preceding sales. The average unit obtained was 1⅜, being the same as at the January sale. The shipments at Java during the first half of this month were 386,000 Amsterdam lb., against 341,000 Amsterdam lb. during the same period last year.

CITRIC ACID.—1s. to 1s. 0½d. per lb.

CLOVES.—Zanzibar were held at 8¼d. for fair.

COCAINE.—11s. 9d. to 12s. 3d. per oz. for the Hydrochloride, according to quantity.

COCOANUT OIL—Is firm. Cochin, £30 spot; Ceylon, spot, £26.

CODEINE.—8s. 11d. per oz. for the pure alkaloid.

CREAM OF TARTAR.—98 per cent. foreign powder, 87s.

GINGER.—A few bags Cochin sold "without reserve," medium and small native cut and scraped at 38s. 6d.

HYDRASTIS CANADENSIS—Has gone up by leaps and bounds, and 4s. 9d. has actually been paid.

IODIDE OF POTASSIUM.—The Convention price is 8s. 9d. per lb.

IODINE.—9s. 9d. to 10s. per lb. for the resublimed, according to quantity.

IODOFORM.—11s. 8d. per lb.

LINSEED—Has advanced in price. Calcutta spot, 36s. 6d.

LINSEED OIL—Is rather dearer since last week. London, spot, pipes, £17 12s. 6d.; barrels, £18.

MENTHOL—Has again advanced. Sales of Kobayashi have been made at 18s., and some sellers are now asking from 18s. 6d. to 19s. Outside brands have advanced in a like degree.

MERCURIALS.—Calomel, 2s. 8d.; Corrosive Sublimate, 2s. 4d.; Red Precipitate, 2s. 11d.; White Precipitate, 2s. 11½d.; Mercuric Sulphate, 2s. 4d.

MORPHINE.—4s. 6d. per oz. for the hydrochloride.

OIL OF PEPPERMINT.—Japan Kobayashi is again dearer; 6s. 3d. c.i.f. is asked.

OXALIC ACID.—2⅝d. delivered free London.

POTASSIUM BROMIDE.—1s. 11½d. per lb.

QUICKSILVER.—£8 5s.

QUININE.—Following on the moderate shipment of bark, the market has been firm. Some rather large quantities have changed hands since last week. The B&S factory has again advanced the price of the Sulphate ½d. per oz. to 1s. 0½d. In the secondhand market 1s. has been paid for forward delivery.

SHELLAC.—The market on the spot is firm and dearer.

STAR ANISEED OIL—Has again advanced since last week, and good business has been done. 5s. has been paid for spot and 5s. 3d. is now asked.

TURPENTINE—Is firmer; American, spot, 46s. 2d.

VERATRINE—Is lower, and is now quoted at 4s. 9d. to 5s. 6d. per oz. for the pure, according to quantity, the lower figure being for 100-oz. lots, being a reduction of 1s. 1d. per oz. The price for the Sulphate is 5s. 2d. to 6s. 2d.

DRUGS AND CHEMICALS IN EGYPT.—For the first nine months of last year (according to *Commercial Intelligence*) the total imports into Egypt of the articles which the Customs class under the heading of "Chemical Products, Medicines, Perfumery, etc.," showed an increase of 2,082,192 fr. on the figures for the corresponding period of the previous year. The principal imports are acids, such as sulphuric, citric, and hydrochloric, sal ammoniac, alum, sulphate of iron and magnesia, corrosive sublimate, soda crystals, caustics, and aniline dyes. There is in particular an annual increase in the demand for disinfectants and refrigerants, as well as for photographic chemicals.

PATENTS AND TRADE MARKS.*

New Patent Applications.

RESPIRATORS OR AIR FILTERS FOR THE NOSE (No. 23,729 of 1903).—F. W. Howarth, 46, Lincoln's Inn Fields, London. (A communication from R. Mohr, Mügeln, near Dresden, Germany.) This invention is intended especially to prevent the entrance into the nose of germs which irritate the mucous membranes thereof, and give rise to hay fever. The apparatus is designed to be worn inside the nose, and to fit as closely as possible to the inner surface of the nostril. Consists of a frame having an open topped cover and cross pieces, between which a layer of filtering material, such as wadding, is enclosed. The device may be made to hold several pieces of wadding or other filtering material, if desired. The annular cover is hinged on the frame in order that a fresh pad of filtering material may be readily inserted.

TREATMENT OF REGENERATED HYDROCHLORIC OR NITRIC ACID TO REMOVE CALCIUM SULPHATE (No. 25,388 of 1903).—P. de Wilde, 343, Avenue Louise, Brussels. Refers to previous patents for a process for manufacturing precipitated calcium sulphate, and at the same time regenerating hydrochloric acid or nitric acid. In the present invention the regenerated acid is treated, before it is used again, with a proportion of barium chloride, barium nitrate, or barium carbonate, as powder, or in concentrated solution, calculated to precipitate the sulphuric acid combined with the calcium in the form of barium sulphate. The latter deposits rapidly, and may be easily removed and washed for use if desired.

MANUFACTURE OF NEW AROMATIC ESTERS AND OF USEFUL PRODUCTS THEREFROM (No. 26,785 of 1903).—G. B. Ellis, 70 and 72, Chancery Lane, London. (A communication from Chemische Fabrik von Heyden Aktiengesellschaft, of Radebeul, near Dresden, Saxony.) Relates to the discovery by the inventors of a new class of aromatic compounds—namely, bornylesters of aromatic mono-hydroxy-carboxylic acids. The typical representative of this new class of bodies is the salicylate of borneol, $C_{10}H_{17}OCOC_6H_4OH$, and the general formula of the new class is $C_{10}H_{17}OCO—R—OH$, wherein "R" indicates an aromatic nucleus. The members of the new class may be used in the manufacture of camphor and borneol, and in addition have important therapeutical properties. They have an anti-rheumatic and anti-neuralgic action when administered internally or rubbed into the skin. The manufacture takes place by heating the aromatic mono-hydroxy-carboxylic acid with terpenes; for example, pinene, camphene, or other mixture containing said substances, for instance, turpentine oil, in the presence of condensing agents. Borneol is obtained by submitting the esters thus obtained to the action of alkalis, and camphor is obtained by oxidising the resulting borneol.

Note.—Opposition to the grant of any of the above-mentioned Patents must be filed at the Patent Office on or before March 21, 1904.

APPARATUS FOR RADIATION TREATMENT OF LUPUS AND THE LIKE DISEASES (No. 5,019 of 1903).—J. Hunter, 57, Moorfields, Liverpool. Consists of a chair or support for the patient, having two adjustable hinged and pivotted supports adapted, respectively, to carry the rest for the part affected and the lamp, said supports being so articulated that the lamp may be applied to and held in pressure contact with the part affected. The said lamp is of improved construction, consisting of a water-jacketed casing provided with detachable compressor and supplemental water service therefor, together with means for striking and controlling the arc, the whole being adjustably carried.

Note.—Opposition to the grant of above-mentioned Patent must be filed at the Patent Office on or before March 28, 1904.

New Trade Mark Applications.

"**SCALITE**" ("Scale" disclaimed), for a mixture of magnesium oxide and another chemical substance, by Johnson and Sons, manufacturing chemists, Limited, 23, Cross Street, Finsbury, E.C. 259,611.

"**VRIN,**" for chemical substances used for agricultural, horticultural, veterinary, and sanitary purposes, by Lever Bros., Limited, Port Sunlight, Cheshire. 259,248.

"**TALENA,**" for pills for man, by J. Forbes, 415, Chapel Street, South Yarra, Victoria, Australia. 257,693.

"**MAXILS,**" for chemical substances prepared for use in medicine and pharmacy, by A. Bishop, Limited, 48, Spelman Street, N.E. 259,890.

"**NASWOL,**" for chemical substances prepared for use in medicine and pharmacy, by E. R. Halcrow, 56, West Side, Wandsworth Common, S.W. 260,009.

"**THIGENOL,**" for chemical substances prepared for use in medicine and pharmacy, by F. Hoffmann, La Roche and Co., Greuzacherstrasse 184, Bale, Switzerland. 260,287.

"**STANDARD**" and device of hand, etc. (device only claimed), for rubber goods for surgical and curative purposes, by the Miller Rubber Manufacturing Co., 1,245-1,273, High Street, Akron, Ohio, U.S.A. 259,094.

"**MALTICO**" (child with wings), label ("Malt" disclaimed), for a food for infants, invalids, etc., by Maltico Food Co., 2, London Road, Kingston Cross, Portsmouth. 257,956.

"**LISTERINE**" ("Lister" disclaimed), for perfumed toilet soaps, by Lambert Pharmacal Co., 2,101, Locust Street, St. Louis, Mi., U.S.A. 259,141.

Note.—Opposition to the registration of any of the above-mentioned trade marks must be filed at the Patent Office on or before March 17, 1904.

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* These abridgments of new patent applications and particulars of new applications for trade marks have been specially compiled from official sources, for the *Pharmaceutical Journal*, by Mr. Reginald W. Barker, agent for procuring patents and registering trade marks and designs, 56, Ludgate Hill, London, E.C., from whom any information on the subjects may be obtained. Mr. Barker will also send copies of his 'Trade Mark Notes' and 'Patent Notes for Inventors' free on application.

LETTERS TO THE EDITOR.

All Communications for the *Pharmaceutical Journal* **must be addressed to the Editor, 17, Bloomsbury Square, London, W.C., and, if intended for publication in the current week's issue, should reach the Office not later than Wednesday, unless specially arranged for in advance. The matter should be written clearly and concisely on one side of the paper only and must be authenticated by the names and addresses of the writers, as no notice can be taken of anonymous letters. Articles submitted for the Editor's approval should be accompanied by stamped addressed envelopes, otherwise no guarantee can be given that they will be returned if not found suitable. Reprints of articles cannot be supplied unless the authors communicate with the Editor before publication. The right to reproduce all original matter and illustrations published in the Journal is strictly reserved.**

Pharmaceutical Education.

I have read with interest Mr. Ernest Quant's letter which appears in your current issue. I am quite in sympathy with your correspondent's desire that pharmacists should undertake such clinical investigations as he mentions, but on his own showing the demand for such work is not widely spread, and I have been assured by a pharmacist, who practised within a stone's throw of Harley Street, that the remuneration is quite inadequate, and that he had to look for his income to other departments of his business. That being so, it is strange that your correspondent should suggest that apprenticeship should not be insisted upon. However useful a collegiate training may be, it must be supplemented by business training, taken either before, after or concurrently with academic work.

Exeter, February 13, 1904. H. Wippell Gadd.

Educating the Public.

I see that some 15,000 medical men have signed the petitions which are promoted by the British Medical Association in favour of teaching hygiene in our elementary schools. It is to be hoped that with this will be included instruction on the distinctive use of "poison bottles." Some time ago I supplied the headmasters of various local schools with samples of "poison bottles," and also a copy of the regulations relating to the sale of lotions, etc., containing poison, asking them to specially impress on their pupils the fact that on no account must anything to be taken inwardly be put in these bottles. There was nothing of an objectionable nature or personal advertisement in my request, and I found that the teachers readily took up the idea, with the result that there is seldom any bother or difficulty experienced by local chemists now in complying with the regulations.

Wath-upon-Dearne, Feb. 15, 1904. J. P. Norwood.

Additions to the Schedule of Poisons.

At the April meeting of the Pharmaceutical Council last year the appointment of a small sub-committee "to draw up a resolution to add the articles mentioned in the Minority Report of Mr. Walter Hills to the Poisons Schedule" was announced, and it was stated by the President that it was expected to report to the next commitee meeting. As no information on this subject has been published since that time, I should like to ask what has been done in the matter, as the addition of the articles recommended by Mr. Hills was only in concurrence with the Majority Report. Amongst these I find "the soluble salts of oxalic acid," and the necessity for such addition is shown by the fact that no less than twelve cases of poisoning by these bodies are reported in your columns last year. Other articles mentioned are acetanilid and sulphonal, cases of poisoning by which are by no means unknown, and likely to increase in number unless some restriction be placed upon their sale. The sale of scheduled poisons by veterinary surgeons, of which a flagrant case was recently reported, is not only a menace to the safety of the public, but an infringement of the rights of qualified chemists. I trust that some action will be taken in these matters.

Frank R. Dudderidge.

Newcastle-on-Tyne, February 15, 1904.

Concerning Conium, Socrates, Farr and Wright.

The standardisation of drugs can claim a very respectable antiquity. Your classical readers will remember that when the executioner of Athens called on Socrates to drink the bowl of hemlock juice the philosopher desired to offer a portion of the poison as an oblation to Æsculapius, but the official informed him that they gave just a fatal dose and no more. Now, if Herbert Spencer had been condemned to death for the dissemination of unorthodox opinions, and had chosen the Socratic mode of exit, there is not a pharmacologist in the three kingdoms who could tell to a quarter of a pint, more or less, how much of the Succus Conii of the B.P. could be trusted to produce that numbness commencing at the toes and creeping slowly up to the heart, but sparing the brain, which Plato has revealed so vividly. So greatly has conium fallen into disrepute that Cushing, with that sublime contempt for the experience of the mere practitioner or pharmacist which characterises the person who learns everything from an impaled frog, states that it is practically never used. Wholesale druggists could tell a different tale, but unquestionably it is a heartbreakingly uncertain drug, and one that can never get its deserts until the B.P. contains some standardised preparations of it. The moral of Messrs. Farr and Wright's paper is, I imagine, that only the fruit should be used, and that this should be standardised. When this is done it will be found that conium is a drug of considerable value, not only in such diseases as chorea and pertussis, but also as a vapour in a large variety of laryngeal affections, where belladonna is inadequate and opium impossible.

Dublin, February 15, 1904. J. C. McWalter.

Pharmacy and Pharmacist.

In his letter of last week "Pharmacist" resents the chemist and druggist calling his place of business a pharmacy. Does he imagine that only "Major" men are capable of understanding the art and mystery of pharmacy? Any shop where practical pharmacy is performed must, perforce, be a pharmacy; and, many would add, any qualified man practising pharmacy must of necessity be a pharmacist, despite Acts of Parliament. The best solution to the difficulty would be to give a distinctive title to "Major" men—a title that would patently proclaim their superiority to "Minor" men.

Feb. 16, 1904. "Chemist and Druggist" (277/11).

The perusal of "Pharmacist's" letter provided me with much amusement, chiefly consequent, of course, upon his incongruous suggestion that a chemist and druggist should be prohibited from styling his pharmacy a "pharmacy." Surely every thoughtful reader, be he a Ph.C. or a mere M.P.S., must admit that this suggestion is more highly tinctured with spite than with wisdom. If I understand the accepted meanings of the word "pharmacy" aright, it implies either "the art governing the manipulation and preparation of drugs" or "a building set apart for such manipulation and preparation," according to the circumstances under which it is used. A chemist and druggist holds the necessary qualification and permission for the following of that art and the occupation of such an establishment, yet "pharmacist" would deny him the use of the word in the latter instance, solely owing to his not having passed an examination in which pharmacy *per se* forms no integral part. Here is logic willingly sacrificed at the altar of the desire to create useless discontent. He seeks a remedy. I shall not presume to offer one, the endowment of the necessary precision being lacking. But I would humbly point out to him, and to others having the same opinions, that professional or commercial exaltation is not dependent upon brass plates, window signs and the like. Let him, in his eagerness to distinguish himself from the vast majority forming the humbler members of the calling, employ his extra acquisitions in assisting him to do his work more intelligently than they. Surely skill will ever win favour be it proclaimed or hidden.

London, February 13, 1904. "A Mere M.P.S." (276/30).

Our Friend the P.A.T.A.

The course of events which led to the formation of the P.A.T.A. appears to have been entirely forgotten. Some twenty years ago, when the "store mania" was at its height, the makers of proprietary articles did all they could to induce grocers and oilmen to sell their goods. For quantities great reduction was made in the prices. Grocery and oil companies by buying for the head office and then distributing to the different branches, were enabled to obtain more profit on the purchase than was allowed in the ordinary way in the retail prices. Articles could thus be sold at a profit at the invoice prices charged by sundry men, or even for less. Grocers and oilmen filled their windows with "patents" in order to increase the other portions of their business. The makers of proprietaries, if they obtained less profit, did a big trade, and got a cheap advertisement. Now "patents" are no longer made an attraction. A largely advertising drug store devotes eight or nine-tenths of its windows to stationery, perfumery, bags, purses, and, one may say, toys. Some adorn their windows with dead cats and dogs, others with a few ribands and flowers try to beguile the ladies to look for "Sale Bargains," or let the windows for advertising spaces. The demand for "patents" having decreased, the makers of them start the P.A.T.A. This enables them to do business in smaller quantities, and thus get a better profit for themselves, and at the same time try to patronise the chemist, after doing all they could to bring competition into his business. In the unguarded and, therefore, candid opinion of some members of the P.A.T.A., the chemist only comes third in their estimation as a distributing agent. As to the protection they afford, current numbers of the *Pharmaceutical Journal* contain complaints of P.A.T.A. prices being cut, and also that the profit on articles is not sufficiently large for the retailer. Is there any guaranteed limit beyond which prices may not go without a corresponding increase of profit to the seller? Some time since an article was nearly doubled in price; but, as far as I remember, the retail profit was no more. A member at one of the P.A.T.A. meetings stated that when they placed articles on the list they expected that there would be no substitution. The substitution bogey bobs up from time to time in the cheap press. It is a very singular fact that it always precedes or accompanies a large advertisement. The editor of the paper with still more singularity fails to note that changing for a page of quack advertisement as news is a better example of substitution than he could expect to find elsewhere. There is a deluge of transatlantic preparations as marvellous as they are occult. Some are evidently more than substitution—*e.g.*, grape nuts, which are free from both. If the chemist only comes third in the share of distribution of patents, is it worth his while trying to recover a business now being discarded by the oilshop? If chemists only sell old "patents" under protest, or not at all, and leave new ones without the semi-official guarantee (sold by all respectable chemists), the advertisements will only lead to an introduction of a purchaser of his own goods. After the experiences of the shop, the examinations, and the coming of the 'P. J. F.,' the chemist should be able out of his varied resources to make his own preparations. He would thus alter the definition of the chemist "as the man that sells things made by everybody but himself."

London, S.W., February 10, 1904. "Saxon" (276/12).

BIRTH.

Nelson.—On February 6, the wife of W. B. Nelson, of Maclise Road, West Kensington, of a daughter.

MARRIAGE.

Mitchell—Smeed.—On February 9, at Old Southgate Church, N., Herbert G. Mitchell, pharmaceutical chemist, of Harrogate, to Nellie, second daughter of Walter Smeed, Bournemouth.

DEATHS.

Bateman.—On February 10, John Bateman, Chemist and Druggist, Whitehaven. Aged 60.

Hardin.—On February 14, Henry Hardin, Chemist and Druggist, Montacute. Aged 66. Mr. Hardin, who was born at Woolwich, was trained for the medical profession, and was registered as a chemist and druggist in business before 1868. But, before he passed his final medical examination he entered the Baptist ministry, and had been at Montacute, as pastor, for over thirty years. In 1875 the village suffered from an epidemic of scarlet fever, and Mr. Hardin rendered such excellent medical service that subsequently, at a public meeting, the vicar presented him with an address, a gold watch, and a purse containing eleven guineas as a small testimonial of the villagers' appreciation of his services. Mr. Hardin led a very active public life, and his death will be a great loss to the district.

Simpson.—On February 14, Robert George Simpson, Chemist and Druggist, Stowmarket. Aged 51.

Stovell.—On February 7, Edwin Stovell, Chemist and Druggist, Walworth. Aged 60.

Williamson.—On February 10, Thomas Umbers Williamson, Chemist and Druggist, Coventry. Aged 56.

PUBLICATIONS RECEIVED.

Compounding and Dispensing Made Easy. By H. Harold Scott, M.B.(Lond.), M.R.C.S.(Eng.), L.R.C.P.(Lond.). Lieutenant, Royal Army Medical Corps. Pp. 316. Price 7s. 6d. net. London: Gale and Polden, Limited, 2, Amen Corner, Paternoster Row, E.C. From the Publishers.

Dispensing Made Easy. By Wm. G. Sutherland, M.B. (Aberd.). Pp. 102. Price 3s. 6d. net. Bristol: John Wright and Co. 1904. From the Publishers.

A Guide to Urine Testing, for Nurses and Others. By Mark Robinson, L.R.C.P., L.R.C.S.(Ed.). Second Edition. Pp. 56. Price 1s. net. Bristol: John Wright and Co. 1904. From the Publishers.

Who's Who Year-Book for 1904. Pp. 112. Price 1s. net. London: A. and C. Black, Soho Square, W. From the Publishers.

Memoranda on Infectious Diseases. For use of School Teachers. By James W. Allan, M.B. Pp. 23. Price 6d. each; or, 4s. per dozen. Bristol; John Wright and Co. 1904. From the Publishers.

Martin's Up-to-Date Tables. Compiled and written by Alfred J. Martin, F.S.I. Pp. 255. Price 2s. 6d. London: F. Fisher Unwin, 11, Paternoster Buildings, E.C. 1904. From the Publisher.

Matriculation Directory, No. XXXVI., January, 1904. with List of Text-Books for use under the new regulations. Pp. 142. Price 1s. net. Cambridge: University Tutorial Press, Burlington House. From the Publishers.

Telephoto Work. By (the late) G. H. Deller, M.A., M.B. With chapters on the "Adon" Lens, by H. Wild, and on a Home-made Telephoto Lens, by H. M. Hames. Pp. 63. Price 1s. net. London: Published for the *Photogram*, Limited, by Dawbarn and Ward, Limited, 6, Farringdon Avenue, E.C. 1904. From the Publishers.

The Englishwoman's Year-Book and Directory, 1904. Edited by Emily Janes. Pp. xxxvi. + 352. Price 2s. 6d. London: A. and C. Black, Soho Square, W. From the Publishers.

REPLIES TO CORRESPONDENTS.

Information required by readers will be published in this column as early as possible, but the Editor cannot undertake to reply by post, even though stamped addressed envelopes accompany the queries. Replies will, in all cases, be referred to the sender's initials, and the registered number added in each instance should be quoted in any subsequent communication on the same subject. When formulæ are given without definite weights and measures, it should be understood that the solids are to be weighed and liquids measured. Plants for recognition should be addressed to the "Curator, 17, Bloomsbury Square, London, W.C.," accompanied by a stamped, directed envelope for reply. No notice can be taken of anonymous communications.

Labels (G. C.—106/32).—None of the titles which you send involves liability to stamp duty.

Glyco-Heroin (H. L. H.—106/34).—See *P.J.* for December 26, 1903, p. 960, where a formula was given.

Dispensing ("M. P. S.").—If you will send your name and address your communication may receive attention.

Label (T. F. T.—277/7).—Thanks for label. You will see that it is practically the same as the first label at page 147 *supra*.

Mixture (W. S. T.—107/4).—Some of the chloroform is thrown out of solution, and probably carries with it a certain quantity of resinous matter from the tincture.

Herbalist (J. E.—277/18).—There are, we believe, several associations which issue certificates. Can you send further particulars which will give a clue to the information for which you ask?

Crystals in Oleum Succini (H. B. W.—107/5).—In all probability succinic acid, that is, if you are sure that the oil is not adulterated. You should apply the usual tests for succinic acid.

Label (W. S. W.—107/3).—We think you may take it that the label you send would be considered to bear a sufficient disclosure of the composition of the cough elixir, which would then be held to be non-liable to duty.

Plate Polish (A. F. C.—106/33).—Silver nitrate, 20 grains, dissolved in 1 fluid ounce of water, with the addition of a sufficient quantity of concentrated solution of potassium cyanide to redissolve the precipitate first formed. Then add 1 drachm of prepared chalk and mix thoroughly.

Volcanoes (R. H.—107/8).—A long chapter in the first volume of Sir Archibald Geikie's 'Text-Book of Geology' (Macmillan, 2 vols., 30s. net.) is devoted to this subject. The book is in the library of the Pharmaceutical Society. Another work is Russell's 'Volcanoes of North America' (Macmillan, 16s. net).

Sale of Poisons (W. J. Y.—107/7).—(1) An unqualified vendor's ignorance of the composition of the preparations which he sells is no excuse. If they contain a scheduled poison he breaks the law. Copper sulphate is not a scheduled poison. (2) Either the 'Calendar' of the Pharmaceutical Society, or the 'Pharmaceutical Journal Formulary.' Both are obtainable from 17, Bloomsbury Square, W.C. (3) Veterinary surgeons may supply poisons in the exercise of their profession.

Prescriptions (E. G.—106/30).—No. 1 should, we think, be a milky lotion. The tar should certainly not be allowed to precipitate as a sticky mass. What did you use for cresot saponati? (2) Your procedure again is the best of the three. Yellow soft paraffin is sold in different shades of colour, but white soft paraffin is decidedly to be preferred in this instance. (3) Easton's syrup should be colourless with a blue fluorescence. We can only suggest that the amber colour noticed by the customer was due to the syrup not being freshly prepared. Many thanks for your offer to send dispensing notes; they are always welcome.

Information Wanted.

Hazelly's Silvering Solution (T. A. A.—107/2).—Where procurable?

Calendar for the Week (February 21—27, 1904).

Days of		Events of the Week.	Sun	
M	W		Rises	Sets
21	S	**First Sunday in Lent.**	7.7	5.21
22	M	Society of Chemical Industry, Burlington House, London, at 8 p.m.—"Duty Free Alcohol." By T. T. Tyrer.	7.5	5.23
23	Tu	Bradford and District Chemists' Association, Royal Hotel, at 9 p.m. "Post-Graduate Curricula." By F. P. Sargeant.	7.2	5.25
		Royal Photographic Society, 66, Russell Square, London, at 8 p.m.—"On the History and Lighting of the Magic Lantern." By T. E. Freshwater.		
		School of Pharmacy, Caledonian Salon, Holborn Restaurant, at 7 p.m.—Annual Dinner.		
24	W	☽ First Quarter, 11.9 a.m.	7.0	5.27
		Cardiff and District Pharmaceutical Association, Park Hotel, at 3 p.m.—General Meeting.		
		Edinburgh Chemists', Assistants', and Apprentices' Association, 36, York Place, at 9.15 p.m.—Papers by David Storrar and by David McLaren.		
		Junior Pharmacy Ball, Portman Rooms, London, at 9 p.m.		
		North Kent and District Chemists' Association, Clarendon Hotel, Gravesend, at 4.30 p.m.—General Meeting.		
		Public Dispensers' Association, St. Bride's Institute, Ludgate Circus, E.C., at 8 p.m.—Ordinary Meeting.		
		Sheffield Pharmaceutical and Chemical Society, Montgomery Hall, at 9 p.m.—"Advertised Quackery—The Pharmacist's Attitude." By Geo. Squire.		
25	Th	Chemists' Assistants' Association, 73, Newman Street, London, at 8.30 p.m.—"Collodio Chloride and Gas Light Printing Papers." By M. Robins.	6.58	5.28
		West Ham and District Chemists' Association, Earlham Hall, Forest Gate, at 8 p.m.—Smoking Concert.		
26	F		6.56	5.30
27	S	Inter-Pharmacy Football League.—Muters *v.* Metros.	6.54	5.32

LETTERS, NEWSPAPERS, QUERIES, and other COMMUNICATIONS have been received from Messrs. Andrews, Antcliffe, Appleton, Betty, Birkbeck, Birnie, Boorne, Brown, Clarke, Cleobury, Corfe, Cummings, Dudderidge, Evans, Gadd, Gerrard, Goodyer, Griffiths, Gwinn, Handford, Hill, Horner, Hughes, Hunt, Keene, Lawson, McWalter, Middleton, Mumbray, Mumford, Priestley, Ralph, Riley, Rose, Sankey, Sinca, Sparshott, Thorpe, Town, Turnbull, Umney, Wain, Will, Wills, Willson, Woolley, Young.

Telegrams: "Pharmaceutical Journal London"
Established 1841
The Pharmaceutical Journal
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Annual Subscription, 20s. Post Free; Single Copies, 4d. each, by Post, 4½d.

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CHANGES OF ADDRESS.

Instructions from Members of the Pharmaceutical Society, with reference to the transmission of the Journal, should be sent to the SECRETARY, 17, Bloomsbury Square, London, W.C.

The Pharmaceutical Journal Office.

Thursday, February 25, 1904.

Another Examination Paper for student-associates, in connection with the Students' Columns, appears in this issue. The answers must be sent before March 21.

Most of the Copies of the 'P.J.F.' have now been delivered. The rest will be sent out this week, and should be received by subscribers in the course of a very few days.

The Pharmaceutical Dinners of the week include those of the School of Pharmacy and the Dewsbury and Leicester Chemists' Associations. Last night the Junior Pharmacy Ball was held.

Two Daily Newspapers which had given publicity to erroneous remarks reflecting discredit on chemists and druggists, have been set right by the Secretary of the Pharmaceutical Society.

The Organisation of Pharmacy, as it now exists, does not meet with the approval of our old friend "An Ordinary Pharmacist." He wishes to see the local associations more closely connected with the Pharmaceutical Society.

Compound Powders of which the ingredients possess different densities are liable, according to a correspondent, to become less homogeneous on standing, and the bottle should be shaken before weighing out the powder.

The Council Election is approaching. In fact, as subscribers are reminded in this issue, only three weeks remain during which nominations may be made. No intending candidates have as yet publicly declared themselves.

The '*Pharmaceutical Journal Formulary*' has been received with general approval. A medical correspondent gives a timely warning as to the use of medicines which contain poisons. Some copies of the book still remain, and may be bought at 10s. 6d. each by members.

Vol. 72. No. 3410. (4th Series, Vol. 18. No. 1757.)

The Pharmacy Acts and the Medicine Stamp Duty Acts possess the rather doubtful virtue of antiquity. In view, however, of the fact that this week's issue of the *Pharmaceutical Journal* goes to every chemist on the Register, selections from the Acts, with explanatory comments, are printed this week.

Mr. Walter Long, President of the Local Government Board, has announced, in reply to a question in the House of Commons inspired by the Pharmaceutical Society, that the subject of the employment in public institutions of unqualified dispensers is to receive the careful consideration of his Department.

The Adoption of the Metric System seems to be less remote. Lord Belhaven's Bill to render the system compulsory has been read a second time in the Upper House and referred to a Select Committee. The Secretary for Foreign Affairs told the House an amusing pharmaceutical story arising out of the confusion between grains and grammes.

The Benevolent Fund and its needs are again to the fore. Two plans for raising money are brought forward this week, in the correspondence columns and "Trade Notes" respectively. Will all those eligible to benefit by the Fund—in other words, all qualified chemists and druggists—who have not yet subscribed this year, do what they can to help ?

The Legal Cases of the week include two prosecutions in respect of sweet spirit of nitre, and one in respect of cream of tartar containing lead. The defendants in every instance were unqualified. Chemists should be particularly careful to test their stocks of cream of tartar, as a proportion of that now on the market appears to contain lead. A prosecution taken by the police under Section 17 of the Pharmacy Act, 1868, failed, the defendant being able to prove that the poison—hydrocyanic acid—was not actually sold.

An Upward Tendency has been displayed by several chemicals this week. Iodine and Iodides are dearer; so are Chloral Hydrate and Hydrastine. Quinine is firmer; Camphor is again advancing and Menthol likewise. The effects of the war are being felt on the markets.

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THE PHARMACEUTICAL JOURNAL FORMULARY.

By the time this week's Journal reaches the members of the Pharmaceutical Society most of them will have received the 'Pharmaceutical Journal Formulary,' and it is hoped that they will be satisfied with the value given for the money they have subscribed towards this great co-operative undertaking. The book is undoubtedly the largest compilation of chemists' recipes and useful information for pharmacists ever published. It contains considerably more than 10,000 recipes, practically all of which have been proved in every-day practice. The work is, of course, primarily a register of recipes for compounded medicines, prepared and sold by chemists and druggists, under names which are now held to incur liability to medicine stamp duty unless the composition of the medicines be disclosed. The Board of Inland Revenue recognises it as a well-known book of reference, and is willing to regard compounded medicines, prepared in accordance with formulæ published therein, as "known, admitted, and approved" remedies. But, in addition to recipes for such remedies, the book contains seventy pages of formulæ for non-official galenicals, together with a very large number of practical recipes for dental preparations, veterinary medicines, perfumes and toilet requisites, horticultural and agricultural fungicides and insecticides, photographic solutions, etc., etc. It also includes the essential portions of the text of the various Acts of Parliament in the working of which chemists and druggists are interested, legal hints on numerous points of importance, lists of poisons and antidotes, a trade directory, and much other useful information, the whole occupying nearly nine hundred large quarto pages. About four thousand copies of the book, a review of which will be found at page 293, have already been sold to chemists and druggists, and only a limited number remain to be disposed of. As it is doubtful whether the work will be reprinted, early application should be made by those who have not purchased copies, otherwise no guarantee can be given that the orders will be executed. Members of the Pharmaceutical Society who have not yet ordered the book, and subscribers who wish to possess additional copies, should observe that a single copy can be obtained by each member at half the published price, if promptly applied for and a remittance sent with the order. But in no circumstances will any reduction on the published price be made to persons who are not members.

The most interesting section of the book at the present time will doubtless prove to be that containing chemists' and druggists' private recipes, and it appears desirable to direct special attention to the fact that some of those recipes might with advantage be modified. Speaking generally, there can be little question that the practice of supplying stock medicines containing poison to children is not to be recommended. But it will be observed that quite a number of the recipes published for remedies for the ailments of children include small medicinal quantities of toxic drugs. It must be understood that the Editor can accept no responsibility for any recipe which appears in the 'Formulary,' and, in the preface to the book, he suggests that it might be well if those chemists who have been accustomed to supply children's medicines containing poisons could see their way clear to substitute less questionable ingredients A letter has been received from Dr. C. O. Hawthorne, to whom a copy of the book has been submitted, and chemists will do well to read his communication, which will be found in the correspondence columns of this week's issue. Dr. Hawthorne also emphasises the importance of keeping the volume out of the hands of the public. Every possible precaution has been taken by the publishers with that object in view, and it is hardly necessary to solicit the co-operation of the chemist-proprietor of the book to the same end. If, as is anticipated, the book soon goes out of print, there should be very little risk of copies falling into the hands of persons who have no general knowledge of the properties—dangerous as well as beneficial—of drugs which should not be used except under medical advice. At the same time, chemists and druggists are strongly advised, in their own interest as well as that of the public, to do all in their power to prevent copies of the book from becoming generally accessible.

Another point in regard to which a caution may usefully be given is the identification of recipes. In the case of compounded medicines sold under names such as "Cough Mixture" and "Antibilious Pills," which the Board of Inland Revenue now regards as incurring liability to Medicine Stamp Duty, the Board insists that the formula must be absolutely identified. That is to say, not only must a reference be made upon labels to the 'P.J.F.,' but the registered number must also be given when more than one preparation appears under the same name. The effect of such absolute identification may be inadvisable in many instances, where limited companies or unqualified persons are quite ready to imitate a chemist's preparation and undersell him, even though they are handicapped by the necessity of affixing a duty stamp to each package. Chemists are advised, therefore, not to resort to absolute identification of any formula until they have determined whether or not it is possible to sell the preparation under a non-dutiable title, without incurring loss. Many readers of the Journal have already resorted to this expedient, in spite of the fact that they have sent their recipes for registration, and they report that the sales of the preparations show no falling off. In such cases it is, of course, necessary to avoid making any claim upon labels, handbills, etc., to a proprietary or exclusive right in the medicine, or to make it liable by recommending it, and attention may, with advantage, be given to the special article at page 248, in which the subject of the incidence of Medicine Stamp Duty is clearly and concisely explained.

THE OTHER SIDE.

To some nine thousand registered chemists the arrival of the *Pharmaceutical Journal* this week is probably more or less of a surprise. Of those nine thousand there are, doubtless, some who complain that they have not yet discovered what the Pharmaceutical Society has done, is doing, or can do for them. The hidden treasure of a higher status or of greater remuneration is not, they think, for them. So without further thought or effort they pass by on the other side. Their neighbour may, if he wish, be a member of the Pharmaceutical Society. For their part, the *rôle* of the looker-on is easier and, as they think, more economical. Now, those who thus stand without are not often troubled with a sight of the Pharmaceutical Society's Journal, but this week they are asked to have patience while brief mention is made of some of the special work which the Society has undertaken on behalf of chemists during the past seven days alone. In the first place, the past week has seen the delivery, to some four thousand members of the Society, of the 'Pharmaceutical Journal Formulary,' a publication which will enable qualified chemists only—as opposed to limited liability companies or unqualified individuals—to continue to sell "ailment-named" remedies without payment of Medicine Stamp Duty. The book has been supplied to those members at a largely reduced price, and chemists who now join the Society as members will be entitled to secure copies at half-price; though the full price will be charged to everyone else.

The Pharmacy Acts Amendment Bill is about to be introduced into the House of Commons by Mr. Thomas Lough, M.P. Support for the Bill has been enlisted on the Society's behalf from members of Parliament and candidates, the latest of those who have expressed willingness to back the Bill being Mr. R. C. Munro Ferguson, M.P., for Leith District, who was a Lord of the Treasury in Lord ROSEBERY's Administration, Mr. EDMUND ROBERTSON, K.C., M.P., and Sir JOHN LENG, M.P. Further efforts to support the Pharmacy Bill have been made by the Registrar of the Pharmaceutical Society in the columns of two London daily newspapers. The *Globe* and the *Pall Mall Gazette* having given publicity to erroneous statements which reflected discredit on qualified chemists and druggists, the opportunity was promptly seized of writing to correct them. In a letter which appeared in the *Pall Mall Gazette* on Friday, the 19th inst., Mr. BREMRIDGE pointed out that "the real inadequacy of the law (relating to the sale of poisons) lies in the want of machinery for enforcing it," and proceeded to show that the Pharmacy Acts Amendment Bill contained clauses which would facilitate the discovery of infringements of the law by unqualified persons. The object of Mr. BREMRIDGE's letter published in the *Globe* on the same day, was also to demonstrate that the law as it stands does not provide sufficient means for the suppression of "those unqualified and incompetent persons who . . . . simulate in their business the outward and visible signs of the pharmaceutical art."

Yet another instance of the activity of the Pharmaceutical Society's officers should appeal to all chemists and druggists, but particularly to those who dispense in hospitals and other public institutions. On Monday last, Mr. J. F. REMNANT, the member of Parliament for Holborn—in which division, be it remembered, Bloomsbury Square is situated—asked the President of the Local Government Board a question with regard to the "accident" at the Portsmouth Asylum which resulted in four deaths from chloral hydrate poisoning. The text of the question and the reply will be found at page 317, and need not be repeated here. Similarly, no mention need be made of such everyday work of the Society as the prosecutions which it undertakes under the Pharmacy Act. Enough has been recounted to show in how many different ways the Society is exercising influence on behalf, not of its members only, but of all registered chemists and of the general public. It would be interesting to learn how those who state that the interests of a "clique" only are looked after at Bloomsbury Square can reconcile their statements with the facts mentioned in this article.

At the risk of being accused by the foes of the Society of uttering a parrot-cry, we feel compelled to ask the nine thousand who stand aloof if they consider it either a fair or a wise thing to refrain from giving their approval and support to the work which is thus being done on their behalf. It may be mentioned that there will be opportunities this year for the public-spirited chemist to take an active part in shaping the policy of the Society. In all probability, there will be vacant seats on the Council to be filled when the election takes place in May. The Parliamentary campaign of the Council has to be vigorously prosecuted. There can be no more encouraging stimulus to activity than the knowledge that the indifference which has hindered the work of the Society in the past is rapidly giving place to interest and approval. True, the membership of the Society is now larger by some hundreds than it has been at any period of its history. But there are still many on the other side of the way who would be welcome on this side, and to those this appeal is earnestly addressed.

A VEXED QUESTION.

THERE are few better agencies through which the rising generation of medical men may be instructed than the gazettes of the general hospitals to which medical schools are attached. Particularly welcome, therefore, is a timely article in the *Charing Cross Hospital Gazette* of the current month, under the title "A Quæstio Vexata." Although no signature appears at the foot of the article, it may be that some London pharmacists will be able to trace its authorship to one of those medical practitioners whose knowledge of pharmacy has survived his change of profession. But whoever the author may be, the advice given to medical practitioners is thoroughly sound and forcibly put, as will be seen from the following extract:—"What 'fools and asses' we are to ourselves to prescribe these ready-made goods, thereby stultifying ourselves, or even worse. Why should we give ourselves away to enterprising drug packers? This is what it means. A patient goes to a physician with his half-guinea, or may be two guineas, and gets a prescription, which in the first instance he may take to a legitimate pharmacist and pay the fair price. Then finding that he has been ordered a ready-made packed article, he thinks to himself, 'Why, I can get this at the stores.' And next time he does go to the stores—those modern abominations that have 'no souls to save and no bodies to kick.' There he will pay, perhaps, 4½d. or 9½d. Then, *facilis descensus*, a comparison is made with the fee paid and the 4½d. goods, and, as a natural sequence, the thought arises, 'Is it worth while to go to a doctor at all?' The system is, as NEVILLE LETCHMERE says in 'Letty,' one which is 'rotten to the core,' and the art of pharmacy bids fair to become a lost art. To young practitioners the temptation is greater, and the consequences the more disastrous, and to them I would specially plead. Let them be wise in time, and never, never prescribe any ready-made goods, or even proprietary preparations as such."

INDIAN POISONS ACT, 1904.

THE Imperial Legislative Council has passed a Bill to regulate the sale of poisons in India, and particularly to provide for control over the importation and sale of arsenic, There is no stereotyped list of poisons, and hardly any definite regulations are laid down by the Act. It gives authority, however, to local governing bodies to make regulations for the storage and sale of poisonous substances, and to grant licences. The Governor-General in Council is empowered to prescribe conditions for the importation of arsenic and regulate the grant of licences. Further, he may apply to any specific poison other than arsenic the provisions of the Act with regard to arsenic itself. The local governments will have wide discretion with regard to the exemption of articles from the provisions of the Act. It is provided that nothing in the Act shall interfere with the exercise of the profession or business of a medical or veterinary practitioner, a chemist and druggist qualified in the United Kingdom, or a compounder who dispenses medical prescriptions. It will be seen that in this Act the principle of *festina lente* has been acted on, but it is by no means improbable, if the local governments exercise their powers with judgment and discretion, that much good may result from this first attempt to control the hitherto unrestricted sale of poisons in India.

PHARMACEUTICAL MEETINGS IN LONDON.

The next Evening Meeting of the Pharmaceutical Society is to be held at 17, Bloomsbury Square, London, on Tuesday, March 8. On that occasion two papers will be communicated. Mr. Horace Finnemore, A.I.C., Chief Dispenser at Guy's Hospital, will read a paper on "Some False Virginian Prune Barks," and Miss Elsie S. Hooper, Burroughs Scholar, will communicate from the Research Laboratory of the Pharmaceutical Society a note on "A Supposed Beilschmiedea Bark." It is hoped that there may be a small exhibition of pharmaceutical apparatus after the meeting. Last year, as many pharmacists will doubtless remember, one of the evening meetings of the Society took the form of an exhibition of scientific apparatus and appliances, with two more or less "popular" demonstrations in the Lecture Theatre. It has now been arranged that a similar exhibition, which will partake of the nature of a conversazione, shall be held at Bloomsbury Square on the evening after the annual meeting of the Society, on Wednesday, May 18. That arrangement may have the effect of ensuring an increased attendance, both at the annual meeting and at the exhibition, although the great success of the exhibition in February, 1903, left little room for improvement in that respect. The Committee entrusted with the arrangements will be glad to have the active co-operation of those in a position to assist. Suggestions and offers of help with regard to the small exhibition on March 8, or the larger one later, should be addressed to Professor Greenish, or to the Editor of the *Pharmaceutical Journal*, 17, Bloomsbury Square, London.

THE CONFERENCE AT SHEFFIELD.

Intending visitors to Sheffield during the coming meeting of the British Pharmaceutical Conference will be pleased to learn that the local committee has been able to make arrangements with the Great Central and Midland Railway Companies whereby return tickets at a single fare and a quarter will be issued to the delegates and others attending the meeting on surrendering at the time of booking the usual form of certificate signed by the Hon. Secretary, Mr. H. Antcliffe. The minimum fare for each adult person will be one shilling; fractions of a penny will be charged as a penny. In addition to the cheap bookings to Sheffield, the usual return tickets at the single fare and a quarter (minimum, one shilling per passenger) will be issued from Sheffield to stations—within fifty miles—in the surrounding district to enable delegates to sleep out if they so desire, and season tickets will also be issued for the same purpose, being charged in line with the accumulated fares per diem, Sunday being considered a *dies non.* Arrangements are not quite completed with the London and South Western Railway to which a request has to be made to put the facilities into operation, but the special bookings to Sheffield apply to all other railway companies in Great Britain. Mr. Antcliffe has had to guarantee that two hundred visitors will attend the meeting, and take advantage of the arrangements which have been made, and it is to be hoped, therefore, that as many pharmacists as possible will visit Sheffield this year; otherwise, it is improbable that any similar concession will be granted in future.

THE SOCIETY'S OFFICIAL ANNOUNCEMENTS.

The most generally interesting of the numerous official announcements which appear in the advertisement columns this week is that which concerns the coming Council election. Rumour has for some time been placing more than one of the present members of the Council on the retired list, but so far no names of aspirants to the honourable office of Councillor have reached headquarters. There remains the short space of three weeks before the last date on which nominations may be received. The nominator and the nominee must have paid their subscriptions before March 18. All members of the Society should pay their subscriptions, which became due on January 1, as soon as possible. The last day for the payment of subscriptions is March 31, and any member who neglects to forward his guinea before that day increases materially the heavy detail work of office administration. Members are reminded that the privileges of membership include the following:—

> To attend all meetings of the Society, and to hold office as Members of Council and Auditors; to receive a copy of the *Pharmaceutical Journal* weekly as published, and to participate in any preferential treatment that may be arranged in connection with Journal publications—for example, the 'Pharmaceutical Journal Formulary' may be purchased by members at half the published price; to use the Museum; to use the Library, from which books can be obtained on written or personal application, the Society paying the carriage of books one way for borrowers residing in the provinces; and to vote for the election of the Council and Auditors, and for the election of annuitants on the Benevolent Fund.

Other official announcements, which appear elsewhere in this issue, give information with respect to the April Examinations of the Society, the Pereira Medal and Council Prizes Examination, and the Redwood Scholarship.

A PHARMACEUTICAL "WHOLE-HOGGER."

The contributor who veils his identity under the pseudonym "An Ordinary Pharmacist" deplores, in this week's issue (see page 264), the multiplicity of pharmaceutical organisations. He would seem to "care for none of these things" as they now exist. Whatever may be thought of the criticism which he launches at the Pharmaceutical Society, and the local associations of chemists, our contributor will be acknowledged to have grasped, in theory, at any rate, the principle which must underlie a really successful organisation. If an animal has four legs, all must move in the same direction, or progress is impossible. It is not proposed, however, to comment at any length upon "An Ordinary Pharmacist's" suggestions until he has completed the series of articles of which the first appears this week, and the Editor suggests that readers who are interested will also refrain from the "retort courteous" or the "countercheck quarrelsome" for the present.

MAHOMET AND THE MOUNTAIN.

A Divisional Secretary, who has been particularly active in canvassing the chemists of his district, and has been able to furnish the Registrar with much valuable information, writes to suggest that it should be the desire of every member to keep in touch with the Divisional Secretary by occasionally returning the visits of the latter. Our correspondent states that he would be most pleased at any time to receive a friendly call from those whom he visits as divisional officer. No doubt many of the Divisional Secretaries can endorse our correspondent's suggestion. When a member acts in that capacity for a division in which there are several chemists, considerable time may elapse before he is able to make their acquaintance. Some chemists, again, have been heard to complain that their Divisional Secretary has never called on them at all. It is related that Mahomet experienced a similar difficulty on one occasion with a mountain. But he found a solution of the difficulty.—*Verb. sap.*

THE GREATEST OF THESE—CHARITY.

The chemists and druggists of the early Victorian period who "saw the importance of education and registration as a basis of union," and accordingly founded the Pharmaceutical Society as a monument to their perception, had also a profound belief in the unifying power of benevolence, and it indubitably proved of admirable service during the initial years of consolidating effort in pharmacy. There was sound logic underlying the belief, for benevolence is the neutral ground upon which the whole trade, with its kaleidoscopic opinions and prejudices, can meet without restraint, free from the disturbing influences to which those who keep open shop are so peculiarly amenable. To-day no broader, sounder, or better foundation for pharmaceutical unanimity exists than the Society's Benevolent Fund, for which the Secretary pleads in the advertisement columns of this issue, and it is with some degree of confidence that these lines are addressed to the nine thousand odd chemists who have hitherto failed to join hands with their fellows in the practice of the greatest of all the human virtues—soul-raising Charity.

The history of the Benevolent Fund has never been written, and never can be written by the pen of journalist or revealed in reports or balance-sheets, but there are scattered throughout Great Britain hundreds of unfortunate members of the calling, or the widows of such persons, whose brightened lives and ameliorated circumstances record the steady unostentatious work which was the boast of our founders as it is the pride of the present Council. The work, too, is absolutely untinged with sectarianism and unhampered by bureaucratic interference. It matters not whether the applicant is or is not a member of the Society. It is not even accounted a disqualification if it be known that he has, in better days, vilified the Council or vituperated its officials. Each case is measured by its need, and not by a cast-iron standard of pharmaceutical morality designed to break the hopes of an unfortunate brother whose opportunities may have been few or his judgment faulty. And—another feature creditable alike to the Society and to Pharmacy—the Fund is administered by the Society for nothing; collection, salaries and similar items of expenditure being conspicuously absent in the Benevolent Fund balance-sheet. There is, consequently, no possible reason for not contributing according to one's means to such a fund, and it is only charitable to suppose that the large number of chemists who have not yet foregathered on the neutral ground before-mentioned have not had their attention specifically directed to the territory in question. This issue of the Journal will be addressed to each one of them, and should, therefore, remove that cause of abstention. With regard to the argument sometimes urged, that the Society does nothing for the craft and cannot expect registered men not in sympathy with the Council to contribute to the Fund, it is necessary again to state, in the plainest possible language, that the bitterest critic of the executive body need not forego the indulgence of his critical faculty because he sends a subscription for the relief of a necessitous fellow-chemist. In fact, it is an abuse of criticism when it takes the form of punishing the needy and the widowed for the sins of a corporate body that does not, and cannot, suffer from lack of support to the Benevolent Fund. As for those who say they cannot afford to contribute even half-a-crown a year—incredulous silence is the most respectful method of receiving the statement. In certain good old days it was customary amongst men who possessed the normal development of heart, and an ordinary sense of their obligations to humanity, to set aside a tenth part of their income for benevolent or charitable purposes. On this basis, half-a-crown a year would represent an annual emolument of twenty-five shillings. Is there any chemist in Great Britain, or rather is there any considerable number of the nine thousand non-subscribers to the Fund, whose income falls below that annual amount? It is perilously approaching a libel on human intelligence to listen seriously to such a paltry plea. If a man cannot really afford such a small contribution, he has a good *primâ-facie* case for the Benevolent Fund Committee to consider!

Whilst dealing with excuses for not subscribing, reference may be made to the opinion that a falling-off in support to the Fund may have arisen from the alteration in the scheme of local organisation, whereby divisional officers have been relieved of the duty of collecting money. There is only a half truth here. Divisional Secretaries are not required to call for subscriptions to the Society, but they are encouraged and urged to ask every registered person for a subscription to the Benevolent Fund, and the bulk of the income to the Fund has been obtained through their agency. But, assuming no officer calls, is the call of distress less insistent, and is it too much to ask a right-minded person to respond directly to one or other of the appeals which Mr. Bremridge is continually issuing? The hope and confidence of the Council is that chemists will learn to look upon their own fund as having the first claim upon their purse, and one to which they have obligations no less binding than those they owe to their calling. In fact, the spirit to be aroused is that which impelled the earlier pharmacists to make sacrifices cheerfully for mutual advantage and assistance; a spirit which never yet was called forth without strengthening the craft and raising the individuals engaged in it. It is a good thing to possess faith in our educational work and hope in the political portion of the efforts of the body politic, but without that moral condition of mind which leads workers in the same calling to cultivate a practical benevolence one towards another, Pharmacy must be as Faith without Works.

ABSTRACTS—SCIENTIFIC AND TECHNICAL

A REVIEW OF CURRENT WORK IN PHARMACOPEDICS AND ALLIED SCIENCES

Extraction of Colchicine.

H. Blan prefers the following method for the extraction of colchicine from the seeds as being easily carried out:—Exhaust the entire seeds by boiling with 85 or 90 per cent. alcohol, distil the alcohol from the tincture and treat the residue with water. Allow this mixture to stand for several hours until the oil and resin have separated, then filter and shake out with chloroform. The chloroformic solution yields on evaporation crystals, the chloroform compound of colchicine, which can be decomposed by hot water, the chloroform dissipated, and pure colchicine obtained. The question whether the alkaloid is contained in the seed-coats or the endosperm has not yet been definitely determined, for, whilst Hübler, Hertel, Kremel, and Zeisel regard the seed-coats as the seat of the colchicine, Geiger and Hesse, Laborde and Houdé, Eberbach, Stoeder and others are of the opposite opinion. Micro-chemical examination showed that it was contained in the inner layers of the seed-coat, and that the endosperm was devoid of alkaloid, and this result was confirmed by the very tedious method of filing off the seed-coats from a number of seeds, and examining these and the kernels separately. No colchicine could be detected in the kernels. The assay of the entire seeds indicated 0·379 per cent. of colchicine, whilst the seed-coats alone gave 0·377 per cent., calculated to the entire seed, thus showing, without doubt, that the colchicine is contained in the seed-coats. This and other experiments also showed that the colchicine can be entirely extracted by boiling the seeds for three or four hours with 85 per cent. alcohol on a water-bath, and the author thinks that this course should be adopted in the preparation of the tincture. The quantity of colchicine gradually diminishes when the seeds are kept, but old seeds still contain some. Fresh seeds should therefore be used for the galenical preparations. The gradual darkening of the colour of the tincture is ascribed by the author to a gradual change of the colchicine with production of the dark-coloured colchicoresin.—*Zeits. d. Allgem. Oester. Ap. Ver.*, **41**, 1,067.

Determination of Colchicine.

G. Bredemann publishes a method for the determination of the alkaloid contained in colchicum seeds. After reviewing a number of proposed methods, Bredemann comes to the following conclusions, which are based upon very satisfactory experimental work:—(1) That coarsely powdered seeds are somewhat, if only slightly, more easily exhausted than entire seeds. (2) That percolation with 60 per cent. alcohol gives a rather better result than two hours' extraction in a Soxhlet. The following method, which is a modification of Katz's and Kremel's, is suggested for the assay of the seed:—Exhaust the coarsely crushed seeds with 60 per cent. alcohol by percolation so that ten times their weight of tincture is produced. Evaporate 50 Gm. of this to 20 Gm., add 0·5 Gm. paraffin wax and 20 Gm. water, warm until the paraffin melts, and continue the heat until the alcohol is evaporated and the liquid reduced to 10 to 15 Gm., cool, and separate the liquid portion. Wash the cake of wax with 10 Gm. water and 1 Gm. acetic acid. Saturate the mixed filtrates with sodium chloride, and shake out with chloroform as long as alkaloid is removed. Filter the chloroformic solutions, evaporate to dryness, redissolve in water, filter if necessary, again evaporate, and dry over sulphuric acid. By this method seven samples of seeds were found to contain from 0·45 to 1·34 per cent. of colchicine, and four samples of corm to contain from 0·32 to 0·60.—*Apot. Zeit.*, **18**, 817.

Carnauba Wax.

This wax is collected in Brazil, especially along the banks of the Jaquariba, in the provinces of Ceará and Parahyba. The leaves, after being gathered, are left to dry in the sun for two or three days, when the wax can easily be brushed or scraped from the surface owing to the shrinkage of the leaves. The white powder thus obtained is put into a vessel of hot water, when it melts, floats, and can be removed from the surface or left to cool. When quite cold it forms a hard, somewhat yellow, or pale greenish wax. Two to five thousand leaves are necessary to give 15 kilos. of the wax. The yearly export is about 1,000 tons. It is usually packed in bags containing about 90 kilos., and is chiefly sent to Hamburg. It melts at 84°, and has a specific gravity of 0·995. It is largely used in the preparation of church candles to prevent guttering, in the manufacture of shoe paste, and for phonograph and gramophone records. About 10 per cent. of it added to stearin, paraffin, or ceresin raises their melting-points and increases their hardness and lustre. It is also used in the manufacture of sealing-wax, waxed coloured papers and other tissues, wax varnishes, and Swedish matches.—*Pharm. Weekblad*, **4**, 78, 79.

Salmon Oil.

B. de Greiff gives the following characters for salmon oil, which is stated to be produced in considerable quantities in British Columbia, and to have a mild and comparatively agreeable taste. Specific gravity at 15·5°/15·5° C. 0·92586; saponification number, 182·8. Reichert-Meissl number, 0·55. Hehner number, 95·02. Iodine value, 161·42; iodine value of liquid acids, 197·4; unsaponifiable matter, 4·4 per cent.; free acid number, 4·93.—*Chem. Zeit. Rep.*, **27**, through *Analyst*, **28**, 365.

Enzymes of Yeast.

S. H. Vines last year announced that he had discovered in many plants a protease resembling the recently discovered *erepsin* of the animal body. Since then he has endeavoured to determine whether or not the proteolytic phenomena of yeast may not be due in part to the presence of an enzyme of this character, with results which indicate that this is the case. It was ascertained, in the first instance, that a filtered watery extract of yeast readily decomposes the simpler proteids, such as albumoses and peptones, into non-proteid bodies, such as leucin and tyrosin. Such an extract was, however, in no case observed to exert any digestive action upon a higher proteid, such as fibrin. The conclusion to be drawn is that the protease extractable from yeast by water is neither a pepsin nor a trypsin, but is an erepsin. It is, however, quite true that yeast contains a protease that digests fibrin. If yeast be extracted—instead of with distilled water—with a 2 per cent. solution of common salt (NaCl), a liquid is obtained which digests fibrin with certainty. What, now, is the nature of this protease that digests fibrin? Like the erepsin, it can act through a considerable range of alkalinity and acidity, and so resembles trypsin rather than pepsin. Moreover, it must be borne in mind that up to the present there is no evidence that pepsin exists in any other plant. Though the point can only be finally settled by separating and isolating the two proteases, the probability is that this peptonising enzyme is a vegetable trypsin. It may be incidentally mentioned that such an association of erepsin and trypsin has recently been demonstrated by Dr. Vernon in the pancreas. The conclusion suggested by the observed facts is, then, that yeast contains at any rate two proteases, the one an erepsin, the other probably a trypsin.—*Proc. Linn. Soc.*, February 4, 1904.

New Reaction of Hydroxylamine.

L. J. Simon finds that when a dilute solution of any sale of hydroxylamine is treated with a few drops of a very dilute solution of sodium nitroprusside and a slight excess of alkali, and the mixture is boiled, the original yellow solution becomes at first orange red, and finally of a deep cherry-red colour; and on dilution to a fine rose red. During heating nitrogen and nitrous oxide are evolved. The reaction is very delicate. The colour produced by a 1 : 1,000 solution of hydroxylamine hydrochloride may be diluted again to 1 : 1,000, and is still distinct. Oximes, both aldehydic and ketonic, do not afford the reaction, nor do the oximes of various glucoses.—*Comp. rend.*, **137**, 986.

Lime Water.

M. I. Wilbert has examined a number of samples of lime water, purchased from different pharmacists in America, with a view of obtaining data as to the care devoted to the making of the preparation. The percentage of calcium hydrate varied from 0·043 to 0·165, while by far the greater number fell below 0·148 per cent., the average requirement of the U.S.P. All the samples showed appreciable quantities of soluble sulphates, indicating that all had been made with common tap-water. Experiments made with calcium oxide from marble did not give appreciably better results. The essential precautions to be observed are to use a lime that has been thoroughly calcined, and to wash the resulting hydrate with distilled or boiled water until all soluble salts have been eliminated. Wilbert suggests that the U.S.P. should direct the use of 1 part of lime to 25 or 30 parts of water, and allow the solvent to be replaced from time to time or so long as the magma yields a satisfactory product. When filtered, the first portion of the filtrate should be thrown away, as the first portions of lime water passing through a filter lose from 15 to 20 per cent. of the contained alkali. The necessity for keeping the lime water in a cool place where it will not be subjected to sudden or extreme changes of temperature is again emphasised.—*Amer. Journ. Pharm.*, **76**, 66.

Sandal-Wood.

The recent disease of the sandal-wood trees has directed attention to the mode of growth of the plants. It appears, according to the observations of Sir D. Brandis, that the young plants produce ordinary rootlets and fibrils and root-hairs, but when the roots reach the roots of other plants and form small swellings or haustoria at the points of contact, the root-hairs disappear and the fibrils become few. The sandal thus becomes parasitic on a number of trees, and although it is difficult always to trace the roots upon which it is parasitic, actual evidence has been obtained in the case of *Albizzia odoratissima*, *Strobilanthes cuspidatus*, *Limonia acidissima*, and *Webera asiatica*. The trees with which the sandal tree is most frequently associated are:—*Litsœa tomentosa*, *Terminalia ovalifolia* and *T. paniculata*, *Anogeissus latifolia*, *Zizyphus œnoplia*, *Scutia indica*, *Acacia cæsia*, *A. pennata*, *Pongamia glabra*, *Memecylon edule*, *Olea dioica*, *Flacourtia sepiaria*, *Atalantia monophylla*, *Murraya exotica*, *Bambusa arundinacea*, *Dendrocalamus strictus*, *Toddalia aculeata*, *Mallotus philippinensis*, *Inga dulcis*, *Morinda citrifolia*, *Feronia elephantum*, *Alanigum lamarckii*, *Cocos nucifera*, *Mangifera indica*, *Psidium guava*, and *Moringa pterygosperma*.—*Rev. des Cult. Colon.*, **14**, 47, 48. These plants belong to several natural orders, but these are not the only trees which grow near the sandal tree. Experiments and further information are still wanting as to the chemical changes necessary to render the sap of such different trees suitable for the nourishment of the sandal tree, and the means by which the changes are effected.

Test for Choline in the Human Blood.

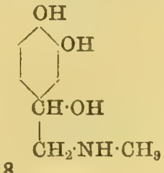
Halliburton and Mott have shown that in cases of nerve degeneration choline appears in the blood, and have devised a test for its presence. This consists in extracting 4 C.c. to 5 C.c. of the blood four times in succession with absolute alcohol, and precipitating the choline as a platinum salt with platinic-chloride, the choline platinochloride appearing as yellow octahedra. R. W. Allen and H. French now state that this method is unreliable, since both ammonium and potassium platinochloride give yellow octahedra, and may not be eliminated by the absolute alcohol.—*Journ. of Physiology*, **30**, 3 and 4, *Proc.* xxix.

Reagent for Myrrh.

Hirschsohn recommends trichloracetal-chloralhydrate as the best reagent for myrrh. It is prepared by passing chlorine gas into 75 per cent. alcohol, if possible in direct sunlight, until the liquid becomes cloudy, and separates on standing into two layers. The lower of these is separated, washed with water, and freed from acid by calcined magnesia. It is then filtered and mixed with four times its weight of chloral hydrate. The resulting syrupy liquid fumes slightly, and gives with genuine myrrh a fine violet coloration. As far as the author's experience goes no other resin or gum resin gives a similar coloration.—*Pharm. Centralhalle*, through *Pharm. Ztg.*, **48**, 96.

Constitution of Epinephrin.

H. A. D. Jowett has investigated the active principle of the suprarenal glands, called by Abel and Crawford "epinephrin." Analysis and molecular weight determinations of carefully purified material confirmed the formula, $C_9H_{13}O_3N$, first produced by Aldrich. In dilute acetic acid solution, the compound has $[\alpha]_D\ -32{\cdot}6°$. On oxidation with potassium permanganate, methylamine and oxalic and formic acids were formed. By fusion with potassium hydroxide, a small amount of a crystalline substance was obtained which gave the protocatechuic acid reaction with ferric chloride. On methylation with methyl iodide and sodium in methyl alcohol and subsequent oxidation with potassium permanganate, trimethylamine and veratric acid were obtained. The constitutional formula for the base is considered to be most probably as follows:—



—*Proc. Chem. Soc.*, **20**, 18.

A New Tri-Iodophenol.

P. Brennan has succeeded in synthetising the tri-iodophenol $OH{\cdot}C_6H_2I_3\ _{1\cdot3\cdot5\cdot6}$. The diazo sulphate of orthonitraniline di-iodide is converted into a tri-iodonitrobenzene, $C_6H_2I_3$, by means of potassium iodide. This derivative gives, on reduction, tri-iodoaniline, $C_6H_2I_3$. When this base is diazotized, and the diazo compound is heated in the presence of water the tri-iodophenol is formed. When purified by recrystallisation from boiling dilute acetic acid it forms colourless needles; from a mixture of benzol and petroleum ether it separates in prismatic needles, melting at 114° C. Its ethyl ester forms fine silky needles, melting at 120°, having the composition $C_2H_5{\cdot}O{\cdot}C_6H_2I_3$.—*Comp. rend.*, **137**, 1065.

THE INCIDENCE OF MEDICINE STAMP DUTY.

HOW PAYMENT OF DUTY IS INCURRED OR AVOIDED.

BY JOHN HUMPHREY.

Introductory.

MEDICINE Stamp Duty is payable upon every packet, box, bottle, or other inclosure containing a secret remedy or proprietary medicine for human use, when sold or exposed to sale in Great Britain, unless the medicine consists of a simple or entire drug, such as acetanilide or rhubarb. If a medicine which would otherwise be liable to duty is supplied in a bottle, box, or other inclosure, brought by the customer who asks for it, no claim to duty arises in that particular transaction; further, the Board of Inland Revenue does not insist upon the payment of duty when otherwise dutiable pills, powders, etc., are sold simply wrapped in paper, without being sealed up, or gummed, or tied with string, though it is held by the Board that, in strict law, even a screw of paper may constitute a dutiable inclosure.

Secret Remedies or Nostrums.

Compounded medicines for human use are regarded as secret remedies or nostrums, and become liable to duty, if they can only be made by particular persons, because the recipes in accordance with which they are prepared are not the common property of all the world. Thus, an ordinary cough mixture or antibilious pill is now classed as a secret remedy if the composition of the medicine is not disclosed by the seller, either by printing the names of all the active ingredients upon the label or by stating upon the label that the formula in accordance with which the medicine is made—such formula being absolutely identified—appears in the 'Pharmaceutical Journal Formulary' or some other well-known and recognised work of reference, such as the British Pharmacopœia.

A claim to any occult secret or art for making a compound medicine also renders the preparation liable as a secret remedy, even though the recipe is the common property of all the world, so that anyone is at liberty to make and sell the same medicine. Thus, a compounded medicine is rendered dutiable if it be stated upon labels, handbills, etc., that the method of preparing the remedy is a secret, or that the preparation is the specialty of any person, or that the maker possesses the original or sole recipe. In fact, a claim that a particular remedy is a secret remedy or nostrum renders it just as liable as if it really were such, and the claim need not be specifically expressed to bring a medicine within the charge of duty.

The use of a person's name in the possessive case—*e.g.*, Smith's Antibilious Pills—or its equivalent—*e.g.*, Antibilious Pills (Smith)—may also incur liability, unless the formula for the medicine is given upon the label, or it is stated thereon that the formula for the medicine, as in the case of Blaud's Pills, is in the British Pharmacopœia. Otherwise, the seller must be prepared to accept the onus of proving that the preparation is neither a secret remedy nor a proprietary medicine. Liability to duty as a secret remedy or nostrum may also be incurred by the publication of a warning or caution to beware of spurious imitations of a certain medicine, or a claim that no other similar preparation is genuine. Moreover, if a medicine should have been rendered liable to duty by the original or first vendor holding it out—on labels, handbills, etc.—as a nostrum, it is permanently liable to duty, even though the secret of its composition should be disclosed and the recipe become the common property of all the world.

Proprietary Medicines.

Remedies for human ailments are liable to duty as proprietary medicines if the makers or sellers have, or claim to have, any exclusive right or title to preparing them. Such a right or title exists when the medicine is prepared and sold under the authority of Letters Patent under the Great Seal, or if the use of a trade-mark appropriated to a particular medicine prevents anyone from making and selling similar medicine under the same name. Thus, it is probable that the use of such a trade-mark as "Tabloid" or "Tabloids" in connection with compressed tablets intended to be used for the prevention, cure, or relief of any human ailment, may be held to render the tablets liable to duty in cases where they do not consist of an entire drug.

Compound remedies may also be rendered liable to duty as proprietary medicines by the use of a person's name in the possessive case, or its equivalent, if it can be proved that they are intended to be used for the prevention, cure, or relief of any human ailment. Similarly, a claim to proprietary right is held to be made by the publication of a statement that a compounded medicine for human use is prepared only by a certain person. Further, as in the case of nostrums, such a medicine is rendered permanently liable to duty if held out or recommended by the original or first vendor as a proprietary article.

Recommended Medicines.

As already stated, compounded medicines for human use become liable to duty if held out or recommended to the public—on labels, handbills, etc.—by the original or first vendors as nostrums or as proprietary medicines, and such liability is permanent. The same conditions prevail if the original or first vendors hold out or recommend the medicines as specifics, *i.e.*, remedies for the cure of particular disorders. The mere use of the word "specific" on a label for a compounded medicine may render the preparation liable to duty, unless it can be proved that the medicine was not recommended as a specific by the original or first vendor.

Another cause of liability is the holding out or recommendation of a compounded medicine, by the original or first vendor, as beneficial to the prevention, cure, or relief of any distemper, malady, ailment, disorder, or complaint incident to or in anywise affecting the human body. But this cause does not operate when a chemist and druggist who has served a regular apprenticeship sells a preparation which is "known, admitted, and approved" as a remedy for any human ailment, and it has not been rendered liable by the original or first vendor. A duty qualified chemist and druggist is entitled to state—upon labels or elsewhere—what the medicine is good for, provided there is no secret about the composition of the medicine, and it has never been held out by the original or first vendor—a person who had or claimed to have an exclusive right or title to make the preparation—as a nostrum, proprietary article, specific, or remedial agent. This privilege is not shared by unqualified individuals who hold a so-called "patent" medicine licence, nor by limited companies, even though the whole of the shareholders are registered chemists and the sales are effected by duly qualified individuals.

When Liability is Incurred.

In reply to a letter of inquiry addressed to the Board of Inland Revenue, it has been intimated that the following decisions have been arrived at:—

> (1) Medicines described by reference to a disease are liable, such as "Cough Mixture," "Corn Paint."
>
> (2) Medicines described by reference to an organ of the body alone are not liable—such as "Liver Pills," "Hepatic Mixture," "Throat Pastilles," "Bronchial Mixture."
>
> (3) Medicines described by reference in general terms to their operation are not liable—such as "Aperient Pills," "Emollient Ointment." "Astringent Mixture."
>
> (4) But if to an organ of the body a word or words be added indicating the operation of the medicine upon the organ of the body, liability is incurred—such as "Blood Purifier," "Liver Invigorator," "Aperient Liver Mixture."

The above decisions relate solely to descriptive labels on the medicine, and it must be clearly understood that if any claim be made to a proprietary or exclusive right in the medicine, or to a secret art for preparing the same, or if the medicine be held out or recommended in any other way—for instance, by a leaflet, handbill, or advertisement—as beneficial to the prevention, cure, or relief of any distemper, malady, etc., incident to or in any way affecting the human body, liability to the duty would undoubtedly be incurred by such recommendation. But in any case in which a medicine, not being a proprietary or patent medicine, is liable to duty, then, if the ingredients of which the medicine is composed be adequately indicated on the label, or if the formula from which the medicine is prepared be either given in full thereon, or a reference be made to it as found in the 'Pharmaceutical Journal Formulary,' the British Pharmacopœia, or some well-known and recognised book of reference, the exemption accorded to well-known remedies sold by duly qualified chemists becomes applicable.

Names Which Incur Liability.

The Board of Inland Revenue has also intimated that the following titles will be held to incur liability to duty, unless the formulæ are given upon the labels, or a reference be made thereon to the 'Pharmaceutical Journal Formulary,' or some other well-known and recognised work of reference in which the recipes may be found:—

Acne Ointment
Ague Drops
Ague Mixture
Anæmia Mixture
Anæmia Pills
Antiapoplectic Pills
Antibilious Pills
Anticonstipation Mixture
Antineuralgic Mixture
Antiseptic Throat Pastill
Antispasmodic Drops
Aperient Liver Mixture
Asthma Cure } Unless for fumigation only.
Asthma Powder }
Backache and Kidney Pills
Balsamic Cough Mixture
Blood Purifier
Blood Purifying Pills
Boil Lotion
Boil Ointment
Bowel Complaint Mixture
Brain and Nerve Tonic
Brain Tonic
Bronchitis Mixture
Cancer Cure
Cardiac Tonic
Catarrh Cure
Catarrh Smelling Salts
Cathartic and Liver Pills
Chilblain Liniment
Chilblain Lotion
Chilblain Ointment
Children's Cough Mixture
Chlorosis Mixture
Cholera Mixture
Cold and Influenza Mixture
Colic Drops
Cooling and Fever Powder
Corn and Wart Solvent
Corn Paint
Corn Plasters (if Medicated)
Corn Solvent
Cough Drops
Cough Lozenges
Cough Mixture
Cough Pills
Cough Syrup
Croup Liniment
Croup Mixture
Diarrhœa Mixture
Dropsy Cure
Dyspepsia Mixture
Dyspepsia Pills
Dyspepsia Powders
Dyspepsia Tablets
Earache Drops
Eczema Ointment
Embrocation for Sprains
Erysipelas Ointment
Fever Cure
Fever Mixture
Gleet Mixture
Gonorrhœa Injection
Gonorrhœa Mixture
Gout and Rheumatic Pills
Gout Liniment
Gout Mixture
Gout Pills
Gripe Mixture
Hayfever Snuff
Headache Mixture
Headache Powders
Healing Ointment
Indigestion and Liver Mixture
Indigestion and Stomachic Mixture
Influenza Mixture
Insomnia Powders
Itch Ointment
Jaundice Cure
Kidney and Gravel Pills
Liver and Blood Purifying Pills
Liver Cleanser
Liver Invigorator
Liver Tonic
Lumbago Ointment
Lung and Bronchial Tonic
Lung Tonic
Measles Mixture
Migraine Powders
Nerve Tonic
Nervine Tonic
Neuralgia Liniment
Neuralgia Mixture
Neuralgia Powders
Obesity Cure
Pectoral Lung Tonic
Pile Ointment
Pile Pills
Purifying Blood Pills
Purifying Stomach and Head Pills
Rheumatic and Gout Pills
Rheumatic Liniment
Rheumatic Mixture
Ringworm Ointment
Sciatica Liniment
Sciatica Pills
Scorbutic Ointment
Scurvy Ointment
Skin and Blood Purifier
Teething Powders
Tic Doloreux Mix
Tic Mixture
Tic Pills
Tonic Throat Mixture
Toothache Drops
Toothache Essence
Toothache Pills
Toothache Powders
Toothache Specific
Uterine Tonic
Wart Paint
Whooping Cough Mixture
Wind and Water Pills
Wind Pills
Worm Lozenges
Worm Powders

Non-Dutiable Names.

The following names are examples of titles which are not regarded by the Board of Inland Revenue as incurring liability to duty, provided no claim is made to a proprietary or exclusive right in the medicine, or to a secret art for preparing the same, while the medicine is not held out or recommended in any way—upon the labels, or by handbills, advertisements, etc.—as beneficial to the prevention, cure, or relief of any human ailment:—

Alterative Mixture
Alterative Pills
Anodyne Mixture
Anodyne Pills
Antiseptic Pastilles
Aperient Mixture
Aperient Pills
Aperient Powders
Astringent Mixture
Blood and Stomach Pills
Blood Lozenges
Blood Mixture
Bowel Mixture
Breast Lotion
Brompton Mixture
Bronchial and Throat Tablets
Bronchial Balsam
Bronchial Elixir
Bronchial Glycerin Lozenges
Bronchial Lozenges
Bronchial Mixture
Bronchial Pastilles
Cathartic Pills
Chelsea Pensioner
Chest and Lung Embrocation
Children's Aperient Powders
Children's Cooling Powders
Children's Cordial
Children's Powders
Cleansing Hair Wash
Cooling Mixture
Cooling Powders
Dandelion and Podophyllin Liver Pills
Digestive Candy
Digestive Lozenges
Digestive Mixture
Digestive Pills
Digestive Drops
Diuretic Drops
Diuretic Mixture
Diuretic Pills
Ear Drops
Emmenagogue Pills
Emollient Ointment
Eye Drops
Eye Lotion
Eye Ointment
Eye Salve
Female Mixture
Female Pills
Foot Powder
Head and Stomach Pills
Hepatic Mixture
Hepatic Pills
Infants' Carminative
Infants' Friend
Infants' Mixture
Infants' Powders
Infants' Preservative
Kidney Pills
Laxative Pills
Laxative Tablets
Little Liver Pills
Liver and Kidney Pill
Liver Mixture
Liver Pills
Lung Balsam
Nervine Essence
Nipple Lotion
Nit Ointment
Operating Pills
Pectoral Balsam
Pectoral Lozenges
Pectoral Mixture
Pulmonic Elixir
Quinine and Iron Tonic
Sarsaparilla Blood Mixture
Scurf Pomade
Skin Cream
Skin Lotion
Skin Ointment
Skin Tablet
Soothing Syrup
Stomach Pills
Stomach and Liver Pills
Stomachic Mixture
Stomachic Pills
Tasteless Liver Pills
Throat Gargle
Throat Lozenges
Throat Mixture
Throat Pastilles
Toilet Cream for Chapped Hands
Tonic Bitters
Tonic Mixture
Tooth Essence
Tooth Tincture
Universal Household Embrocation
Voice and Throat Lozenges
Voice Lozenges

Breaking Bulk.

A licensed retailer is permitted to break open duly stamped inclosures of dutiable medicines, which have been purchased from manufacturers or wholesale dealers, and to sell the contents without paying further stamp duty, provided he only sells them loose, but the Board of Inland Revenue holds that a licensed vendor is not entitled to break open stamped packets and sell the contents loose, without again affixing a stamp, if he has prepared and packed the medicines himself, the reason given being that there would be no security that the stamped packets were not filled over and over again. When stamped packets are broken open and the contents retailed without being restamped, pills, powders, or lozenges should be merely wrapped in paper or put in a paper bag, without being sealed up, or gummed, or tied with string, while liquids, ointments, etc., should not be supplied except in bottles or boxes supplied by the customers who ask for the articles, the greatest care being taken to avoid rendering the medicines liable a second time by supplying them in what could be regarded in strict law as a dutiable "packet, box, bottle . . . or other inclosure." As already stated, even a paper bag or a screw of paper may be a dutiable inclosure, but the Board has granted a concession in that respect.

Non-Dutiable Articles.

Medicated cigarettes or preparations of herbs, intended for smoking only, are not liable to stamp duty, however recommended. Neither are asthma cures and other preparations intended to be burnt for inhalation, fumigation, or vaporisation only; but smelling salts, etc., recommended for the cure of colds, may be liable to duty. Soaps intended to be used in the ordinary way for washing purposes are not regarded as falling within the charge of duty, and they may, therefore, be recommended freely for any ailment, without requiring to be stamped; if, however, a soap is intended or directed to be applied as an ointment or salve, and left on the part affected, it becomes liable to duty. Toilet preparations, such as face lotions, skin pastes, and hair washes, may be freely recommended for roughness of skin, chapped hands, baldness, etc., but become liable to duty if recommended for the prevention, cure, or relief of any human ailment, unless they come within the special exemption in favour of chemists and druggists. Even a perfume or a veterinary medicine may be rendered dutiable if recommended for use or application, externally or internally, as a medicine or medicament for human use. Lozenges are not liable to duty unless sold as medicines, or recommended as beneficial for the prevention, cure, or relief of human ailments, and even then they may be sold unstamped by duly qualified chemists and druggists if their composition is disclosed. The sale of "Dutch Drops" and "Friar's Balsam" has not been interfered with during recent years, when the preparations have been sold without being held out or recommended as remedies, but, in strict law, they are liable in the same way as "Godfrey's Cordial," which should never be sold unstamped if the name "Godfrey" appears upon the label. Fluid magnesia, effervescing salines, and artificial mineral waters are not liable to duty unless they are used as vehicles for the administration of medicines other than mineral alkalies.

Medicines for Dispensing.

Certain dutiable medicines may be purchased unstamped by chemists for dispensing purposes only, but it is held that if they are sold unmixed, even when ordered in a medical prescription, the bottles containing them must be duly stamped. It is doubtful whether this view could be enforced in the case of a dutiable medicine taken from a stamped inclosure, but it is necessary to note that, in such a case, the dispenser may be called upon to prove that the duty has been paid originally. The bottles in which medicines are supplied to chemists unstamped must be marked: "This medicine to be used for dispensing only."

WHEN LIABILITY TO MEDICINE STAMP DUTY IS OR IS NOT INCURRED.

Preparations to be used or applied, externally or internally, as medicines or medicaments for the prevention, cure, or relief of any disorder or complaint incident to or in anywise affecting the human body are, in certain circumstances, liable to Medicine Stamp Duty in Great Britain if exposed to sale or sold in any packet, box, bottle, phial, or other inclosure. Unless so inclosed, medicines are not liable to duty, and may be sold loose unstamped.

GROUNDS OF LIABILITY TO DUTY.

1. Claims to any Occult Secret or Art for making or preparing the medicine, when the preparation is intended to be used for the prevention, cure, or relief of any human ailment. Such claims may be made by—

(*a*) A statement that the method of preparing the medicine is a secret, or that the preparation is the specialty of any person, or that the maker possesses the original or sole recipe.

(*b*) The use of a person's name in the possessive case, or its equivalent, *e.g.*, Smith's Antibilious Pills, or Antibilious Pills (Smith).

(*c*) A warning, or caution, to beware of spurious imitations, or that no other similar preparation is genuine.

2. Claims to any Exclusive Right or Title for making or preparing the medicine, when the preparation is intended to be used as aforesaid. Such claims may be made by—

(*d*) A statement that the compound is "prepared only by Smith," or the use of a person's name in the possessive case or its equivalent, as above (see *b*).

(*e*) The use of a trade-mark appropriated to a particular medicine.

3. Making or Selling Patented Medicines, *i.e.*, preparations which are or have been the subject of Letters Patent in the United Kingdom.

4. Holding Out or Recommending Medicines—by the Original or First Vendors—by any public notice, as by a town-crier, or by an advertisement in a newspaper, poster, or placard in a conveyance; or by any written or printed papers or handbills, books, showcards, price-lists, etc.; or by any label or words, written or printed, affixed to or delivered with the inclosure containing the medicine—

(*f*) As Nostrums or Proprietary Medicines, *e.g.*, Smith's Pills, or Liver Pills (Smith).

(*g*) As Specifics or Remedies for the cure of some particular disorder.

(*h*) As beneficial to the prevention, cure, or relief of any distemper, malady, ailment, disorder, or complaint incident to or in anywise affecting the human body. Such a recommeddation is held to be implied in the designations, "Antibilious Pills," "Cough Mixture," and "Toothache Essence," but not in the names "Liver Pills," "Bronchial Mixture," and "Tooth Essence.'

ARTICLES WHICH ARE NOT LIABLE.

1. Entire or Crude Drugs are not liable to Stamp Duty, however described or recommended, when sold by Chemists and Druggists; they may be dissolved in water, but if mixed with colouring matter or any other substance, they become dutiable if held out or recommended to the public for the prevention, cure, or relief of any human ailment, unless they are brought within the scope of the special exemption in favour of Chemists and Druggists (see below, No. 8).

2. Mechanical Appliances, such as Trusses, Bandages, and Unmedicated Corn Rings, or Plasters.

3. Soaps, Medicated or Otherwise, intended to be used in the ordinary way for washing purposes only, and not intended or directed to be left upon the skin like an ointment or salve.

4. Effervescing Salines or Waters, unless used as vehicles for the administration of medicines other than Mineral Alkalies.

5. Dutiable Medicines supplied to chemists and druggists for use in dispensing only, as part of a medical prescription.

6. Veterinary Medicines, except when also recommended for use by human beings.

7. Foods, Hair Washes, Perfumes, Skin Paste, Toilet Preparations, Tooth Powders, Tooth Stoppings, etc., when not held out or recommended for the prevention, cure, or relief of human ailments. The following are not regarded as ailments, and a claim to Medicine Stamp Duty does not arise if any preparation is held out or recommended for their prevention, cure, or relief:—Abrasions, baldness, blemishes, chafes, chapped hands or lips, dandruff, freckles, husky voice, impure breath, insect bites or stings, languor, loss of appetite, mental depression, nits, roughness of the skin or voice, scurf, smelling feet, stomach weakness, sunburn, tan, tender feet, tickling of the throat, want of nerve power.

8. Preparations Known, Admitted, and Approved of in the prevention, cure, or relief of human ailments, when sold by Chemists and Druggists with an adequate disclosure of their composition. The disclosure may be made by stating the names of all the active medicinal ingredients of the medicine upon the label, or by making it in accordance with a recipe in the 'Pharmaceutical Journal Formulary,' the British Pharmacopœia, or some other well-known book of reference, and indicating that fact upon the label.

BOTANICAL PHYLACTERIES.

BY GRAHAM BOTT, F.L.S.

Plants, flowers, fruits, and seeds have ever figured conspicuously from remote antiquity and through many ages amongst the *quisquiliæ* of the necromancer when employed as spells or amulets against disease or danger. From the researches of eminent specialists, the Babylonian-Assyrian literature reveals mythical narratives, magic formulæ, incantations and prayers to deities. Such literature constitutes the oldest historical records as yet discovered, and acquaints us with the fact that singular practices, for averting evil influences, were in vogue probably more than 6,000 years hence. Perhaps that is not very remarkable if we consider that civilisation was then in its infancy; but that those methods should have continued through so vast a space of time as to be prevalent right up to, and even beyond, the seventeenth century—and believed in implicitly—is a striking reminder of the gradual evolution and emancipation of humanity from the thraldom of error—the proneness of the human mind to delight in the weird and supernatural. In the above-mentioned extremely remote period certain plants were consigned to the flames, and incantations delivered over the burning herb in the hope of relieving or curing those afflicted with disease. For those archean people did not recognise that functional derangement is frequently the result of outraged nature originating often from within, but attributed all ailments to wicked genii or demons, which "demons" we now more correctly designate microbes. Hence, by a curious process of reasoning, arose the practice of employing herbs as charms. The Persians and Egyptians also employed small cylinders engraven with curious characters, and strung round the neck; the Greeks and Romans various precious stones; the early Britons had a fantastic and varied assortment of charms and amulets; while our ancestors of the Middle Ages were faithful to the relics of Druidism, and amongst those frequently figured portions of plants, which the old herbalists insisted upon being gathered with peculiar ceremonies, to ensure, as they affirmed, the full virtues of the herb. It is also curious to note that the earlier Jewish physicians, to whom the establishment of medical schools was greatly due, practised what may be termed colour medication, as is exemplified in the treatment of smallpox by John Gaddesden, court physician during the fourteenth century and author of a medical work which is said to be lacking in common sense. He ordered, as a remedy, the room of a patient suffering from smallpox to be draped with scarlet cloth, and the invalid to be enveloped in cloth of the same colour. Somewhat similar is the prevalent practice of using saffron for measles. Its employment originated through the supposed correspondence of colour between the drug and the eruptive papules of the disease.

Many popular names—and, indeed, many scientific names—of plants are derived from the supposed possession of the power of warding off demons or neutralising the spells of witchcraft, a virtue that, in an age of superstition, was freely attributed to the members of the vegetable world. This is well illustrated in connection with the mountain ash or rowan tree (*Pyrus acuparia*, Linn., N.O. Rosaceæ), which formerly had a reputation for destroying the power of the "evil eye," and extremely potent against the wiles of witches; thus it received the name of witchen-tree. So with regard to the scientific name of St. John's wort (*Hypericum perforatum*, Linn., N.O. Hypericaceæ). That plant, often spoken of in old botanical works as the "balm of the warrior's wounds," was to be gathered on the eve of St. John the Baptist's day, and was celebrated for the good influence it was considered to exert against storms, goblins, and witchcraft, when carried about the person or suspended over doors. From one of those ascriptitious virtues arose the name of the genus—namely, Hypericum, which signifies power over apparitions. Similarly, it was also sometimes termed "fuga dæmonum."

Then, again, when the poisonous nature of a plant was revealed, its noxious quality was attributed to the circumstance of its growing in dark and dismal corners, near old ruins or among decaying matter. Thus it was with monkshood (*Aconitum napellus*, Linn., N.O. Ranunculaceæ). Anciently, that plant, which rears aloft, in shady places and by cool rivulets, its splendid raceme of curiously shaped flowers, was said to cause a sudden attack of fainting by the mere act of smelling the fully expanded blossoms. Therefore, it was considered, and not altogether unjustly, as the most deadly of all poisons. Due to similar insalubrious environments—so our ancestors averred—were the fatal properties of the dwale, or deadly nightshade (*Atropa belladonna*, Linn., N.O. Solanaceæ), in olden times regarded as possessing powerful magical virtues; and so with the graceful and slender Hecatecian plant (*Circea lutetiana*, Linn., N.O. Onagraceæ), sacred to the subtle enchantress of that name. The white campion (*Lychnis vespertina*, Sibth., N.O. Caryophyllaceæ), the fragrant evening flower common by roadsides and hedges, perhaps better known as bachelor's button, formerly entered into the composition of rustic philtres. Simple-minded country folk attributed to it the secret power of alluring the pastoral youth, and employed it as a means of exciting amorous thoughts. Perhaps they also employed the flower after the method of Margaret in Goethe's "Faust," when she meditatively plucks off each delicate petal, and repeats the well-known words, doubting still her wooer. Gerarde, in his old herbal, explains the origin of the name bachelor's button, as applied to the white campion, as follows:—"Now the similitude that these flurs have to the jagged cloth-buttons antiently worn in this kingdom, gave occasion to our gentlewomen, and other lovers of floures in these times, to call them bachelor's buttons."

Mr. P. W. Miles, a few years ago, in a lecture on "The Folk Lore of Plants," mentioned the curious custom which was prevalent among the old people of Brentford of carrying about the person a stolen potato as a cure for rheumatism, and, incredible as it may appear, several otherwise intelligent members of the audience at the time expressed their complete confidence in the power of a stolen potato to remove disease when used in that manner.

In times long since past the apple was valued as symbolical of virility and immortality. Idhuna, the goddess of Scandinavian mythology, is said to be identified with the apple tree; and from the juices of its fruits the gods derived their perpetual youth. Gubernatis relates a novel use of the apple as celebrated in a Montenegrin ballad. A pasha seizes and weds the sun's little sister, who, standing on the earth, tosses up to heaven three golden apples, which return as so many thunderbolts, one dashing the tyrannical pasha to the ground, another striking his horse, while the third crashes into the six hundred assembled guests with terrible effects. Seville oranges, in former days, were frequently employed as a prophylactic. They were filled with spices, such as cloves, nutmegs, cinnamon, and cassia, and carried about the person. Cardinal Wolsey, when attending ceremonial functions, and at vast assemblages of all sorts and conditions, carried an orange so stuffed. He is depicted by Cavendish as "holding in his hand a very fair orange, whereof the meat or substance within was taken out, and filled up again with the part of a sponge, wherein was vinegar and other confections against the pestilent airs; the which he most commonly smelt unto, passing among the press, or else when he was pestered with many suitors"—an act which, one cannot but think, must have been extremely annoying to the assembled petitioners. Although Cardinal Wolsey's method of carrying out a perhaps necessary precaution may be considered as tactless and inelegant, yet modern science confirms the utility of perfumes as deodorants and disinfectants, not merely disguising, but actually oxidising, and thus rendering inert, injurious exhalations. Figs were used as remedial agents in Hebrew medicine 713 B.C. But their function must be regarded as a kind of poultice rather than a charm, although as recorded upon biblical authority the mere fact only is stated in the second book of Kings, xx. 7, when Hezekiah was "sick unto death." "And Isaiah said, 'Take a lump of figs.' And they took and laid it on the boil, and he recovered." That vegetable vulture mistletoe (*Viscum album*, Linn., N.O. Loranthaceæ), the ever-popular, with its white berries and strap-shaped evergreen leaves, was not always employed principally for decorating our halls at the festive season; for, as is perfectly familiar, the crafty ancient Druidical priests imputed transcendental virtues to the shrub, and termed it "all-heal." The administration of mistletoe medicinally is of great antiquity, and it obtained a marvellous reputation for the cure of all diseases quite out of proportion to its real merits. Nor did faith in its efficacy perish even in the seventeenth century, a period when it was considered that, by suspending a piece of the plant around the neck, it shielded the possessor against phantom demons, and averted the dangers of sorcery. Moreover, when hung up in sacred buildings or in private houses, it was supposed to defend the inhabitants from irresistible influences. Curiously enough, mistletoe was also highly valued as a preventive against barrenness.

In former days mysterious abilities were frequently associated with anything composed of certain numbers, particularly the number three or odd numbers. Shakespeare makes one of his characters exclaim: "They say there is divinity in odd numbers, either in nativity, chance, or death." Doubtless the supposed virtues of mistletoe arose from considerations of numbers and form, and from those and those alone, for the berries of that plant are in clusters of three, and the leaves sometimes in whorls of three. Hence its former immense renown. But it is interesting to note that nearly two hundred years ago Sir John Colbach gravely declared "that the Almighty must have designed the mistletoe for further and more noble purposes than barely to feed thrushes, or to be hung up superstitiously in houses to drive away evil spirits." The judgment of a later period has, however, reversed all former opinions. Nevertheless, mistletoe has achieved through sentiment that which it could not accomplish by hypothetical abilities or innate medicinal virtues.

It is an ancient belief, and one current in some districts in the present time, that the house-leek (*Sempervivum tectorum*, Linn., N.O. Crassulaceæ), whose dull red-purple flowers and densely crowded rosulate leaves flourish on old walls and on the roofs of cottages, confers freedom from the destructive effects of lightning. Thus it is looked upon with favour not only as ornamental but as exceedingly useful. The truth of that faith may be doubted, and it may even provoke risibility; nevertheless, there is a substratum of sense embedded in the opinion—for that which was claimed especially for the house-leek is now regarded as a scientific truth with reference to all green leaves. It is known that the green leaf is the best conductor of that mysterious and energetic force electricity. In the same way as public buildings are protected from the lightning's destructive stroke by metal rods pointed towards the clouds, so do the spiny points and sharp edges of leaves receive the electric fluid, thus disarming the violence of the storm, and quietly conveying it to the earth. It is considered that leaves with acute points are better conductors than the best devised metallic rods, in the ratio of three to one. That is probably on account of the moisture contained in leaves. Professor Rudolph is of the opinion that the apex of a leaf functions as a conductor by permitting the electric fluid to escape from the point, in that way preventing dangerous quantities collecting on the earth's surface, and so averting possible disaster by ascending lightning strokes. By such methods nature provides immense security.

Formerly, rue (*Ruta graveolens*, Linn., N.O. Rutaceæ), was strewed upon the bench of the dock in the Central Criminal Court of the Old Bailey for the purpose of warding off infection and fever; moreover, the mere presence of that plant was considered an excellent means of counteracting the tendency to faint. It is recorded that in May, 1750, a disease termed "gaol distemper" occurred; it was then that the above-mentioned custom commenced. Similarly, though for an entirely different wished-for effect, the Athenian matrons, during the solemn religious ceremonies of the Goddess of Corn and Tillage, were wont to place upon their couches the leaves of the so-called chaste tree (*Vitex agnus castus*, Linn., N.O. Verbenaceæ), in order that their meditations might be freed from voluptuous sensations. It was thought to be a valuable agent in preserving chastity. Roger Bacon, monk and philosopher, who adorned the thirteenth century with his wisdom, appears to have been infected with the general credulity of his time, for he mentions a Parisian philosopher who almost severed the body of a serpent, and then kept it under observation, with the object of learning what it would do. It is said that the serpent dragged its miserable body to a plant, the leaves of which at once healed the wounds. Naturally, such an act was considered an indication that the plant yielded supreme virtues, and it was esteemed accordingly. This reminds us of one of the many traditions respecting Peruvian or Jesuit's bark. The discovery of its valuable properties was ascribed originally to the Indians, who noticed that when lions were afflicted with fever or ague they immediately sought out and devoured the bark of the cinchona tree. A cross, made from the twigs of the sallow or goat willow (*Salex caprea*, Linn., N.O. Salicaceæ, and of the common alder (*Alnus glutinosa*, Goertner, N.O. Betulaceæ), was prescribed during the fifteenth century as an infallible remedy for epilepsy, while the leaves of the latter, on which, by-the-bye, the sun had never sparkled, were supposed to cure erysipelas. Children of rickety constitution were three times dragged through a split tree, which was then carefully bandaged up so that the portions might again unite. Thus it was seriously imagined that as the tree recovered, so the feeble child was restored to health and vigour. The tuberous root of the early purple orchis (*Orchis mascula*, Linn., N.O. Orchidaceæ), was, in olden days, the object of a singular credence. It was asserted to be an efficient aphrodisiac when simply held in the hand. On that account it was termed Satyrion root; nor is it difficult to assign a reason for its use in that way, or to discern the suggestive methods of those who recommended it for its mythical virtue. Remarkable as orchids are for their striking reptilian, arachnidian, and lepidopteral forms, yet the origin of the name of the genus is no less extraordinary, receiving, as it did, the title orchis, *quia habet radices instar testiculorum*.

Onions (*Allium cepa*, N.O. Liliaceæ), and garlic (*Allium sativum*), of the same order—believed to have been prohibited to the ancient Egyptian priests for fear that their sensitive deities might be offended—were formerly tied over a particular portion of the body in suppression of urine. In that way it was said to excite micturition. Garlic was also applied to the soles of the feet as a cure for certain disorders, while the greater celandine (*Chelidonium majus*, Linn., N.O. Papaveraceæ), as the author in a former article pointed out, was used in the same manner medicinally. Brande mentions a Squire Morley, of Essex, who used to mutter a prayer, "which he hoped would do no harm," when he hung a bit of vervain root, the holy herb, the simpler's joy (*Verbena officinalis*, Linn., N.O. Verbenaceæ), from a scrofulous person's neck. And in the same period the so-called seeds of ferns offered a peculiar attraction for the superstitious, since they are not very conspicuous and somewhat hidden. But, as is generally known, the microscope now reveals even the marvellous sculpturings and elegant forms of these erstwhile "invisible" atoms of life. Notwithstanding the fact that the spores of ferns were once deemed invisible, yet the possession of the "seeds" of the common eagle-winged brake (*Pteris aquilina*, L.), collected particularly on midsummer eve, was said to render the lucky holder invisible. Such a creed involved a double delusion, somewhat as reasonable as the endeavour to pocket the *ignes fatui*. Although, formerly, the spores of ferns were designated seeds, nevertheless, it is interesting to point out that recently the fact has been ascertained that ferns, in the period antecedent to our coal measures, actually bore true seeds. It is an easy transition from ferns to mosses, of which Ruskin glowingly speaks as "the first mercy of the earth, veiling with hushed softness its dintless rocks; creatures full of pity, covering with strange and tender honour the scarred disgrace of ruin, laying quiet fingers on the trembling stones to teach them rest." Yet even those "meek creatures" were seized upon by those credulously inclined. The idea was current in former times that moss found thriving on the head of a thief left hanging on the gibbets, when made into an ointment, was an excellent remedy for curing wounds, not, however, applied to the wound, but to the weapon which had inflicted the wound—a method of medication about as valuable as that recommended for the removal of warts, and suggested by the secretary to Charles I., the philosopher Sir Kenelm Digby, who says "that great benefit is obtained from washing of the hands in a basin shone into by the moon *without* water, because moonshine would have humidity enough to cleanse the hands by reason of the star from which it is derived." Thus our ancestors, brilliant men though many were, displayed a ravenous desire for the impossible, were gratified by the marvellous, and, with ostrich-like endeavour, imbibed the wildest theories propounded.

Members of the order Compositæ contributed their quota to the medley of charms for the readily deceived. The common holy thistle (*Centaureæ benedicta*, Linn.), a native of Spain, ex- have been discovered to Charlemagne by an angel, and that through its peculiar influence the plague was rendered harmless to his troops. From that circumstance the thistle received its generic name after Charles the Great. So with the blessed or holy thistle (*Centaureæ benedicta*, Linn.), a native of Spain, extolled in remote days for wonderful powers. Beatrice, in "Much Ado About Nothing," exclaims: "By my troth, I am sick"; whereupon Margaret replies, "Get you some of this distilled carduus benedictus, and lay it to your heart; it is the only thing for a qualm." Needless to say, the Prince of Dramatists, whose acquaintance with plants appears to almost equal his marvellous penetration of human vagaries, used the above words figuratively. Finally, for this order, the leaves of the burdock (*Arctium lappa*, Linn.), are in the present day thought very efficacious in rheumatism when merely placed over the affected part.

Since our progenitors so firmly relied on the power of charms and believed in maledictions, it necessarily followed that methods would be devised, and means sought, for rendering them inoperative or destroying their effect. With that object in view, the simple expedient of gathering and secreting about the person the common snapdragon (*Antirrhinum majus*, Linn., N.O. Scrophulariaceæ), was deemed quite sufficient. The possession of that plant and selago were considered in days of old as affording immunity from sudden calamities and enchantment. Both were to be uprooted with certain ceremonies. In one case the plant was to be plucked with the left hand, the eyes fixed on the herb, and the person desirous of this precious talismanic object must have fasted several hours. The elder tree is another plant formerly esteemed for its imaginary protective influence, and it has been suggested that the above superstition is responsible for the many trees of *Sambucus nigra* which are found planted near cottages. Resemblances, too—real or fictitious—between a plant, or part of a plant, and a member of the higher kingdom are responsible for some curious misbeliefs. Thus it is that viper's bugloss (*Echium vulgare*, Linn., N.O. Borraginaceæ), was at one time regarded as exerting a supernatural influence over the venomous viper, merely because in the form of the seed is a fanciful representation of the head of that reptile.

Perhaps no plants have agitated more the minds of the credulous and excited such deep interest and belief in their virtues than the mandrake (*Mandragora officinalis*, L., N.O. Solanaceæ), a native of the South of Europe, and the ginseng of the Chinese (*Panax schinseng*, Nees, N.O. Araliaceæ). A perfect halo of the terrible, the marvellous, the affecting, and the mythical surround those plants. So familiar, and as of almost perennial occurrence, are the myths of ginseng that one hesitates before reviving tradition. Nevertheless, so extravagant in ideas is the reputed origin of Chinese ginseng that, at the risk of repetition, the following is extracted, in the hope that it may be new to some readers. Ginseng is said to evolve a living creature. "The plant, after growing for three centuries, is inspired through the starlight, by the spirits of the hills and rivers, then to burst into the shape and form of a man. In course of time the new creature can leave the earth and dwell among the stars; but the most wonderful part about him is his white blood, which is a sovereign cure for all diseases and a safeguard against mortality. It is very hard, however, to get this white blood, this divine ichor. To begin with, you must be extremely pious, and must pray and fast for some while before making the attempt. Then the plant spirit may be deluded into believing that a red paper lamp with seven purple stars is the Great Bear, and he comes near, being a star-worshipper. A net is kept handy, the spirit caught, and his arm cut with a knife of agate, and the drops of blood caught in a vessel of the purest jade. As a few drops will bring a dead man to life, they are naturally valuable."* Such is the delusion, and the accompanying illustration (Fig. 1), which is sketched from an exceedingly curious portion of ginseng in the possession of the writer—and the root, minus the caudal appendage, does indeed bear a striking resemblance to the human form—will probably give a clue to the origin of the myth. Many will doubtless recollect the singular Imperial edict issued by the Empress Dowager Tze-hsi-hiant-yu, granting to one of the Viceroys "four ounces of the very best ginseng" from the Imperial Treasury, so highly is it esteemed, therapeutically, by

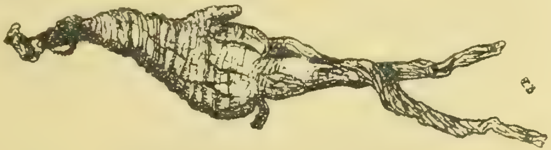


FIG. 1. -CURIOUS ROOT OF GINSENG.

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* *Times of India.*

the Celestials. Another remarkable Chinese delusion prevalent in the present day is that which has reference to the so-called "Emperor's tree." It appears that the first of the Manchu Emperors, Chuntche, marked his accession to the throne of China by planting a tree in the courtyard of the temple Tan-chè-ssu, which is adjacent to the hills west of Pekin. The belief is said to be almost universal in the Celestial Empire—and from which the Emperor himself is not free—that the ruling family will remain in power only so long as this famous tree exists; that a sapling which sprouts from the root at intervals decays with the death of each prince, and that a new sapling develops in honour of the new Emperor. The tree is watched with feverish anxiety by the royal family, and numerous pilgrims gather from all parts round this deeply-venerated tree.

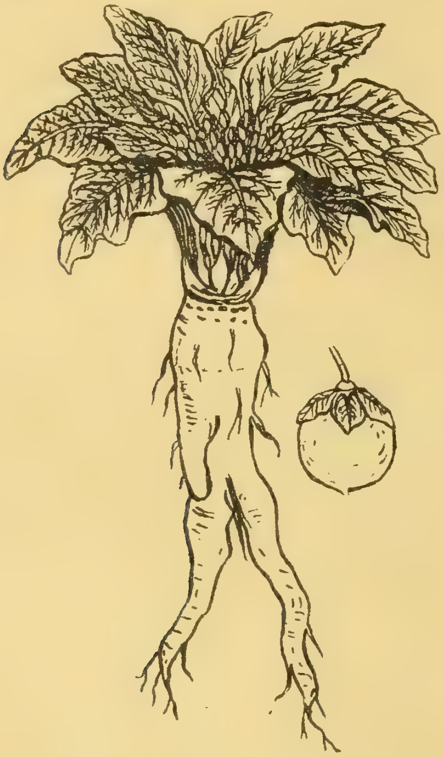

Fig. 2.—*Mandragora officinalis.*

As with the celebrated ginseng, so with mandrake. There is much in common, with reference to fabulous attributes, one with the other. The name *mandragora* appears to be derived from the German *mandrugen*—*i.e.*, having the form of a man, and to some small extent the human body is represented by the forked root of the mandrake, while the head may be supposed to be imbedded among the leaves; hence arose also the designation "anthropomorphon." (See Fig. 2.) Mandrake, which the Arabians termed the "devil's candle," possesses a peculiar fœtid odour, and is extremely poisonous, acting as an acro-narcotic. It entered into the love potions of the early Greeks, and in the middle ages the credulous were imbued with the belief that the possession of the root would avert disaster, transform sorrow into joy, enemies into friends, and, as a citizen of Leipsic in 1675 once wrote to his brother, "When thou goest to law put the mannikin (mandrake) under thy right arm, and thou shalt succeed, whether right or wrong." It was supposed to thrive only under the gallows, receiving its nourishment from the decomposed bodies of criminals left exposed on the gibbet, and that the sex of the malefactor determined the male or female form of the root. In old works on physical botany, curious figures of the two forms are depicted; Fig. 3 and Fig. 4 represent those forms. The gathering of the plant entailed either instant death, or madness if anyone heard the fearful groans or terrifying shrieks which it was said to utter. Thus, Juliet, in the third scene of the fourth act of "Romeo and Juliet," is represented to say: "Alack! alack! it is not like that I, so early waking—what with loathsome smells; and shrieks like mandrakes torn out of the earth, that living mortals, hearing them, run mad." . . . . Therefore precautions were necessary in dislodging the root. Pliny notes the rules which were to be observed, and more recent authors give minute directions. They recommend the employment of a dog for uprooting the mannikin. It was to be fastened to the tail or body by means of a rope, the animal then whipped, when in the endeavour to free itself the plant would be dragged away. Naturally, the dog was bereft of memory, or fell dead, the persons present escaping a similar fate by filling their ears with pitch. The peculiar mythical faculty of emitting sounds was not confined to the mandrake, for tradition has it that the oak is so endowed when felled. Ovid reminds us that:—

> The trembling oak with sighs of sorrow wept:
> And deadly paleness o'er its branches crept;
> But when the hand profane a wound bestow'd,
> Quick from the yawning sides its life blood flow'd!

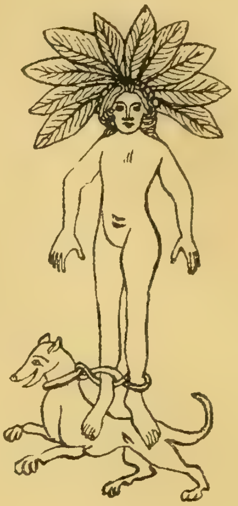

Fig. 3.
Mythical Male Mandrake.

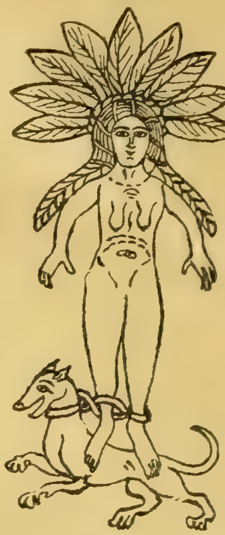

Fig. 4.
Mythical Female Mandrake.

To prolong the curiosities of botanical charms might prove tedious to the reader. One other instance, however, may be noted that is quite modern, illustrating the action on the body of plants when carried about the person. Dr. R. Dickson, some time lecturer on botany at St. George's Hospital, recorded the fact of his having conveyed a specimen of the wild cucumber (*Ecballium elaterium*, A. Richard, N.O. Cucurbitaceæ) in his hat from the Jardin du Roi to his apartments in Paris, when half-an-hour afterwards he was seized with intense headache, severe abdominal pains, violent diarrhœa, vomiting, and fever. Consequently, it would appear that plants do exert a very decided action when merely carried, although, of course, it is not suggested that any such influence is manifested as above set forth with regard to the supernatural. Yet the greatest error invariably has some nucleus of reason, obscured, it is true, by a mass of illogical attributes. And may we not say that, like the alchemists of old, whose researches after the elixir of life and the philosopher's stone were the means, subsequently, of real benefit, so the search for the wondrous herb which was to cure all ills has resulted in a rich harvest of no little consequence? But, as species once thought extinct are occasionally discovered living in the remote corners of the earth—and as the offspring is tinged with the characteristics of the sire—the modern river polluted with ancient débris, so in the midst of our present social system—advanced as it is—superstition and the belief in strange doctrines, indicative of a famished soul, linger, swaying the minds of many.

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* Readers will perhaps remember that Rachel, *circa* 1745 B.C., covets the mandrake collected in harvest time by Reuben (Genesis xxx. 14-16). The Hebrew word "dhudhaim" is said on good authority to be correctly rendered mandrakes, although at one time considerable doubt existed as to the real interpretation of the word.

ON THE MANUFACTURE AND SPREADING OF SURGEONS' ADHESIVE PLASTER.*

BY A. W. GERRARD.

If a search be made through the literature of pharmacy comprehending the past forty years, it will be observed that information respecting the subject of plaster manufacture and spreading is markedly scarce. It is a lamentable fact that no branch of pharmacy has suffered more neglect at our hands, and, judging from the observation of myself and others, so little is known and practised of the art that in so far as retail pharmacy is concerned it is almost dead. That this is so is not altogether surprising when we consider how little is taught of the subject, and I venture to predict that, unless the practical teaching of this and many other processes of pharmacy are better provided for, our skill as craftsmen, as well as the status of our calling, will be materially lowered. My views must not be misunderstood. I do not argue it would be wise or profitable for pharmacists to spread their plasters in a general way, for it is certain the work can be better done by the specialist. I do, however, maintain that our rising generation should be so educated as to have the opportunity of becoming the future specialists, so retaining this branch of legitimate pharmacy in the hands of the pharmacist. Further than this, it is reasonable to expect that every pharmacist should be capable in cases of emergency of spreading at short notice a decent length of surgeon's adhesive plaster or a shaped marginal plaster of any description. The man who can accomplish this is certain to gain in credit and reputation, for it is common knowledge that a fresh-spread plaster is always more highly appreciated by both doctor and patient than a stale plaster which has been in stock for months, and is usually brittle and wanting in adhesiveness in proportion to its age.

In addition to giving detailed instructions for the manufacture of good lead plaster, and from it a good adhesive plaster, it is my intention to show how by simple tools and a little practice plasters of most kinds can be spread. My first lessons on the pharmacy of plaster spreading were given me just forty-one years ago, in the laboratory of Guy's Hospital, by James White, an intelligent laboratory man of kindly disposition, always willing to impart his knowledge to others. At the time of which I write White had made and spread Guy's plasters for thirty years, therefore his ripe experience was a valuable asset for me to start on. Being resident dispenser at the hospital at this period, abundant opportunities were afforded me of watching all the operations, and as White frequently trusted me with his tools, I soon mastered the work and was able to take the spreading entirely, in White's absence. Guy's Hospital adhesive plaster always had a good reputation; it was much sought after and highly appreciated by surgeons for its strength and adhesive qualities. Being spread on a pure stout linen, free from stiffness or dress, it adapted itself remarkably well to any iregular surface to which it was applied. Evidence as to its good quality was afforded at the time of the Franco-German War, when a number of German surgeons visited Guy's to examine the plaster, and were so well satisfied with it as to make outside arrangements for 1,000 yards of similar plaster to be sent at frequent intervals to Germany during the continuance of hostilities. As Guy's plaster possessed so good a reputation, and was the result of long practical experience, it may prove of some benefit to pharmacy if I give the details of its manufacture, likewise describe and demonstrate how it was spread.

It will be admitted that the first essential of a good adhesive plaster is the base or compound used to impart the adhesive property to the fabric on which it is spread. This base should possess, as far as it is possible to obtain them, four leading qualities—(1) neutrality, (2) freedom from irritating ingredients, (3) a melting or softening point of 98° to 100° F., (4) strong stickiness or power of adhesion. The latter quality is highly essential, as it enables the spread plaster to remain firmly in place where used to support a limb or fix a splint. Lead plaster or diachylon has been from ancient times the most important and best esteemed of the plaster bases, and is without doubt, when modified by certain admixtures, well adapted for the purpose intended. It is consequently of much importance that minute attention be given to the details of its manufacture. At Guy's, in my time, lead plaster was prepared as follows:—6 gallons, or about 55 lb., of good olive oil was placed over night in a steam jacketted pan, together with 30 lb. of powdered litharge and 5 gallons of water; it was then given a good stirring. The following morning the steam was turned on and maintained at 30 to 33 lb. pressure, from three to four hours, with constant stirring. If it were found, on examination, that the whole of the litharge had entered into combination with the oil, another ½ lb. of litharge was added and a further portion of water; the boiling was then continued until a slight excess of uncombined litharge remained in the plaster. If, however, the litharge first used were found to give an excess, no more was added. This proceeding was quite a reasonable one, for if we consider the unconstant character of olive oil, and sometimes of litharge, the quantity of the latter needed to give a perfect lead oleate must be variable. Moreover, long experience has demonstrated that lead plaster, made as described, keeps better and is less prone to rancidity than a plaster containing excess of oil.

Whilst on this point it may be worth mentioning that the lead plaster of the British Pharmacopœia would be improved by the use of additional litharge, and would be less liable through rancidity to cause irritation when brought in contact with the skin. One other important point in the manufacture of lead plaster to which particular attention is needed before it can be considered a finished product is the removal of the glycerin formed in the process; to allow it to remain is not only detrimental to the plaster's adhesiveness, but produces unsightly glycerin blotches on the fabric on which the plaster is spread. The complete removal of glycerin can be effected by continuing the heat until the whole of the water has evaporated and the plaster becomes semi-transparent; when this point is reached glycerin vapour passes off readily, and can be easily distinguished from the vapour of water by its greater transparency. The whole of the glycerin need not, however, be evaporated in this way, for glycerin is practically insoluble in lead plaster. If, therefore, the lead plaster, quite free from water, be allowed to slowly cool, the glycerin rises to the surface, and can be readily removed with a sponge. Lead plaster thus made is now in good condition to employ as a general base. It may be interesting to mention that the above process of manufacture is not quite that of the wholesale drug trade; it is their custom to pour the fresh-boiled plaster into water, submitting it to a pulling process with the hands, thus imparting whiteness and increasing its weight by incorporation of water. This practice of pulling is a very old one, and is said to be esteemed by the trade. Need I say such treatment is absolutely useless; it is, in fact, detrimental, and no up-to-date manufacturer of spread plasters would think of wasting his time on such a foolish proceeding. May we, therefore, express a wish, in the interests of good pharmacy, that the future British Pharmacopœia will require lead plaster to be almost, if not quite, water free. Lead plaster made by the formula above given is of a pale greyish-brown colour, tough and flexible, not easily fractured. Small pieces held between the finger and thumb soon soften and become sticky; kept a month or two, it increases in hardness and easily fractures, otherwise retaining its original qualities. A recent visit of mine to Guy's Hospital elicited the information from Mr. Finnemore, senior pharmacist, that he still practically follows the above process. Fortunately, on the very day of my visit, a batch had just been finished in which the small and useful excess of litharge mentioned was plainly visible. It will, of course, be understood that this excess of litharge is strained off before the plaster is used.

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* Read before the Midland Pharmaceutical Association, Thursday, February 18, 1904

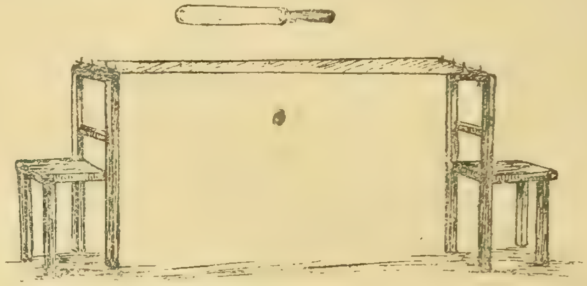
Lead plaster pure and simple is rarely employed alone in spreading; it is usual to improve its adhesive qualities by combining it with soap and certain resins. The resin plaster of the B.P. is a typical useful formula especially suitable for spreading during the cold winter months, but in the heat of the summer time it is advisable to employ half the official quantities of soap and resin, otherwise the plaster may spoil by sticking to itself. It has been said that if you wish to make lead plaster more adhesive you must employ excess of olive oil in its manufacture. This is quite an erroneous statement, for though oil softens plaster, and makes it plastic, it adds nothing to its holdfast tight-grip qualities. Resins are without doubt the best of all additions to increase adhesiveness, and not only is common resin invaluable in this respect, but likewise the oleo-resins of elemi and thus. The judicious employment of what is called gum thus in the official resin plaster enables it to retain self-adhesive properties for a considerable time. A good working formula for adhesive plaster is the following:—

Lead plaster	16
Ordinary yellow soap	1
Resin	1
Thus	1

Shred the soap finely, adding same to the melted resin and thus, stir well until dissolved, lastly add the lead plaster, continuing the heat until all is evenly mixed, then strain. Ordinary yellow soap is recommended to be used because it is found to give a better plaster than official hard soap. If it is required to increase the adhesiveness of any plaster it may be accomplished by the addition of gum thus.

All machines employed for spreading plasters on the large scale consist essentially of a V-shaped trough, about 20 in. long, provided with a false bottom and two stout iron ends or cheeks; into grooves inside these cheeks slide two iron plates, so as to rest firmly and evenly on the false bottom. The plates can be raised or lowered by means of thumb-screws, so as to regulate the thickness the plaster is to be spread. The cloth to be spread is cut to the required width, and formed into a roll; the loose end of the cloth is then placed under the two plates, and the trough filled with the melted, strained plaster. The front plate having been adjusted, the cloth is drawn through the machine, and issues as spread plaster. It is of considerable importance that the bed of the machine and the lower edge of the plates have parallel planed surfaces, otherwise the spread plaster will be uneven. A detailed description and illustration of such a machine, which was the invention of the late William Martindale, will be found in the *Pharmaceutical Journal* (**70**, 33). This machine does its work well, and is capable, in experienced hands, of spreading 400 to 500 yards of plaster per hour. The plaster, as soon as spread, is hung on rails and allowed a period of from four to twenty-four hours, according to the season of the year, to set and harden. A few plasters—soap plaster is one—may be rolled up immediately after spreading.

A simpler form of apparatus is that on which I am about to spread a piece of plaster. It is almost a fac-simile of that used at Guy's Hospital during my dispensership, and many years after. As seen from the illustration, it consists of two straight-backed chairs, along the top back rails of which is placed a row of sharp hooks (tenter hooks). The cloth, 3 yards long and 12 in. wide, is fixed on the hooks and evenly strained. To keep the chairs rigid while spreading, heavy weights must be placed on the seats. The plaster, melted in a saucepan, is now poured on one end of the cloth near the hooks, and drawn smoothly and evenly along the cloth to the other end by means of the large, stout and stiff spatula forming part of the illustration. The spatula must be made warm and worked on its edge. A second portion of plaster is poured on and spread back to the starting point. Any excess of plaster can be picked up by a dexterous move of the spatula and returned to the saucepan.



The edges of the plaster require trimming with a sharp pair of scissors, and the plaster may then be cut off at the ends near the hooks and hung till ready for rolling. A small amount of plaster always drops over the side of the cloth on to a board provided to receive it; this can be gathered up and used again. With this apparatus 60 yards of plaster can easily be spread in one hour, giving as good a plaster, both in quality and appearance, as the more costly machine first described. One of the chairs can be dispensed with by fixing one row of hooks to a wall. By bringing the chairs closer together short lengths of plaster may be spread, also plasters on leather or felt. For spreading leather plasters it is necessary to cut the skins as square as possible.

When selecting a fabric for spreading on, let me recommend you never to employ the cheap plastered and dressed-up stuff sold as glazed calico; though it looks well when spread, it makes the worst of all plasters, so that most surgeons call it rubbish, and will not use it. The best fabrics to employ are brown holland, linen, and calico; these should be of medium texture, free from dress or filling. A piece of the fabric placed under a ¼ in. linen-tester should show about fourteen threads both on the warp and weft, and should be fairly close woven. The most favoured of all adhesive plasters is that on brown holland, the demand for which exceeds all other kinds.

SOUTHERN AND EASTERN SKETCHES (3).

BY G. CLARIDGE DRUCE, M.A., F.L.S., PH.C.

CATANIA was to be our next resting-place, and, although the mileage (151) is not great, yet the trains in Sicily are so slow that it takes nearly a whole day to get from one place to the other. But a railway journey, even if it is slow, is always pleasant to me. One is able to see so much from a carriage window, and on this occasion many things worth observing were to be seen. Our way at first led along the coast, with the strangely outlined Monte Griffone, then came fine views of the Madonia Mountains, and then one ascended from the coast level, with its rich agrestal vegetation, to the interesting hill-town of Caltanisetta, where the flora changes its character, and, losing the rank luxuriance of the south, assumes rather the aspect of that of our Cotswold country. At Villarosa, the railway platform and adjoining roads appear as if they were in the district of the Landes, near Arcachon, and the yellow pollen of the pine, which is so conspicuous an object there, had recently been distributed over them, but the substance here is not pine pollen but flowers of sulphur. Sulphur is everywhere, bags of it are piled up on railway trucks, stacked on the platform, or being brought in on rude carriages, and blocks, about 2 ft. square, of brimstone are in great evidence. One gets whiffs of a sulphur-laden atmosphere, and far away in the distance one can descry the mountains whence sulphur is brought, and can faintly discern the mines themselves. But the industry is a diminishing one, having sunk in value from upwards of 40,000,000 lira to 22,000,000 lira, partly in consequence of the recovery of sulphur from waste products in our own dominion. The labourers in these mines have been wretchedly paid, and for many years the condition of the boys employed in them was horrible. One of the blue-books published on the subject gave some revolting accounts. They were practically sold by their parents as slaves for a certain number of years, and it was said that not one of them was without the cicatrices of burns, caused by the ganger holding his candle to their ankles, in order to hasten their progress up the ladders as they carried the load of sulphur to the surface; but now the condition of things is said to be much improved, and we may hope that the sulphury regions are now less hellish than was formerly the case.

From Villarosa, misnamed though it be, our train slowly passed up the magnificent ravine between the two hill-towns of Calascibetta and Castrogiovanni, and it is almost impossible to imagine anything more romantic than their situation, the latter being especially interesting, since it was the ancient Enna, or Henna, founded 600 B.C. by Syracuse, and it was the mythical place chosen by Kore, where the violets grew so close together and emitted so strong a perfume that the hounds lost the scent of the prey they were following. Now the scent might as easily be lost but from a very different cause, that is if any animal bred in the open had the temerity to enter the present reeking streets. Four hundred years B.C. it fell by treachery—it could hardly have been carried by assault—into the hands of Dionysius, then in the first Punic War it was occupied by the Carthaginians, and about 214 B.C. the inhabitants were massacred by the Romans, who in turn became possessors, and in course of time made slaves of the inhabitants of the surrounding districts. In one of the palaces dwelt Damophilus and his wife Megallis, and although there may have been others as rich and as powerful, yet these were specially conspicuous for the regal state in which they lived, and for the barbarous cruelty with which they treated their slaves. Among the slaves in Henna was one named Eunus, a native of Syria, who was skilled in Eastern magic, and who was looked upon by his fellow slaves with awe as the possessor of god-like attributes. By his owner and his friends he was thought to be only a jester and buffoon, and was introduced to their banquets in order to lighten the gargantuan repasts. On such occasions he used to prophesy that some day he would be king, which was always treated as a most excellent joke; even in those days a joke must be venerable to be duly appreciated. He was requested by the hilarious company to be particularly gracious to them when he came into his kingdom, and he promised that he would show them due mercy.

SULPHUR MINERS.

The suffering slaves of Damophilus inquired of him as to what should be done to relieve their sufferings, Eunus consulted the oracles, and advised them to revolt, and in a short space of time 400 slaves, led by Eunus, began an insurrection, and thousands of others coming to their help, before nightfall large numbers of the slave-owners were massacred. Damophilus and Megallis were taken prisoners, and led to the theatre to be judged; nor was the trial long. The tyrant met a mercifully quick death, but Megallis was handed over to her female slaves, who put her to such torture as she had herself meted out to them, but it was a prolonged martyrdom before her still breathing body was cast over the precipitous cliff which now forms such a striking object in the scene. Space will not allow one to further unravel the various episodes which make up the history of this Sicilian stronghold. Sicily's history of human affairs is as varied as the soil-sections on its southern shores. Here and there are strata exposed consisting of limestone rocks which have been slowly deposited in quiet times, where in the matrix lay well preserved fossilised remains of creatures long since vanished from the scene; above those come layers of lava, thrown out by Etna in its furious eruptions, which swept all animate nature from the surface, then in turn the disintegration of its surface made a fruitful soil on which a teeming population could exist, and which, in turn, also became covered. So the remains of the various occupations and dynasties lie for the most part buried.

Shortly after emerging from the shadow of the hill-town, we got our first glimpse of the snowy cone of Etna, shining brilliantly in the sun, while nearer at hand fields of *Hedysarum coronarium*, and a slope, covered with *H. capitatum*, glowed with a vividness of crimson colouring which was actually dazzling, but although we soon left the sainfoin behind us, we scarcely on our journey to Catania lost sight of Il Monte, as the Sicilians call Etna, the slope of which is so gentle, and the air so clear, that with difficulty we realise that the summit is nearly 10,000 feet above us, and forty miles away.

MOUNT ETNA FROM BICOCCA.

After reaching Bicocca, the junction for Syracuse, we pass through a cutting in an ancient bed of lava, through which, by a tunnel, we enter Catania, a populous city of about 120,000 people, but with very indifferent hotel accommodation, or so it appeared to us, who had been spoiled by the luxury at Palermo. The shops were poor also, but the number of barbers was astonishing, every fourth or fifth shop appeared to be occupied by one. There was little in their windows for sale, nor did we solve the reason for their abundance. We went to a pharmacist's for a bismuth mixture for a friend, who had acquired some stomach irritability, and although it took a long time to prepare, it was dispensed neatly, and we found several English specialties kept in stock.

One of my especial objects in coming to Catania was to see "the largest tree in the world," the "Il Castagno de Cento Cavalli," the chesnut of the hundred horses, as it was called, from the fact that its boughs were capable of sheltering that huge cavalcade. My information about the tree was certainly not of a recent character, since it was from the pen of Mr. Brydone, who visited Sicily in 1770, and rode from Catania up the slopes of Etna into the "Regione sylvoso"; that once vast forest which was to a great extent destroyed during the eruption of 1755. The destructive agent in this instance was not lava but boiling water, of which an immense torrent, probably from the crater, poured down the side of the mountain to its base, destroying almost everything in its impetuous course. But the situation of the great tree was fortunately outside this destructive sphere of influence, and Brydone was gladdened by the sight of the greatest of vegetable wonders, although then long past its prime. Still, the circumference of the fragments at that time was 204 ft., which gives a diameter of 67 ft., and when one remembers that the largest of the huge Rocky Mountain Wellingtonias was only 36 ft., the Mexican Taxodium 50 ft., and the Oriental Plane, 47 ft. through, one may more readily appreciate the enormous dimensions of this vegetable giant. But even when Brydone saw it, age had robbed it of much of its original grandeur, for only a hollow shell remained which, as he says, looked rather like a bush of five large trees growing together. Canon Recupero, however, informed him that he had been at the expense of carrying up peasants with tools to dig round the Castagno, and declared upon his honour that they found all the stems united below ground in one root. The tree is marked on an old map of Sicily engraved about 1680, and Massa, an esteemed Sicilian author, says that in size the chesnut on Etna was almost beyond belief, the hollow of it would contain 300 sheep, and thirty people on horseback had often been in it at a time. Near it Brydone saw another tree, "Il Castagno del Galea," the solid stem of which was 76 ft. in girth at 2 ft. from the ground, and a third, "Il Cástagno del Nave," was nearly as large. The guides who accompanied Brydone on his visit, who, he tells us, were renowned brigands but whose veracity was undoubted and their honour of the most unblemished character, and who having once professed fidelity always maintained it with scrupulous care, and he speaks in high terms of their service to him. These guides declared to Brydone unanimously that their grandfathers remembered this great tree when it was the glory of the forest, and visited from all quarters to see its magnificent, and at that time undivided, trunk, whose diameter was so huge that it would fill up from wall to wall the High Street at Oxford, where I am penning this, which is 63 ft. across. Brydone says careful examination by him showed evidences that the men's statements were correct, huge as was the opening between the remaining portions; the inner side of each part was without bark, as were the sides opposite each other. A shepherd occupied one of the portions of the trunk, and he and his family were said to live chiefly upon the produce of its branches, the species being the edible or sweet chesnut, *Castanea sativa*.

Count Borch in his 'Lettres sur la Sicile,' Turin (1782), t. i., p. 121, says he measured the trunk when there were 190 feet round it. The name is said to be given from the fact that fifty horses could be put inside the trunk, and fifty more could be sheltered by its branches. But of recent information about the tree we could obtain but little, even in Bædeker it is not indexed, and only a couple of lines are given to it in the text, nor does there appear to be a photograph of it even in the excellent photographic collections at Palermo, Catania, or Taormina. Therefore, my first visit in Catania was to the Botanical Gardens, but, alas, my old correspondent, Francisco Tornabene, the author of 'Flora Sicula' and 'Flora Aetnæ,' had recently died, and his successor, like so many other holders of botanical chairs, had little interest in Phanerogamous botany, though a keen student of rusts, smuts, mildews, and moulds, and he pointed out a new species of *Puccinia* he had recently found growing on *Teucrium fruticans*, but of the chesnut he could tell me nothing. The gardens, though extensive, were evidently starved for want of funds, and the condition of the glasshouses was quite deplorable. When will some Carnegie arise to endow these establishments? Almost everywhere one sees the same condition of poverty and neglect. In one portion of the gardens we found a few native species of orchids, including that beautiful Mediterranean species *undulatifolia*. We then visited the University, and went over the department allotted to the study of pharmacy, which appeared to be excellently conducted on sound scientific lines. The chemical laboratory would give points to some nearer home.

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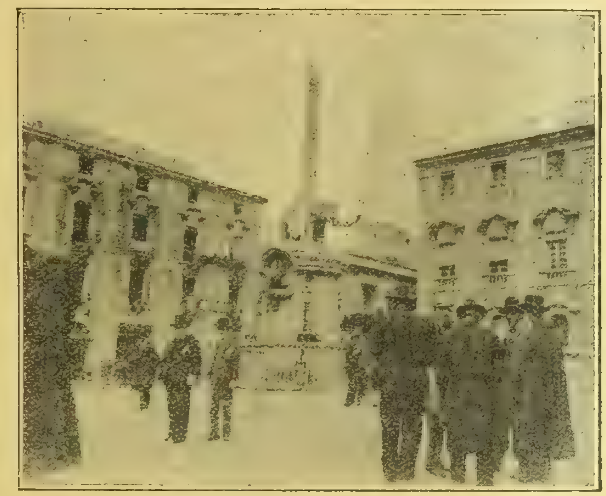
* Tornabene, in the preface to his 'Flora Sicula,' says: "Sull' Etna, al nord-est, v'ha un bosco annoso di Castagni, detto carpineto, dove si ebbe un tempo il *Castagno de' Cento Cavalli* e dove si trovano adesso quelli della *Nave* e di *S. Agata*. Il primo mostrava una ceppaia che pareva formata di cinque tronchi congiunti; ma gli altri non mostrano tale conformazione ed hanno il trunco formato di un solo corpo."

The Professor of Pharmacy told me he thought the tree was near the village called Tre Castanea, which is high up on the slopes of Mount Etna; so acting on the information I chartered a vehicle with a lively little horse, and for the sum of 25 lira I was to be driven to the tree and back, although Jehu, a brigandish-looking Sicilian, declared he had never been to the tree himself, and appeared to think no one else had ever attempted so madly-preposterous a journey. We therefore arranged to start early the next morning upon this wild quest, while the remainder of the present day we spent in visiting some of the chief lions of the city. These I need give in no elaborate detail, but to those who have not visited the place, it will be well to mention that during its long history it has been more than once destroyed by the ravages of war, and more frequently by the wild forces of nature. In 1693 an earthquake practically demolished its buildings, so that few structures of any great age are left. The Roman baths are now underneath a Carmelite Church, near which is a fragment of the old city, now partly covered by a lava stream, while below it issues a copious spring, part probably of the subterranean river Amenanus, mentioned by Pindar, which comes to the surface near the adjacent coast. The remains of the Græco-Roman theatre are also underground, and it is suggested that possibly in this place Alcibiades induced the assembled Catanians in 415 to make league with the Athenians against Syracuse. The present cathedral stands in the Piazza Duomo, on the site of a church begun by Roger the First in 1091, but the apex and a portion of the east transept are all that the earthquake spared of the original building, which was chiefly built of stone from the ancient theatre, of which the granite columns of the façade of the present structure also formed a part. The church is dedicated to the Saint and Martyr Agatha, a name so often heard of in connection with the various eruptions of the mountain, for when extensive lava streams are flowing from it towards Catania, the Veil of S. Agatha is taken in procession to the advancing fiery flood, whose downward progress is usually stopped before it reaches the city, although on one occasion, despite the Veil, it actually mounted the city walls, which were of immense strength and 60 ft. high, and made its entry, sweeping every object before it, and covering up some of its finest fountains, and numerous buildings. On another occasion the lava flow actually gave Catania some assistance, for up to the sixteenth century it was in want of a port, but that which was denied them by nature was afforded by natural means, since a stream of lava running into the sea formed a mole, which gave secure and quiet anchorage, but this safe and commodious harbour was itself filled up and destroyed by a subsequent eruption, when the city also suffered most terribly. And yet with all these instances of disaster about them, and notwithstanding the ever-present smoke from the volcano, the population goes on its normal way, converting what was once an enormous Benedictine monastery into barracks and a technical school, and in the latter teaching some 600 pupils, of all ages from twelve to twenty, the numerous subjects which are comprised in that extensive and expensive system of education. The church, a large baroque edifice, has an enormous organ, with five manuals and nearly 3,000 pipes, while the transept contains a meridian-mark, where we saw the circle of light denoting the hour of "high twelve."

In some of the slummy places we saw a curious instance of plant growth. The roofs of the houses here are often covered with those great thick fluted tiles so characteristic of the Mediterranean towns, and in these, on the thinnest layer of soil, grew considerable quantities of the beautiful *Ornithogalum arabicum*, with its showy white flowers with dark centre. The Bellini Gardens, so named after the great musical composer, a native of the city, contains his monument and also some beautiful shrubs and flowers. In the stream near the city I saw our own water-weed, *Tannichellia*, growing with *Potamogeton panormitanum* var. *Catinense*, and by the roads the grass, *Cynodon dactylon*, is seen. In the Piazza, opposite the cathedral, is a curious monument; upon a base, probably erected during the Spanish occupation, stands an elephant carved out of lava, of very great antiquity. On the elephant stands an Egyptian obelisk of granite, and this is surmounted by a metal-work cross probably of seventeenth-century workmanship.

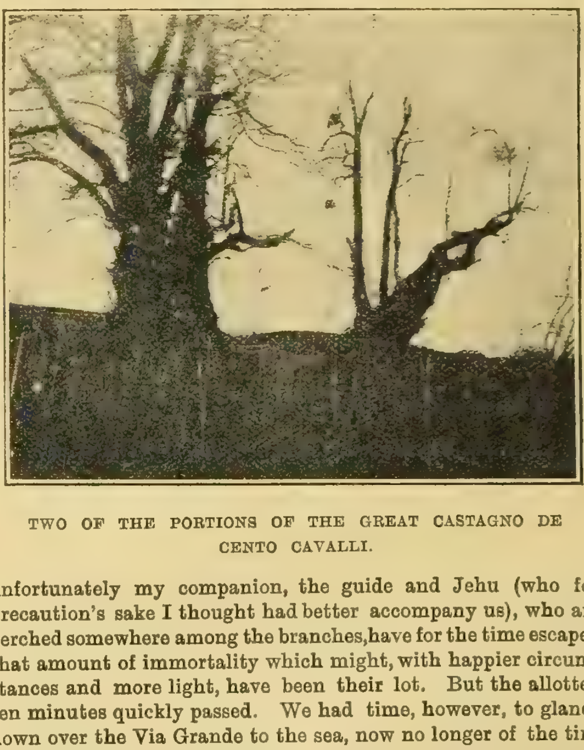


MONUMENT OF THE LAVA ELEPHANT.

The following morning, having purchased a loaf of bread, some cheese, a bottle of red wine, and a dozen oranges for 2½ lira, by way of luncheon, we began our journey to the tree by the Strada Etnea, which stretches for an almost interminable length through the suburbs; at last we reach Barriera where the Nicolosi road to Etna branches off. Our road to the east was made of lava, roughish it is true, but it was an asphalt pavement to what we were hereafter to encounter, but we were then in blissful ignorance. The day was very hot, the gradient was steep, and partly in order to save our steed, and chiefly to pick up such weeds as were senseless enough to grow in the black, dusty roadside, I was more out of the carriage than in it. There was not much vegetation to gladden our eyes, but *Veronica cymbalaria* showed its bright little white flowers amid its dusky surroundings, and here and there a flower was growing which brought Oxford very close to us—namely, the Oxford ragwort, *Senecio squalidus*, which Bobart had sent to him from Sicily about 1690, under the name of *Senecio ætnensis*. Bobart grew it in the Physic Garden, whence seeds got distributed over the neighbourhood, so that now scarcely an old wall in the city or a railway side in the vicinity is without it. Here, too, on the lava walls and on the lava *débris* its bright yellow blossoms were standing evidence against the wisdom of Linnæus in choosing such a misleading specific name.

On the way we saw the following plants, some growing on loose heaps or great masses of lava, or on wall tops or by waysides, and some on such portions of soil which had become more completely disintegrated:—*Rapistrum rugosum*, *Gypsophila cretica*, *Saponaria depressa*, *Silene nocturna*, *S. hispida*, *S. conica*, *S. turbinata*, *Sagina apetala*, *Cerastium brachycarpum*, the naturalised *Oxalis lybica* or *cernua* and *pilosiuscula*, the showy lupines *Lupinus albus*, *luteus*, and *angustifolius*, *Psoralea bituminosa*, with its dull bluish flowers and pitchy smell, the curious and local *Genista ætnensis*, the trefoils *Trifolium tomentosum* and *T. subterraneum*; several species of *Medicago*, *Senecio leucanthemifolius*, *Achyranthes argentea*, *Filago spathulata*, *Lamium bifidum*, *S. pubescens*, *Urtica membranacea*, *Parietaria lusitanica*, *Briza maxima*, *Bromus intermedius*, *B. scoparius*, *B. tectorum*; the pretty and local *Trisetum aureum*; the pretty ferns *Cheilanthes odora* and *Gymnogramme leptophylla*, and many others. In one place the very showy *Isatis canescens*, closely related to our own woad, grew on one of the great masses of lava which are so strange and conspicuous features in this extraordinary district.

As we got higher up, the road was the worst I have ever seen, being full of large lumps of lava which jolted the breath out of one's body, even if the body itself were not flung in a giddy parabola from the much-tried vehicle. We struggled on in the heated air to Bonacorsi, which sounds as if it meant a good course; but if so it strangely belies its name. We bumped—that is, the carriage bumped, while I stumbled along to the Castagne. But no chesnuts, either old or new, were there, much as my Jehu wanted to persuade me that it was our destination. While our fleshy instincts appealed to us to "take the thing as read," our more spiritual aspirations spurred us on, though by the time we reached Pisano, our meagre lunch being over, we were wearied with the journey; but the road became somewhat less trying for a few miles, and we reached Zaffarana, where the streets were nearly filled up with small timber waggons laden with the spoils of the "Regione sylvosa," and leaving us a bare passage to drive though, with the fagots brushing us on either side. The answer given to our repeated inquiries for the Castagne was always "farther ahead," until at Ballo we got more definite information—namely, that we could not drive any nearer to it, but that it was about three hours' walk, or two hours on mule or horseback, distant. This was serious: it was now past 4 p.m., we should be belated on Etna, we should probably be seized by brigands, we had no wraps, and I only had a young companion with me; but we had come a long way for the purpose of seeing the tree, and I found out if we drove to Milo we should be much nearer to the tree, so I decided to go on. The scenery here was magnificent; we had above us the snowy slopes of Etna, above the dark Valle del Bove, with its remains of great forests, far below and behind us was Aci Reale, with its Cyclopean rocks, so we journeyed on through beautiful country to the remote little village of Milo. Here, having first seen that a good feed of corn was given to the horse, who had hitherto only had a few lettuce leaves and green fruit for his midday meal, and having engaged a couple of young active natives, who we found had been in the Bersaglieri corps, as guides—and they must bring with them another for company's sake—we set off on what they called a sharp hour's walk to the tree. But their walk was a six miles an hour sort of trot, and our way led along rough baulks, over rough lava walls of vineyards, through the vineyards themselves, across dry river beds, till, in contradistinction to the latter, we had not a dry thread on, from the profuse perspiration. "Dum spiro spero" was our motto, and we struggled on, not liking that those lissome mountaineers should leave the Anglo-Saxon far behind, even if they were on their native lava—heath it certainly was not. The hour seemed to be uncommonly long, the sun sank gradually out of sight, when suddenly we heard "Ecco vostro arbore!" and there in a vineyard stood the mighty chesnut, in three great portions, each a big tree. The prickly seedcoats were plentiful about the base, showing that it still fruited freely; on the naked branches, just showing sign of bursting into leaf, were several bunches of the South European mistletoe, *Loranthus europæus*, which has oval yellow berries instead of the round white ones of *viscum*. It was now after 6 p.m., the sun had disappeared behind the shoulders of Etna, the Valle del Bove was dark in shadow, but we tried a couple of time exposures, and, although I had little hope of getting any results, they are not absolutely a failure; but although the outline of one of the portions is discernible, unfortunately my companion, the guide and Jehu (who for precaution's sake I thought had better accompany us), who are perched somewhere among the branches, have for the time escaped that amount of immortality which might, with happier circumstances and more light, have been their lot. But the allotted ten minutes quickly passed. We had time, however, to glance down over the Via Grande to the sea, now no longer of the tint of lapis lazuli, but opalescent in colour. On the magnificent coast line picturesquely situated villages appear, and one, looking especially fine and not far away, we were told was Taormina; in fact, we were really much nearer to it than we were to Catania. On a final examination of the enormous tree we noticed another portion separated by a sunken roadway, 8 or 9 ft. deep, from the other three, and this we were assured also belonged to the original trunk, and pacing round we found that would roughly give the measurement of 200 ft. The height of the chief portions would probably not be above 70 ft.



TWO OF THE PORTIONS OF THE GREAT CASTAGNO DE CENTO CAVALLI.

We had a hurried rush to see one of the other giants, but, although a taller specimen and in fairly good condition, it was so completely dwarfed by the dimensions given for *the* Castagnea that we did not stay to measure it, and it was now rapidly getting dark. We had another series of gymnastic exercises on the way to Milo, but with the exception of rasping one's knees on the vineyard walls of lava up which we occasionally had to crawl, or bruises on other parts when we sat down too violently on the descent therefrom, we escaped serious casualty. The bright starlight night was pleasantly cool, much cooler than ourselves, one just perceptible cloud above us only was visible, and that was the smoke from the crater of Etna; but we hastened on, tormented by a most terrific thirst, and our first cry on reaching the *osteria* was "Vino Rossi!" and it came in a huge jug. And very good it was, although our palates were not then in a condition for critical vintage testing. A loaf of bread and sixteen oranges, with a quart of wine, could not be called dear at eightpence, so we could afford to stand treat not only to our guides and Jehu but to several others of the crowd of villagers who had come either to assist at our capture or to stare at some Inglese, a nationality, so far as we could gather, none of them had ever seen before. It was a picturesque group, and, as their intentions were strictly honourable, we could admire it, lighted as it was partly by the fire on the hearth of the house, and partly by firebrands held by the active young Sicilians, while others were begging autographs or drinking our health with great gusto. Our guides were most anxious to obtain their photographs for their lady friends, of whom they appeared to have many. Then came our homeward journey. With great difficulty the lamps were lighted, the good steed, stimulated by his meal, pricked up his ears, the whip, which had never been used to strike, was violently clacked, off we went through the night on what Jehu said was a "strada sicuro," having reference to its freedom from "gentlemen of the night," and in no way referring to its physical condition—jolt, jolt, jolt, till I got stitch in the side, and could have yelled in pain, when, at one supreme jolt, up into the air went one of our lamps and out went its light, and there we were, paraphrasing Milton, "with light on one side quite gone out." Meanwhile, despite the motion, my young friend was off into the sound slumber which is the blessing of youth, and I had not only to hold on myself, but to see he did not follow the lamp in some rocket-like exploration. However, on we went, till we saw we had left the light of Giarre behind us, that we were well above Aci Reale, while far away to the west was a radiance on the horizon which betokened Catania. Jehu was quite cheerful, between the cigars which I supplied him with, he sang rolling Sicilian ditties, the horse trotted on as if lava lumps were velvet lawns to him and forty miles was but an ordinary drive, the air got colder, my stitch got better, and then, having passed Battier, we saw, stretching down to the sea, the row of lamps most curiously outlined in the long perspective between which we drove at a rattling pace until, close upon the 'witching hour of midnight, we got to our hostelry, tired but triumphant.

We had intended to climb Etna itself, but it was too early in the year and the snow was unusually heavy. So reluctantly we were obliged to give up the idea. The mountain is of vast extent, it is 10,742 ft. high, and is eighty miles round its base. It has three distinct zones of vegetation. In the Regione Coltivata, which extends up to Nicolosi, the fig, vine, olive, almond, and nut grow luxuriantly. The Etna wine is most excellent and the figs luscious. Above this zone is the "Regione Nemorosa," extending to about 7,000 ft. in altitude, where pines, *Pinus nigricans*, birch, oak, red beeches, and other nuts grow. The upper part is called the "Regione Deserta," and in this some few species occur which grow nowhere else, such as *Senecio ætnensis*, *Anthemis ætnensis*, and *Robertia taraxacoides*; while *Astragalus siculus*, and our tansy, *Tanacetum vulgare* (which is never alpine in Britain), also occur. The fern, *Woodwardia radicans*, the cinquefoil, *Potentilla ætnea*, the Solomon's seals, *Convallaria ætnea* and *C. multiflora*, and our snowdrop, *Galanthus nivalis*, are also natives of Etna.

On our hasty rush to the tree through a portion of the forest region we had just time to pick a few interesting species. They include the handsome leopard's bane, *Doronicum caucasicum*, *Saxifraga bulbifera*, allied to our own *granulata*, the cresses *Arabis collina* and *A. verna*, the latter apparently new to Sicily (at any rate it is not given by Tornabene in his 'Flora') also the British plants, *Cardamine sylvatica* and *Saxifraga tridactylites*, the two ferns already mentioned, and a very curious monstrosity of the Sicilian daisy, *Bellis sylvestris*, which was the so-called hen and chicken form, the capitulum being proliferous; a number of small secondary capitula being present giving it a very strange appearance.

INCENSE AND INCENSE-YIELDING PLANTS (1).

BY JOHN R. JACKSON, A.L.S.

The simple word incense has, in Christian countries generally, but one meaning, namely, the composition of odorous substances, such as resins and barks, used symbolically in Divine worship. Even if we were to confine ourselves to a consideration of the actual ingredients of the incense used in the early Jewish ages, the subject would be a difficult one, inasmuch as it has occupied much attention and research by various writers on biblical history without any very satisfactory results as to a knowledge of the origin of several of the ingredients, such, for instance, as stacte and onycha, and amongst vegetable products even myrrh and galbanum. The exact identification of any of these with modern sources is, notwithstanding the attraction the subject has from various points of view, still a matter of doubt. The command of Moses to take "sweet spices, stacte and onycha and galbanum; these sweet spices, with pure frankincense," cannot be fully realised at the present time, for considerable doubt surrounds all the three first-named ingredients, and the modern galbanum cannot in any degree, according to our present notion of "sweet spices," be classified as such. So long as these matters remain unsolved, so long will there always be a mysterious interest attached to them; and as a proof that this interest is still fresh, we need but point to the frequent recurrence of questions connected with the general subject, such, for instance, as that raised a short time ago in the trade press, both as to the correct formula for the composition of incense,

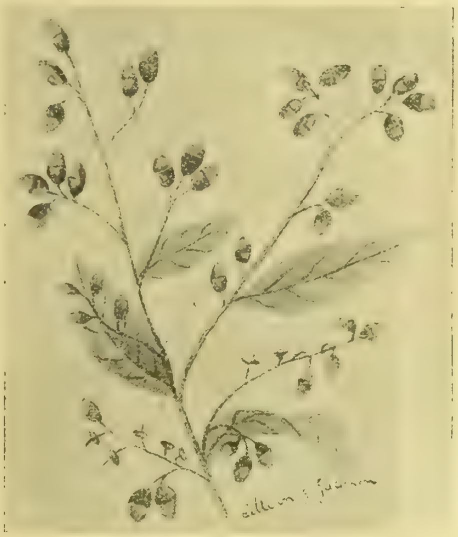


FIG. 1.—BENZOIN (*Styrax Benzoin*).

and for information as from whom it may be obtained in the ordinary course of trade. That the church furnishers should be the only purveyors of incense for ecclesiastical purposes is, perhaps, not to be wondered at, for it would seem to be a legitimate article of their trade, and is probably furnished to them by the wholesale or manufacturing chemists; but as the preparation and combination of the various ingredients essentially belongs to the chemist, and in view of the increasing use of incense in Anglican churches, it should be an article always obtainable from a chemist. Indeed, we happen to know that some of the best incense obtainable in London, both with regard to its agreeable aroma and its correct composition, as far as is possible, is compounded by an eminent chemist. That a larger number of ingredients now enter into the composition of incense than was formerly the case is very certain when we have such a recipe for its composition as benzoin, storax, myrrh, labdanum, cascarilla bark, and the oils of cinnamon, clove, lavender, and bergamot. On the other hand, in some instances little else but benzoin and olibanum are used.

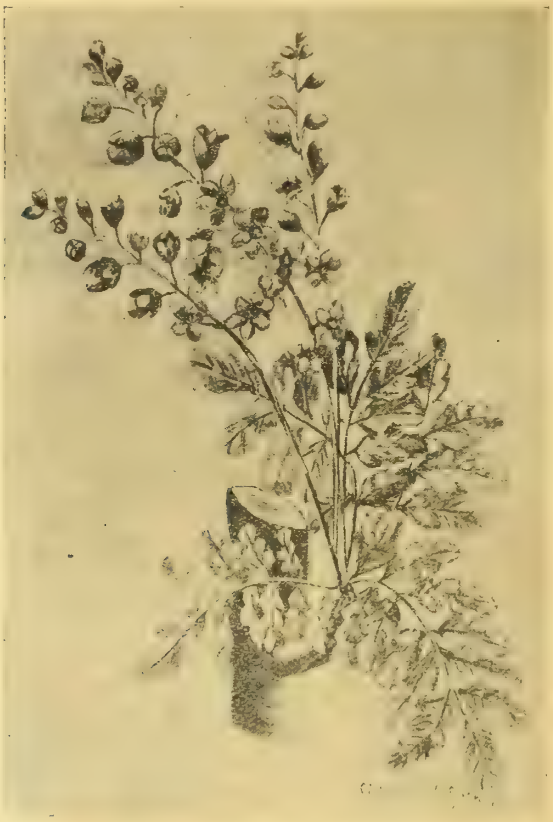


Fig. 2.—Olibanum (*Boswellia Carteri*).

Benzoin (*Styrax Benzoin*, Fig. 1) is certainly the most agreeably fragrant resin of all so used, but it has the disadvantage of not being identifiable with any ingredient used in the early Church—which, indeed, is impossible, seeing that it is a product of Sumatra, the tree, a moderate-sized one, being found abundantly in the interior of the island, and cultivated in many parts, especially near the coast. The gum is collected by making incisions in the stems of the young trees; it exudes in a liquid state, but soon partially hardens by exposure to the sun and air. It is scraped off with a knife when it is in the form of small, roundish tears, which, upon being placed in boxes for exportation, become agglutinated in one mass. When fresh, it is of a pale cream colour, but turns brown with age and exposure. Olibanum, the other principal ingredient in incense, is also known as frankincense, and is the product of a small tree (*Boswellia Carteri*, Fig. 2) inhabiting two limited districts of similar character in tropical Arabia and East tropical Africa. The young trees furnish the best gum, which is collected during the hot season, commencing about the end of February or the beginning of March, and terminating about the middle of September, when the first rain stops the collecting. To cause the gum to flow freely, a deep incision is made in the stem, and a small strip of the papery bark torn off below the wound. As the gum exudes it partially hardens on the stem in the shape of round or pear-shaped tears of a dull cream or whitish-yellow colour, the cleanest and purest globules being, of course, preferred for use in incense. An earthenware incense burner from Southern Arabia is shown at Fig. 3. The original burner is in the museum of the Royal Gardens, Kew.

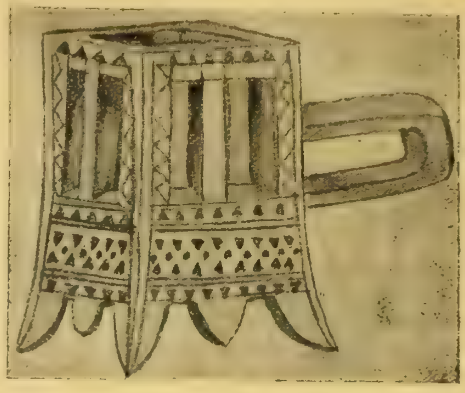


Fig. 3.—Incense Burner from Southern Arabia.

Fig. 4.—Ladanum (*Cistus Ladaniferus*).

Labdanum, or ladanum, is perhaps but little used in incense at the present time. It is furnished by one or two species of *Cistus*, as *Cistus creticus*, *C. ladaniferus* (Fig. 4). The product has been confused with myrrh, hence, perhaps, its inclusion in the composition of incense; but the plants are so distinct from the true myrrh-yielding plants, and their geographical range so different, that their inclusion can only be made from the fact that they yield the fragrant resin. Labdanum, and the mode in which it is collected, is too well known to describe here.

On the question of true myrrh it will suffice to say that the identification of the gum resin known by that name at the present day with that of biblical times seems to leave but little doubt. That they are plants belonging to the same natural order (Burseraceæ) as the olibanum is also conclusive, and we may go so far as to say that the plants belong to the genus *Balsamodendron* and probably to some or all of the following species: *Myrrha*, *opobalsamum*, *Schimperi*, or *simplicifolium*, but with the present unsettled condition of the specific nomenclature of myrrh-yielding plants, it is unsafe to go further. Whatever may be the true determination of the species, the habits of the plants belonging to the genus are to an ordinary observer similar, and are small, irregular-branching trees, from the trunks of which the gum exudes spontaneously. At first it is soft, of a greasy or oily nature, yellowish white in colour, but changing gradually to a golden tint, and finally becoming hard and of the reddish-brown colour so well-known in commerce.

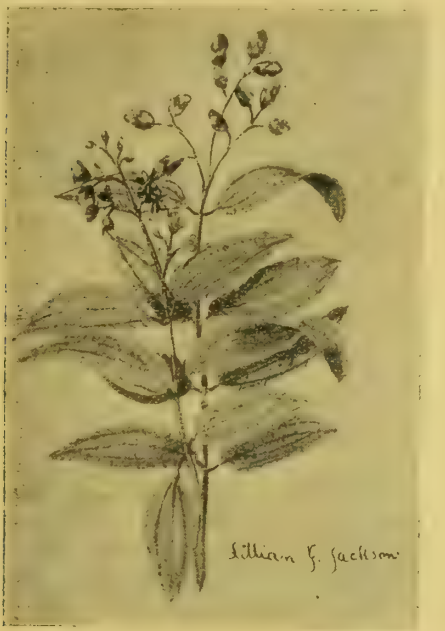


Fig. 5.—Cinnamon (*Cinnamomum Zeylanicum*).

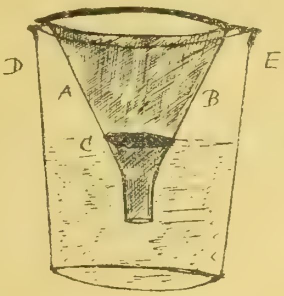
Storax has been considered by some to be capable of identification with stacte—a point, however, that has never got so far as a solution, though it has been shown for some years past, through the researches of Daniel Hanbury, that *Styrax officinale* had long ceased to furnish liquid storax, which is now produced by *Liquidambar orientale*, a small tree, native of the extreme south-west of Asia Minor, and belonging to the natural order Hamamelideæ, a family far removed botanically from the Styraceæ.

Of the fragrant oils said to be most generally used in the composition of incense, all are well known in English commerce. Cinnamon, clove, bergamot, and lavender find their chief uses in perfumery, and the first three are also used in confectionery and other similar uses. The cinnamon plant (*Cinnamomum zeylanicum*, Fig. 5) yields three distinct oils, all of which are of some importance. The inner bark, which is the cinnamon of commerce, yields a valuable essential oil to the extent of ½ to 1 per cent. It is of a golden yellow colour, and the characteristic smell of cinnamon bark. The oil from the leaves is of a brown colour, with the odour of cloves, while that from the root is yellow, with a smell of camphor and cinnamon combined, and a powerful taste of camphor. Clove, bergamot, and lavender oils are obtained, as is well known, from the cloves themselves, the rind of the bergamot fruit, and the flowers of the lavender respectively. The only other ingredient in the incense which is generally used, is cascarilla bark, the fragrant bark of *Croton eluteria*, from the Bahamas, which is said to be now somewhat largely used for scenting tobacco and cigars. In another article we hope to draw attention to a few other less known plants of a fragrant nature used for similar purposes in religious rites.

A NEW FORM OF SECTION LIFTER.

BY S. E. DOWDY, M.P.S.

Only those who have experienced the difficulty of handling fragile sections and delicate vegetable or animal tissues in microscopical work will fully realise the necessity that exists for something more satisfactory than the ordinary section lifter. In the majority of cases it is by no means an easy matter to secure such specimens when floating in liquid and to properly extend them on cover-glasses for mounting purposes. To meet this difficulty I have devised the following arrangement, which may be of interest to the practical worker. The enclosed rough sketch will serve to explain how anyone can, at a nominal cost, construct the article in question. A small piece of wire gauze is obtained and bent in the shape of a funnel. This funnel (A B C) is placed in a small glass beaker (D E), and a circular cover-glass, large enough to take the section, is placed flat in the funnel at C, for instance. The beaker is then filled with water, or the liquid in which it is desired to immerse the section, until it just floods the cover-glass. With a wash bottle the section is washed off the razor or knife into the funnel, where it naturally floats on to the cover. By gently raising the funnel the liquid drains off, leaving the section extended ready for mounting. The funnel can now be removed, and the cover-glass pushed up from below with a pen-holder or pencil, and secured with a pair of forceps. It is obvious that the thinnest section or the most fragile tissue can thus be secured and mounted without the slightest risk of injury.



THE REORGANISATION OF PHARMACY (I).

BY AN ORDINARY PHARMACIST.

In this and the following articles it will be my aim to prove that the existing organisation of pharmacy for political and other purposes is chaotic and ineffective, and to suggest a remedy. I am aware that, in the opinion of an ex-President of the Pharmaceutical Society, the pressing need of the day is "not schemes, but men." While, however, I am at no loss to understand, and to some extent sympathise with, the feeling which prompted that utterance, I am moved to advance still another scheme in the hope that men will be found willing to give the thought and labour necessary to its successful adoption.

First of all, it will be well to see of what elements pharmaceutical organisation is composed. There is the

Pharmaceutical Society,

with its Council, its permanent staff, its Divisional Secretaries, and its 6,000 members. Apart from the questions of education and benevolence and its other routine duties, the chief aims of the Society during the past decade have been to secure the passage of a Pharmacy Bill—such as that now before Parliament—and generally to improve the position of chemists and druggists. Now, if one looks at the matter honestly, one is bound to admit that the position of chemists and druggists to-day is little, if at all, better than it was ten or twenty years ago, and that there is absolutely no chance or prospect of passing the Pharmacy Bill. In other words, the public regards the pharmacist with complete indifference, and the State withholds its support from all efforts to mend or end the evils of the one-man-company drug-vender. I think very little of Mr. J. F. Tocher's scheme of "territorial representation." But I give that gentleman credit for having made a well-meaning, if ill-advised, attempt to remedy an evil. That evil is not the system of electing the Council, but the political impotence of the Pharmaceutical Society. And it is the recognition of that impotence which is the chief factor in causing schemes such as Mr. Tocher's or my own to be brought forward.

If, then, the Pharmaceutical Society, in spite of the great efforts which it undoubtedly has made, is impotent, what

Other Organisations

are there to bring about that unity of purpose which alone is the means of achieving an end? There is the British Pharmaceutical Conference, a body which has done much, very much, for the scientific and social sides of pharmacy. Although there have recently been indications of a lurking wish for some such development, the Conference has, fortunately, not as yet taken on itself political functions. And, although I am one of those who would like to see it amalgamated with the Pharmaceutical Society—of which more presently—I willingly admit that the Conference has done much good and useful work.

But what of the district or local associations of chemists? It seems to be everywhere regarded as a good and useful thing that the chemists of some eighty districts in Great Britain have respectively banded themselves together with the object of protecting their interests, and, in some instances, of assisting the Pharmaceutical Society. More than half of those associations have, with the same instinct of combination, accepted a loose system of affiliation with a recently formed body, the Federation of Local Pharmaceutical Associations. This is an organisation the officers of which are, practically without exception, good and loyal members of the Pharmaceutical Society. Their intentions are of the best. No doubt the founders of the Federation considered that there was work which such a body might usefully perform. Possibly they think that it is now performing such work. The North-East Lancashire Chemists' Association is of a different opinion. And I myself feel bound to say that it fills me with alarm to see the Federation itself, or any of its affiliated associations, taking political action by addressing members of Parliament without consulting the executive officers of the Pharmaceutical Society, and without possessing that intimate knowledge of the "wire-pulling" behind the scenes which is so essential a requisite for success. Not only so, but it would seem that many

Local Associations

feel it their duty to instruct the Council of the Society. One such sends up a sarcastic suggestion that the Council should be "as active as other bodies" in tackling a certain vexed question; while another regrets that the Council has seen fit to take this or that step. And all this, as I say, without knowledge of what the Council has done or why it has done it. One popular remedy is "more publicity." But the cry for publicity is an utterly mistaken cry when delicate political negotiations are on foot, and the action of the more officious associations only has the effect of forcing the hand of the Council to the great disadvantage of chemists and druggists.

I am not, however, wishful to attack the Federation or any of the local associations. For I recognise that their blunders are to a great extent inevitable, owing to the fact that the Council of the Pharmaceutical Society has not supplied them with a definite programme of the policy to which the energy of the associations might be devoted. Owing to the absence of the proper connecting links, the Pharmaceutical Society has made, and can make, no effort to "wag" the associations, but the latter are continually making attempts to "wag" the Society. There is energy in plenty among the chemists of Great Britain. They are learning the value of combination. They are fairly agreed as to what they want. But I am persuaded that, so long as each group of chemists chooses its own way of "assisting" the Society, the object will remain unachieved.

How, then, may a thoroughly co-ordinated system be secured? My answer is simple—

Imitate the British Medical Association.

That Association is a body with a history which, up to a certain point, was more or less similar to that of the Pharmaceutical Society. It was founded in 1832 with the objects of advancing medical science, of maintaining the honour of the profession, and of securing a strong medico-political organisation. A Library, a Journal, and a Benevolent Fund were among its earliest institutions. Before long several provincial "branches" were formed, and other changes made in the constitution of the Association, which has grown so wonderfully that it now numbers over 19,000 members. From the 'Year-Book' of the Association I learn that it now is a

> Federation of local medical societies, called Divisions. The Divisions are grouped together for certain purposes in local bodies, called Branches. Each Division and Branch has its own local administration and rules, subject only to such restrictions upon each as are deemed necessary for the harmonious co-operation of all. . . . Every member of a Division is a member of the Association, and conversely every member of the Association is a member of the Division in whose area he resides. The whole Association is subject to certain general regulations.

I may explain that the Divisions correspond roughly, in respect of their geographical situation and numerical state, with the local associations of chemists, and that the Branches may be likened to "constituencies," such as the twenty-one suggested by Mr. Tocher last August. In the next article I propose, with the Editor's permission, to give details of the organisation of the British Medical Association, and to suggest some lessons which pharmacists may with profit learn therefrom.

JOHN DALTON, F.R.S.

Lecturer in Pharmaceutical Chemistry.

A SIDELIGHT.

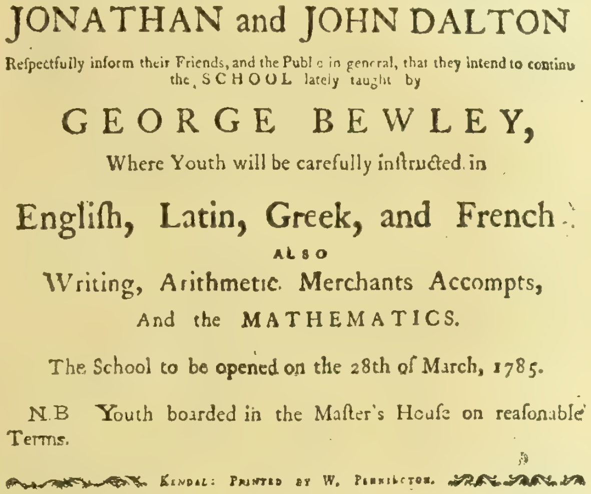
BY WILLIAM KIRKBY, F.C.S., F.L.S.

A HUNDRED years ago, on October 21, in the fuliginous city of Manchester, the foundation-stone of the elaborate edifice of chemical philosophy was laid by a modest Cumbrian Quaker. Among a more imaginative people this year would have seen the establishment of a national memorial to the man whose inspired speculations and shrewd reasoning placed the name of his country for ever on the first page of the annals of science, and gave so great an impetus to chemical research and industry as to have led to a realisation of knowledge and wealth undreamed of before his advent. Four times has John Dalton's life been set forth in its simple details by Angus Smith, Henry, Lonsdale, and Roscoe. Espinasse, Holland, Walker, and a few others have also written biographical sketches of him. Although there seems to be little opportunity left for adding to the picture, we are not sure but that something needs to be done to give roundness to a figure which has hitherto exhibited more than a small amount of angularity. This cannot be done within the limits of a magazine article suggested by the centenary of the atomic theory. But a brief glance, at this time, at Dalton's life and work cannot fail to quicken our scientific perception, inasmuch as we must be impressed by the meagre opportunities he had for the acquirement of knowledge and for the prosecution of research.

John Dalton was born in 1766 at Eaglesfield, a village between two and three miles south-west of Cockermouth, in Cumberland. His father was a country weaver, who must have been a man of parts, if it is true that he "taught his sons mathematics, giving them such an education at least as is included in mensuration and navigation."* Dalton's father, however, seems to have had given to him some of the merit due to the local schoolmasters, if we may judge from a succinct sketch of Dalton's life by himself, written for Miss Catharine Johns, the manuscript of which is now in the possession of Mr. George S. Woolley. He says:—

> The writer of this was born at the village of Eaglesfield, about two miles west of Cockermouth, Cumberland. Attended the village schools, there and in the neighbourhood, till eleven years of age, at which period he had gone through a course of mensuration, surveying, navigation, etc.; began about twelve to teach the village school, and continued it two years afterwards; was occasionally employed in husbandry for a year or more; removed to Kendal at fifteen years of age as assistant in a boarding-school, remained in that capacity for three or four years, then undertook the same school as a principal and continued it for eight years, and whilst at Kendal employed his leisure in studying Latin, Greek, French, and the Mathematics with Natural Philosophy. Removed thence to Manchester in 1793 as tutor in Mathematics and Natural Philosophy in the New College, was six years in that engagement, and afterwards was employed as private and sometimes as public instructor in various branches of Mathematics, Natural Philosophy, and Chemistry, chiefly in Manchester, but occasionally by invitation in other places—namely, London, Edinburgh, Glasgow, Birmingham, and Leeds.
>
> February 19, 1833. JOHN DALTON.

Dalton's education was obtained at the expense of great and intent application on his part, and was made possible by the assistance of a few friends and relatives, who saw in him the promise of more than ordinary ability. His first schoolmaster was a Quaker, John Fletcher, and in the strict sense of the word this was also his last schoolmaster. In these early years he attracted the attention of Elihu Robinson, who was a distant relative and also a member of the Society of Friends. This gentleman encouraged him in his study of mathematical problems, for which he had shown a marked liking, frequently giving many and continuous hours to the solution of abstruse problems. It was perhaps from this liberal-minded benefactor that Dalton first acquired that taste for meteorology which afterwards became one of his chief occupations. Mr. Robinson was, according to Dr. Lonsdale, "probably the first of Cumberland's meteorologists, gauging the rainfall, recording the readings of the thermometer and barometer, noting the seasons and crops, and many natural phenomena; moreover, he had manipulative skill that was exercised on the construction of philosophical instruments, sundials, etc." When Dalton was twelve years of age he opened a school in the Friends' Meeting House at Eaglesfield. This was a step which reveals not only a remarkable confidence in his mental powers, but also a certain business shrewdness, inasmuch as Mr. Fletcher, whose school was situated at Pondshaw Hall, at a distance of about two and a-half miles, was retiring, and a "desirable opening" was thus created for a school in his own village. For about two years he carried on the work, which was by no means easy, because his years were too few to give him the authority essential to obtain discipline. His own interest in general knowledge was maintained largely by 'The Ladies' Diary, or Woman's Almanac,' which seems to have come under his notice at this time. For



JONATHAN and JOHN DALTON

Reſpectfully inform their Friends, and the Public in general, that they intend to continue the SCHOOL lately taught by

GEORGE BEWLEY,

Where Youth will be carefully inſtructed in

Engliſh, Latin, Greek, and French:

ALSO

Writing, Arithmetic, Merchants Accompts,

And the MATHEMATICS.

The School to be opened on the 28th of March, 1785.

N.B. Youth boarded in the Maſter's Houſe on reaſonable Terms.

Kendal: Printed by W. Pennington.

CARD PROSPECTUS OF JONATHAN AND JOHN DALTON'S SCHOOL AT KENDAL.

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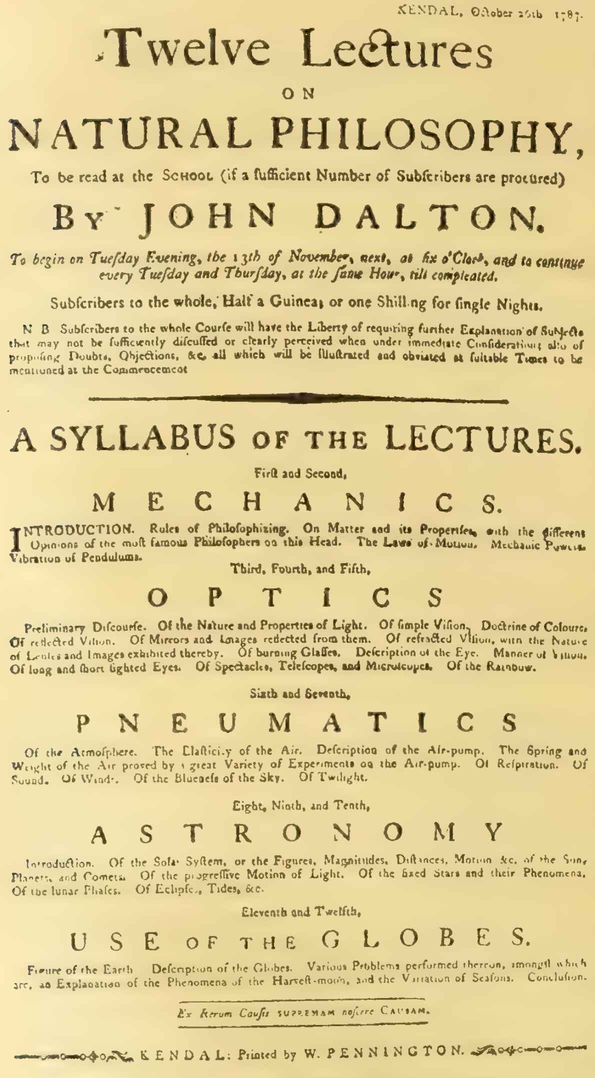
* 'Memoir of John Dalton.' (Robert Angus Smith. 1856.)

ten years, from 1784 to 1794, he answered many of the enigmas and solved many of the problems which were propounded in connection with its prize scheme, and gained some of its most valuable prizes.

When fifteen years of age he left his village home to join his brother Jonathan, who was an assistant in the school of his cousin, George Bewley, at Kendal. Four years later Bewley retired, and the brothers undertook the proprietorship, as announced in the card, of which a photographic reproduction is here given.

Dalton's ambition as a teacher was not satisfied by a juvenile audience, the capacity of which, he considered, he had plumbed in a couple of years. In 1787, being then twenty-one years of age, we find him issuing a prospectus for twelve lectures on natural philosophy, for which the fee was "half a guinea, or a shilling for single nights." The syllabus comprised mechanics, optics, pneumatics, astronomy, and the use of the globe. There is good reason to doubt whether the enterprise was remunerative, as from another prospectus in the possession of Mr. George S. Woolley, issued in 1791, the fee was reduced to 5s. the course, or sixpence for single nights.



KENDAL, October 26th 1787.

Twelve Lectures

ON

NATURAL PHILOSOPHY,

To be read at the SCHOOL (if a ſufficient Number of Subſcribers are procured)

BY JOHN DALTON.

To begin on Tueſday Evening, the 13th of November, next, at ſix o'Clock, and to continue every Tueſday and Thurſday, at the ſame Hour, till compleated.

Subſcribers to the whole, Half a Guinea; or one Shilling for ſingle Nights.

N B Subſcribers to the whole Courſe will have the Liberty of requiring further Explanation of Subjects that may not be ſufficiently diſcuſſed or clearly perceived when under immediate Conſideration; alſo of propoſing Doubts, Objections, &c. all which will be illuſtrated and obviated at ſuitable Times to be mentioned at the Commencement

A SYLLABUS OF THE LECTURES.

Firſt and Second,

MECHANICS.

INTRODUCTION. Rules of Philoſophizing. On Matter and its Properties, with the different Opinions of the moſt famous Philoſophers on this Head. The Laws of Motion. Mechanic Powers. Vibration of Pendulums.

Third, Fourth, and Fifth,

OPTICS

Preliminary Diſcourſe. Of the Nature and Properties of Light. Of ſimple Viſion. Doctrine of Colours. Of reflected Viſion. Of Mirrors and Images reflected from them. Of refracted Viſion, with the Nature of Lenſes and Images exhibited thereby. Of burning Glaſſes. Deſcription of the Eye. Manner of Viſion. Of long and ſhort ſighted Eyes. Of Spectacles, Teleſcopes, and Microſcopes. Of the Rainbow.

Sixth and Seventh,

PNEUMATICS

Of the Atmoſphere. The Elaſticity of the Air. Deſcription of the Air-pump. The Spring and Weight of the Air proved by a great Variety of Experiments on the Air-pump. Of Reſpiration. Of Sound. Of Winds. Of the Blueneſs of the Sky. Of Twilight.

Eight, Ninth, and Tenth,

ASTRONOMY

Introduction. Of the Solar Syſtem, or the Figures, Magnitudes, Diſtances, Motion &c. of the Sun, Planets, and Comets. Of the progreſſive Motion of Light. Of the fixed Stars and their Phenomena. Of the lunar Phaſes. Of Eclipſes, Tides, &c.

Eleventh and Twelfth,

USE OF THE GLOBES.

Figure of the Earth. Deſcription of the Globes. Various Problems performed thereon, amongſt which are, an Explanation of the Phenomena of the Harveſt-moon, and the Variation of Seaſons. Concluſion.

Ex Rerum Cauſis SUPREMAM *noſcere* CAUSAM.

KENDAL: Printed by W. PENNINGTON.

LECTURE PROSPECTUS.

During his residence in Kendal he plodded away at the study of languages, mathematics, and natural philosophy, and received great assistance from Mr. John Gough, a blind gentleman, whose memory Dalton celebrated in the preface to the second edition of his 'Meteorological Observations.' Gough's infirmity made him dependent upon others for reading, writing, and figuring, and Dalton became his visual aid. In return for these labours Dalton partook of his friend's "stores of science," which gave a "balance of advantage" greatly in the younger man's "favour." We have already seen that the start upon meteorological investigation was derived from Elihu Robinson; and it became more deeply impressed upon Dalton's mind by Gough's practice of keeping a meteorological journal. From 1787 to the evening before his decease in 1844 Dalton kept a meteorological journal. The 'Meteorological Observations and Essays' was his first contribution to the literature of science. It was written at Kendal, but was published at Manchester in 1793, when he took up his residence in that city. Nearly forty-one years afterwards a second edition appeared. This furnishes an excellent illustration of the author's self-centred mental organisation. His ideas were the product of his own powers, and he recognised and proclaimed them as such. The environment of extraneous knowledge played a very small part in the evolution of his notions. In the preface to the second edition he says:—"This second edition is printed *verbatim* from the first, both text and notes, and I have only added a few notes at the end. . . . I have been the more anxious to preserve the first edition unchanged, as I apprehend it contains the germs of most of the ideas which I have since expounded more at large in different essays, and which have been considered as discoveries of some importance."

Another person whose influence upon Dalton was great was Mr. Peter Crosthwaite, of Keswick, for whom he made a barometer and a thermometer, and whose meteorological records for Keswick he incorporated with his own in the 'Meteorological Observations.' Crosthwaite was the founder of the Keswick Museum, for which Dalton sent him collections of butterflies and dried plants. Although botany seems to have only interested Dalton in a general way, he must have had a very ardent love for nature to induce him to prepare, as he did, a *hortus siccus* in eleven volumes. There is one large volume of botanical specimens, dated 1790, in the possession of the Manchester Literary and Philosophical Society.

The latter portion of the eighteenth century found all who were interested in the permutations of matter alive with the sense that they were passing an epoch great with promise for the future of natural philosophy, so-called. The discoveries of Priestley, Cavendish, Lavoisier, Scheele, Black, and others inspired intellectual men with a confidence in the certainties of scientific truth which was as the sun piercing the mists of the fantastic theories of an earlier day. Manchester was warmed and energised by the quickening rays. Through the instrumentality of Dr. Thomas Percival, Thomas Henry, and their friends, the Manchester Literary and Philosophical Society came into being. The date of its foundation is 1781, but it was anticipated for some time in the form of a meeting of friends held at the house of Dr. Percival. A little later, in 1786, the Manchester Academy was established. This institution was the successor of the Warrington Academy, in which Joseph Priestley was a tutor for six years. It subsequently was designated the Manchester New College. The first principal was Dr. Thomas Barnes, the pastor of the Cross Street Chapel, who was educated at the Warrington Academy.

John Dalton's greed of learning in his youth was allied to not a little ambition. His vocation as a teacher, his excursions into physical, mathematical, and even biological science did not fill his horizon. He desired to enter the medical profession, but his friends dissuaded him. Thomas Greenup, his uncle, thought that the calling of an attorney or an apothecary was better within his means; and his old friend Elihu Robinson counselled him to continue in the teaching profession, "believing," he said to him, "thou would'st not only shine, but be really useful in that noble labour of teaching youth." He, therefore, embraced this as his calling, and when, in 1793, he was offered by Dr. Barnes the post of tutor in mathematics and natural philosophy in the Manchester Academy, he accepted it as a step up the ladder of advancement upon which his eyes were steadfastly set. From this time until 1844 John Dalton's home was in Manchester. Throughout this period of fifty-one years his time was devoted to teaching and to the prosecution of research work in meteorology and in chemistry.

His career as a teacher and lecturer was not a conspicuous one, even when we include in it the discourses delivered at the Royal Institution. The connection with the Manchester Academy lasted only six years. His time must have been pretty well filled with work, as he conducted classes in a variety of subjects—namely, mathematics, mechanics, geometry, algebra, book-keeping, natural philosophy, and chemistry. Yet he succeeded in finding time to write scientific memoirs. In October, 1794, he was elected a member of the Manchester Literary and Philosophical Society, and the same month contributed his famous paper on "Extraordinary Facts Relating to the Vision of Colours," which led to defective colour vision being designated "Daltonism." Two other papers were published by him during his academical tutorship. When he embarked upon the work of a private tutor his papers to the local society soon increased in number. In 1801 he published a "Grammar," which was evidently a result of his labours as a pedagogue. It is now only worthy of notice because of the peculiar error it contains of "phenomena" being given as the feminine form of "phenomenon." Occasionally, as he himself has told us, he lectured upon chemistry and natural philosophy in Leeds, Birmingham, Glasgow, Edinburgh, and London. To the latter place he went at the invitation of the Royal Institution on two occasions in 1803 and in 1809. In Manchester he conducted courses of public lectures in natural philosophy and meteorology. The latter subject must have been somewhat popular if we may judge from the advertisement, which intimates that the same lecture will be delivered twice on the same day. This advertisement reads as follows:—

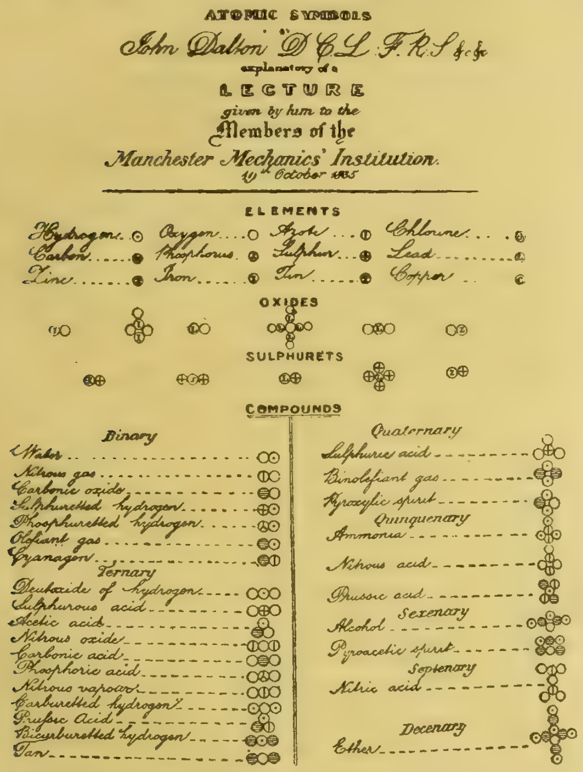


TABLE OF ATOMIC SYMBOLS EXPLANATORY OF A LECTURE GIVEN BY JOHN DALTON IN 1835.

> LECTURES ON METEOROLOGY.
>
> John Dalton, F.R.S., etc., intends to commence a course of six lectures on meteorology and those branches of science connected with it, on Thursday next, the 22nd instant, at the apartments of the Literary and Philosophical Society, No. 50, George Street. To accommodate subscribers the same lecture will be given twice—namely, at twelve o'clock and at seven in the evening. The lectures will be continued on Mondays and Thursdays at the same hours. Tickets for the course, at half-a-guinea each, may be had by application at No. 10 or No. 50, George Street; and the syllabusses of the lectures may be had as above, and of the booksellers.—(The *Manchester Guardian*, Saturday, September 17, 1825.)

Dalton appears to have been the first to deliver a course of lectures on pharmaceutical chemistry in a provincial medical school. In 1824 Thomas Turner, F.R.C.S., conceived the idea "that the only way in which existing deficiencies in early medical training could be supplied would be to organise" preparatory schools of medicine and surgery "in the provinces."* This suggestion was so well received by the profession that he put his plan into execution by taking a building in Pine Street, Manchester, which he opened in October, 1824, for the instruction of medical students in anatomy, physiology, pathology, and pharmaceutical chemistry. He undertook the teaching of the three first of these subjects, and succeeded in getting Dalton to join him in the enterprise and to undertake the chemistry lectures. On Saturday, December 4, 1824, the following announcement appeared in the *Manchester Guardian*:—

> *To Medical Students.*
>
> John Dalton, F.R.S., President of the Literary and Philosophical Society, intends to commence a course of about Fifteen Lectures on Pharmaceutical Chemistry at Mr. Turner's Lecture Rooms, Pine Street, on Tuesday evening, the 7th of December, at seven o'clock.
>
> These lectures, after explaining the first principles of chemistry, will proceed to apply them to investigations respecting the materia medica, and to other purposes relating to the profession.
>
> Tickets for the course, at one guinea each, may be had of Mr. Dalton, No. 10, George Street.

By the succeeding winter Turner thoroughly organised the school, and it was constituted the first completely equipped medical school in the provinces. In a very short time the examining colleges in medicine and surgery accepted its certificates in lieu of those of metropolitan schools, which had hitherto been necessary, for their qualifications. In the opening address of the session of 1825 Mr. Turner made some pregnant remarks upon the utility of chemistry to the medical practitioner and also to Dalton's courses of lectures. He said:—"Chemistry is a very important science, for without it we should not be able to explain many of the phenomena which occur in health and disease. Pharmacy without chemistry would do more harm than good, as our ignorance would lead us to bring together incompatible substances, which would render the operation inert, if not injurious. To a preparatory school, then, elementary lectures on chemistry are indispensable. Last year I was joined by Mr. Dalton, a man so well known as to require no panegyric from me on his philosophical attainments. He delivered a course of lectures on pharmaceutical chemistry, which gave general satisfaction. This year Mr. Dalton will repeat his course, with such alterations and improvements as experience in the particular application of chemistry to medicine and surgery may have suggested to him."*

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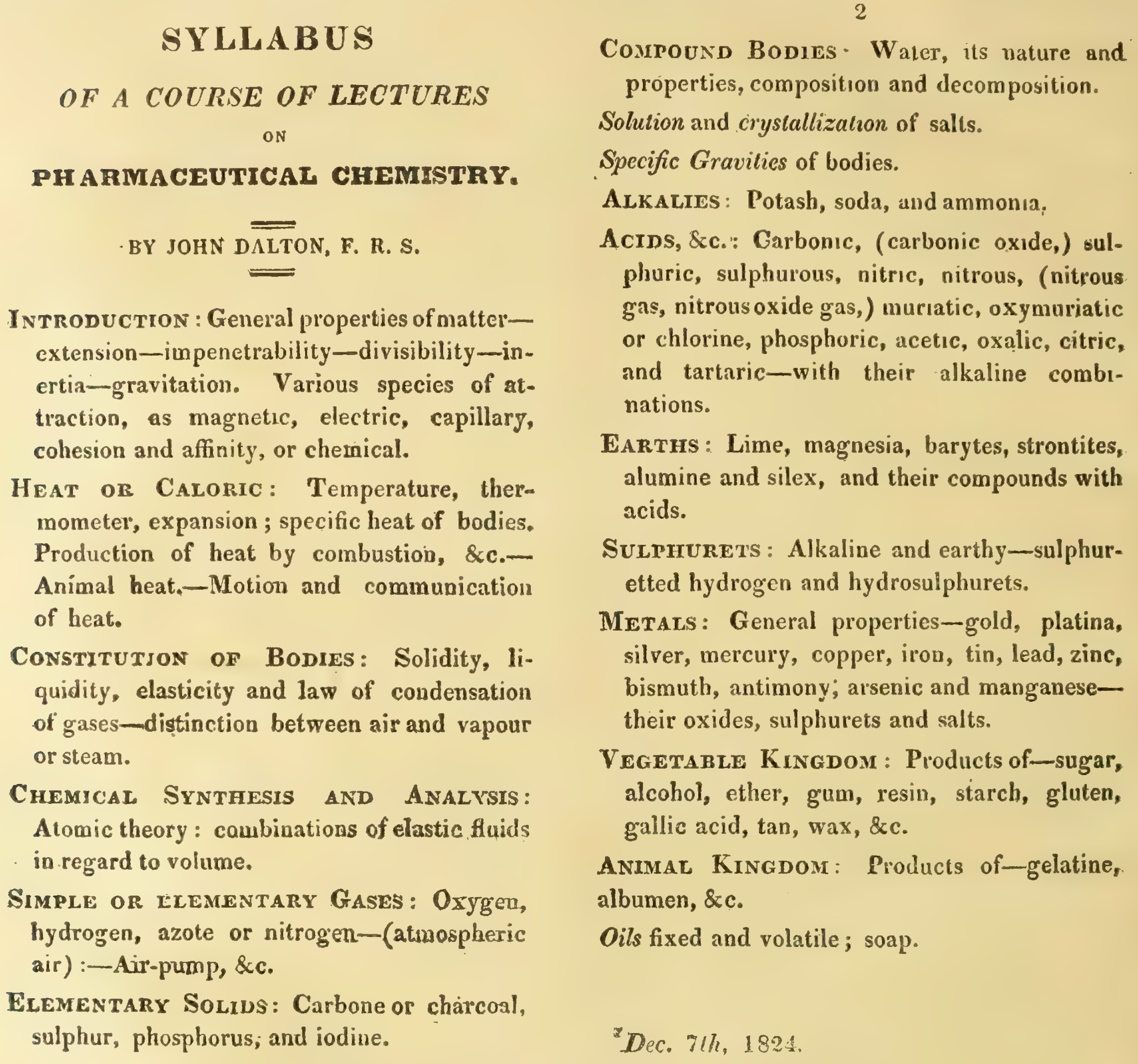
* 'Memoir of Thomas Turner, Esq., F.R.C.S., F.L.S.' By a Relative. London, 1875.



SYLLABUS

OF A COURSE OF LECTURES

ON

PHARMACEUTICAL CHEMISTRY.

BY JOHN DALTON, F. R. S.

Introduction: General properties of matter—extension—impenetrability—divisibility—inertia—gravitation. Various species of attraction, as magnetic, electric, capillary, cohesion and affinity, or chemical.

Heat or Caloric: Temperature, thermometer, expansion; specific heat of bodies. Production of heat by combustion, &c.—Animal heat.—Motion and communication of heat.

Constitution of Bodies: Solidity, liquidity, elasticity and law of condensation of gases—distinction between air and vapour or steam.

Chemical Synthesis and Analysis: Atomic theory: combinations of elastic fluids in regard to volume.

Simple or Elementary Gases: Oxygen, hydrogen, azote or nitrogen—(atmospheric air):—Air-pump, &c.

Elementary Solids: Carbone or charcoal, sulphur, phosphorus, and iodine.

2

Compound Bodies: Water, its nature and properties, composition and decomposition.

Solution and *crystallization* of salts.

Specific Gravities of bodies.

Alkalies: Potash, soda, and ammonia.

Acids, &c.: Carbonic, (carbonic oxide,) sulphuric, sulphurous, nitric, nitrous, (nitrous gas, nitrous oxide gas,) muriatic, oxymuriatic or chlorine, phosphoric, acetic, oxalic, citric, and tartaric—with their alkaline combinations.

Earths: Lime, magnesia, barytes, strontites, alumine and silex, and their compounds with acids.

Sulphurets: Alkaline and earthy—sulphuretted hydrogen and hydrosulphurets.

Metals: General properties—gold, platina, silver, mercury, copper, iron, tin, lead, zinc, bismuth, antimony; arsenic and manganese—their oxides, sulphurets and salts.

Vegetable Kingdom: Products of—sugar, alcohol, ether, gum, resin, starch, gluten, gallic acid, tan, wax, &c.

Animal Kingdom: Products of—gelatine, albumen, &c.

Oils fixed and volatile; soap.

*Dec. 7th, 1824.

PROSPECTUS OF LECTURES IN PHARMACEUTICAL CHEMISTRY.

It will be seen from the syllabus of Dalton's first course on pharmaceutical chemistry that no great amount of time was devoted to materia medica, as far as the vegetable and animal kingdoms are concerned, and this notwithstanding that no other provision had been made for these branches of the subject. In the following year, however, when the staff was greatly augmented, the subject of materia medica was taught by Dr. James Lomax Bardsley (afterwards Sir J. L. Bardsley).

It is not clear as to how long Dalton continued his connection with the Pine Street Medical School; but there is no doubt that his interest in scientific medicine continued, although his contributions to its literature were few. In the introduction to his paper on "A series of experiments on the quantity of food taken by a person in health" (1830) there is a certain wistfulness in his reference to the time "nearly forty years ago" when 'I had an inclination to the study of medicine, with a view to future practice in the medical profession." What the world has lost by Dalton's missing a medical career can never be even guessed at. On the other hand, what it has gained can never be truly appraised. Dalton's career as a scientist and philosopher has been set forth in an adequate manner by Angus Smith, Wm. Charles Henry, and Sir Henry Roscoe. His attainments as a botanist were discussed by Mr. Leo Grindon in a paper reported in the *Manchester Guardian* for June 25, 1875.

From whatever aspect we view Dalton's character and career, we are compelled to acquiesce in George Richardson's apostrophe to him:—

> "Thou great, yet humble, venerable sage!"*

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* *Loc. cit.*, p. 87.

* 'Patriotism and Other Poems.' George Richardson, London, 1844.

In conclusion, I am pleased to acknowledge my indebtedness to Mr. Geo. S. Woolley and to Mr. Francis Jones (Honorary Secretary of the Manchester Literary and Philosophical Society) for their permission to take photographic copies of the prospectuses herein reproduced.

SERA AND IMMUNITY.*

BY F. W. GAMBLE, PH.C.

My subject to-night has been introduced on two previous occasions to the members of this Association—in April, 1897, a paper entitled "Antitoxins" was read by myself (see *P.J.* [4], **4**, 340), and in February, 1899, a very comprehensive and interesting lecture on "Antitoxins: Their Preparation, Properties, and Administration," was delivered to us by Dr. Richard T. Hewlett. (See *P.J.* [4], **8**, 168.) As those present are probably conversant with the papers I have mentioned, it will not be necessary that I should traverse again all the ground then covered. I shall, therefore, sketch in outline the general principles of serum-production, and after referring to the different kinds of toxin, and discriminating between the two classes of sera, shall attempt to lead you through some recently explored and still but partly developed fields of research, whence opens the vista described by the word "immunity."

General Principles.

Therapeutic sera consist of the defibrinated blood-plasma of animals that have been rendered insusceptible to a particular micro-organism or its toxic products by the injection of increasing quantities of toxic material. Their production depends upon the apparently universal physiological fact that the healthy organism reacts against foreign cells or cell-substances, and tends to produce anti-bodies specifically antagonistic to them. The toxic material used for immunising purposes takes two forms; it may consist of a filtered—sterile—culture of a specific micro-organism producing a powerful extra-bacillary toxin—*e.g.*, diphtheria and tetanus. In such a case the result of the establishment of immunity in the injected animal is the production of a true antitoxic serum; that is, a serum possessing the power to combine with and neutralise the specific toxin. On the other hand, the toxic material used for immunisation may consist of unfiltered cultures of micro-organisms that do not excrete a soluble toxin in appreciable quantities—*e.g.*, typhoid, plague, pneumonia; the streptococci and staphylococci. The toxic action of such a culture resides in the bacilli themselves; that is, the toxins are intra-cellular.

At the commencement of immunisation, a culture sterilised by heat is used in order to attain some degree of protection against the more virulent living cultures with which the process is carried on. The serum resulting from the use of such unfiltered cultures as toxic material is an anti-bacterial serum; it is bactericidal as distinguished from antitoxic. Thus it will be seen that true extra-bacillary toxins give rise to true antitoxic sera; whilst intra-bacillary toxins—or, in practice, the bacilli themselves—give rise to anti-bacterial sera. It will be remembered that the two examples of toxin-excreting bacilli mentioned—those of tetanus and diphtheria—give rise in the human subject to intoxication diseases. The infection is local, and the symptoms are due to the specific toxin elaborated at that site of infection. The micro-organisms that produce little or no extra-cellular toxin set up on the other hand a more or less general infection.

In the preparation of *all* virulent cultures for use as toxic material the most actively poisonous strains of bacteria must be used. Different strains of the same species of micro-organism are frequently found to vary slightly in their pathogenic properties. In the process of immunisation several strains are therefore utilised, and the sera so produced are sometimes further distinguished as "polyvalent" sera.

Toxins.

The chemical nature of bacterial toxins is still but little understood, in spite of the immense amount of labour expended upon their investigation. They are assumed to be of a proteid nature, but no chemical method is available for their identification, which rests entirely upon their physiological action. Attempts to obtain pure toxin by precipitation and re-solution result in the isolation of very powerful substances, which have a proteid reaction and appear to consist principally of albumoses. The toxalbumoses thus obtained may themselves be the proteid-toxins, or the pure toxin may be carried down with the albumoses present. The greatest amount of attention has been devoted to the toxins of diphtheria and tetanus. As excreted toxins they are obtainable with comparative ease. The constituents of diphtheria toxin-broth are more complex than was formerly supposed. In addition to pure toxin the culture-fluids contain bodies of similar constitution, known as toxones and toxoids, which, however, exert a much less powerful physiological action. Toxones are, with toxin, products of bacterial metabolism, whilst toxoids result from alteration of toxin. The change from toxin to toxoid—by some considered comparable with the familiar phenomenon of allotropism—can be effected by several methods. Old cultures gradually lose their toxicity owing to this transformation, and the chemical means used to weaken virulent bacterial cultures produce their attenuating effect by the same change. Toxoids are comparatively innocuous, but they neutralise antitoxin with great avidity, the affinities of the three bodies for antitoxin being satisfied in the following order:—(1) toxoids; (2) toxones, and (3) toxin. The presence of toxoids and toxones as concomitants of toxin is thus of great importance in the standardisation of test-toxin; about one-half of the antitoxin required to neutralise a given amount of test-toxin is taken up by the subsidiary bodies. The immunising action of toxin is not lost by its conversion into toxoids, since these bodies also bring about the formation of antitoxin.

Tetanus toxin is the most powerful of all known bacterial poisons. In its most concentrated form it exists as yellow flakes, odourless and soluble in water. The horse is very susceptible to the action of tetanus toxin, and at the commencement of the process of immunisation the poisonous properties of the culture fluid are attenuated by the addition of iodine solution or by heat. Allotropic modifications of tetanus toxin probably exist, but they have not received much attention.

Intra-cellular toxins consist of or are contained in the bacterial cell juices. From their nature they are somewhat difficult to obtain in an unaltered condition and in a state of approximate purity. Mechanical fracture of the investing cell envelope is a necessary preliminary. The process devised for this purpose by Koch, and utilised in the production of his "new tuberculin," consists in grinding the bacilli in an agate mortar or in steel vessels with unglazed porcelain balls, the mass being subsequently extracted with distilled water. Macfadyen has more recently utilised the extreme cold of liquid air for the purpose of freezing the bacillary bodies and rendering them brittle and easily pulverisable. Intense cold exerts no deleterious effect upon bacilli or their juices, and by its use a degree of pulverisation can be attained in a few hours which, by Koch's process, requires several days. After the readier method of obtaining intra-cellular toxins, fuller investigation into their nature will probably follow. The substitution of a solution of intra-bacillary toxin for the crude culture-fluid at present used in the process of immunisation may also result in the production of more powerful antibacterial sera, so far as their immune-body content is concerned.

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*Read before the Chemists' Assistants' Association, London, on Thursday, February 4, 1904.

Antitoxic Sera.

We have seen that a true antitoxic serum is one possessing the power to combine with and neutralise a specific toxin, and that sera of this class are obtained by the use for immunisation purposes of a filtered culture-fluid containing the specific extra-cellular toxin in solution. The definite power of combination exerted between toxin and antitoxin allows the comparative potency of antitoxic sera to be estimated with considerable accuracy. For the standardisation of diphtheria serum a specially-prepared test-antitoxin of constant strength is used. This is preserved in sealed tubes in the dry state, and maintains an uniform potency for a long period of time. By means of the test-antitoxin the strength of an active broth toxin is accurately determined, when the standardised toxic material is in its turn used for the estimation of diphtheria serum of unknown immunising power. This method of standardisation is closely comparable in principle with the ordinary processes of volumetric analysis. Thus, if it be required to estimate the strength of a solution of sodium bicarbonate by means of a solution of oxalic acid of unknown strength, we may first determine the strength of the acid solution with bicarbonate of soda of known purity, finally using the estimated acid solution for titration with the unknown alkaline solution. In the case of antitoxic sera, however, the standardisation is physiological, and the end reaction is attained when sufficient antitoxin is mixed with the toxin to prevent all poisonous effects, local or constitutional.

The potency of antitoxic sera is expressed not by percentage, but as "units of immunity" per cubic centimetre. The amount of serum containing one unit of immunity is considered the equivalent of one hundred lethal doses of toxic material for a guinea-pig weighing about 250 Gm.

Diphtheria serum was introduced into the German Pharmacopœia of 1900, and will probably find a place in the new edition of the United States Pharmacopœia, to be issued shortly. It is evidently not within the competence of even the expert analytical chemist to estimate the strength of remedies of the nature of antitoxic sera requiring the application of intricate biological experiment. Their introduction to the Pharmacopœias will raise the question as to whether any objection exists against the physiological standardisation of other drugs not amenable to ordinary chemical processes of estimation, though possessed of considerable—and variable—physiological activity. The administration of diphtheria serum has reduced the mortality from that disease in the hospitals of the Metropolitan Asylums Board from 30·42 per cent. of cases treated in 1893 to 11·15 per cent. in 1901.

Experimentally, tetanus antitoxin is the most powerful antibody yet prepared, though its use for curative purposes has not been attended with the striking results achieved by diphtheria serum. This circumstance is explained by Professor Hewlett as due to two causes. "In the first place, tetanus toxin is extremely active—in fact, it is by far the most active toxic substance that is known, and minute doses are sufficient to cause irreparable tissue damage. Secondly, tetanus is not recognised until the nerve centres have been attacked by the toxin; spasm of the facial muscles is the first indication of the onset of the disease, and this may be overlooked or be unnoticed until definite tetanic seizures announce that the central nervous system is gravely implicated." Early treatment is therefore of the utmost importance, and in order that the antitoxin may, in a concentrated form, speedily reach the nerve cells with which the tetanus toxin has entered into combination, recourse has recently been had to intra-cerebral injection of the serum, for which purpose a specially-concentrated antitoxin is prepared, of great potency and quite free from antiseptics.

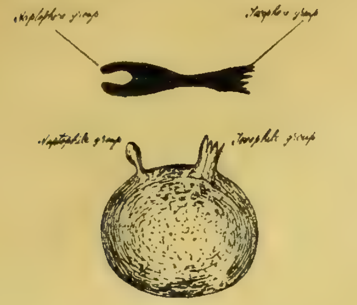
The prophylactic use of anti-tetanic serum should become a routine practice in the near future in cases of possible tetanic infection. In no disease is cure so difficult and prevention apparently so easy. In veterinary practice, where tetanus is so common, immunisation has been carried out by Nocard in a series of 2,373 horses and 232 other large animals without a death, whilst during a similar period of time and under the same conditions there had previously been 191 cases of tetanus in horses and 68 in other animals. Dr. Calmette recommends the use of dried tetanic serum in the local treatment of wounds exposed to infection. He finds that a small quantity of the dried serum applied directly to the wound suffices to confer immunity against doses of the active virus, which proved fatal to control animals in forty-eight hours.

Anti-venomous serum is strictly antitoxic, though the poisonous venoms which are the stimulus to its production are not of bacterial origin. The products of the poison glands of several species of snake are used in the process of active immunisation of the horse, and the serum produced is specially protective against the bites of those species whose venom is used. Calmette's antivenin is especially powerful against cobra bite; it has been found of little effect in counteracting the effects of the bites of the Daboia and of the Bungarus snake.

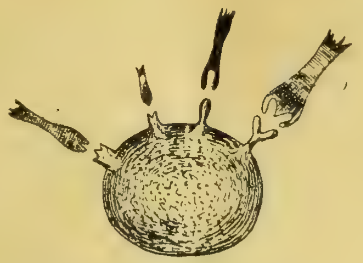
Antibacterial Sera.

Anti-bacterial sera are those resulting from the use of unfiltered cultures of such bacilli as do not produce extra-cellular toxin in appreciable quantities. They are much less definite than antitoxic sera, both in their composition and their therapeutic action. Their bactericidal effect is shown by recent research to be due to bacteriolysis, or dissolution of the specific micro-organism. This is brought about by the co-operation of two substances, the "immune body" characteristic of the particular serum, and the "complement" present in very fresh serum, but more often supplied by the blood of the patient. The action of the immune body appears to be exerted towards predisposing the bacilli to the action of the complementary body, which is composed of normal alexins of the blood. Whilst antibacterial sera are able to procure the disintegration of the specific bacilli, they do little or nothing towards affording protection against any intra-cellular substance of a poisonous nature thus set free. Thus, animals immune to or capable of destroying the bacilli themselves may succumb to the products of dissolution. From their nature and mode of action it will be seen that antibacterial sera are not susceptible of very accurate standardisation. Their keeping properties also are not good; deterioration in strength commences in from three to six months.

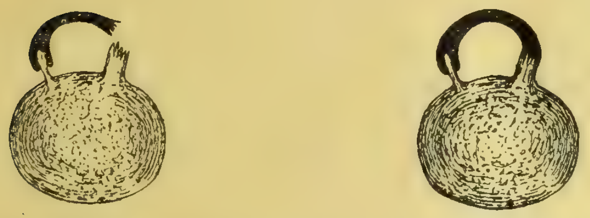
Antistreptococcus serum is the best known member of the class of antibacterial sera. In its production, polyvalence is procured by the use of several highly virulent strains of streptococci, their virulence being enhanced by repeated passages through a highly susceptible animal. The strength of antistreptococcus serum is usually estimated by the amount necessary to protect a rabbit against ten lethal doses of virulent streptococcus culture, for which purpose not more than one-twentieth of a cubic centimetre of serum should be necessary. Many attempts have been made to prepare a serum antibacterial to the common staphylococcus, the most frequently occurring of all pyogenic organisms, but so far the serum produced has met with little



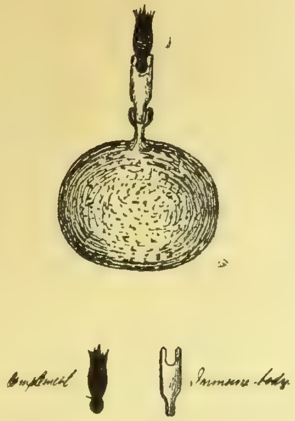
No 1 Diagram to represent the combining groups of the cell and of the toxin.
After Newlett.



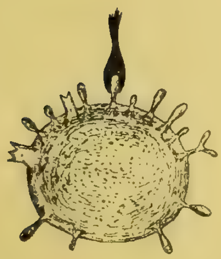
No 2 Diagram to represent the cell with its various combining groups or "side-chains."
After Ehrlich



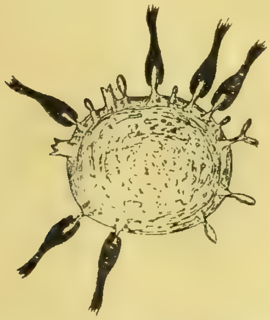
No 3 and 4 Diagrammatic scheme to represent the union of toxin with the cell.
After Newlett



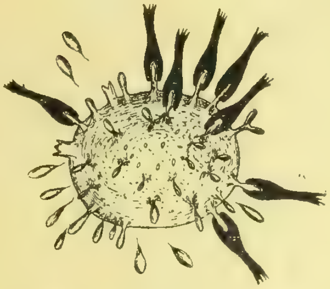
No 5 Diagram to show the union between the complement (black) and protoplasm of cell by means of the immune-body (white)
After Ehrlich



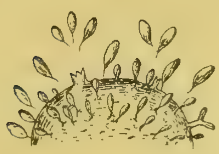
No 6 First stage of Antitoxin formation
After Ehrlich



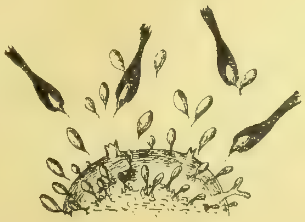
No 7 Second stage in Antitoxin formation
After Ehrlich



No 8 Third stage in Antitoxin formation
Antitoxin beginning to be formed.
After Ehrlich



No 9 Fourth stage in Antitoxin formation
Antitoxin free in the blood
After Ehrlich



No 10 Neutralisation of toxin by antitoxin in the blood
After Ehrlich

success. Pneumococcic, plague, typhoid, cholera, and other sera are employed to a limited extent.

Vaccines.

With a better understanding of the nature of active immunity, and in view of the success achieved by vaccination and inoculation against rabies, it is natural that attention should be directed to the discovery of materials and methods for the prevention of other acute diseases. Vaccines usually consist of cultures of the specific micro-organism in a modified form. They are preventive only, and confer an active immunity similar to that produced in the horse during immunisation for the production of serum. The immunity so conferred usually lasts for a long period of time, being much more powerful and persistent than the passive immunity set up by the injection of curative sera. In addition to vaccine lymph, and anti-rabies vaccine, preparations of this nature have been made for prophylactic use against typhoid, plague, and cholera. A large number of officers and men were inoculated against typhoid before proceeding to the seat of war in South Africa, and the statistics published since show that amongst the inoculated the incidence of the disease was low, and the case mortality small. An antiplague vaccine, prepared according to the method of Haffkine, has met with considerable success in India, where large numbers of persons have received preventive inoculations during the last few years. As with typhoid inoculations, the number of cases of plague amongst those who have submitted themselves to the operation is small, and the mortality in those cases is about one-half the usual rate.

Immunity.

It is impossible to consider in ever so elementary a fashion the processes by which sera are produced and prepared for use without betraying some sign of wonderment at it all, or without expressing curiosity to know something of the mechanism to which the formation of anti-bodies is due, and of the means by which their remedial properties are exerted. It has been already said that the organism in a state of health possesses the power to produce substances directly antagonistic to all kinds of foreign cells, cellular products, and their derivatives. How are these substances produced? and how do they confer immunity? The clues to the answers to these questions have been obtained by a patient and minute study of the actions and reactions of toxins and antitoxins. The theory evolved therefrom has been found to explain many phenomena previously recondite, but for our purpose it will be necessary to consider it only in relation to the formation of antitoxin and immune-body. Toxin and antitoxin mixed *in vitro* neutralise each other, their combination presenting all the characters of a quantitative chemical reaction. The mixture is non-poisonous, and suitable methods of dialysis which, in the absence of antitoxin, separate the toxin, fail to do so in the presence of the anti-body.

Living protoplasm possesses a similar property of combining with toxin, for if an emulsion of fresh guinea-pig brain be mixed with tetanus toxin the toxin is fixed and removed from solution, the mixture becoming inert. Toxins, therefore, have an evident affinity for certain cells, with which they form a durable combination, but if the toxin be previously saturated with antitoxin this affinity no longer exists. To explain these phenomena, Ehrlich has formulated a theory in which he attributes the power of combination possessed by the toxin molecule to certain combining groups, which have an affinity for corresponding groups or "side-chains" in the molecule of the cell bioplasm.

These "side-chains" are analogous to those familiar enough in organic chemistry in members of the aromatic series. They are primarily adapted to physiological uses, and are ordinarily employed in the assimilation of proteid food by the cells. They do not exist for the express purpose of linking toxins to the cells; it so happens that certain toxins have suitable combining groups and are possessed of the requisite affinity. Inasmuch as, although the toxin is immediately fixed when injected into the blood, yet its toxic action is not exerted for some little time, Ehrlich assumes that the toxin molecule possesses two combining groups—the "haptophore" group, by which it is anchored to the cell and also combines with antitoxin, and the "toxophore" group, by which its toxic effects are produced. The corresponding necessary groups in the cell bioplasm are called respectively the "haptophile" and "toxophile" groups. The absence of these receptive groups would prevent any poisonous effect of the toxin upon the cell, indicating a condition of natural immunity. Such a condition is found to exist in the pigeon. Birds are, as a rule, strongly resistant to tetanus toxin, the pigeon especially having a high degree of immunity. It is found experimentally that the fresh brain substance of the pigeon has no affinity for tetanus toxin such as we have seen is possessed by fresh guinea-pig brain; the combining groups necessary to link the toxin to the nerve cells are evidently wanting, and a condition of natural immunity is the result.

I may now describe some of the diagrams, which I have enlarged from Dr. Hewlett's recent work on "Serum-therapy" (see page 271), to which I am indebted for some of the subject matter of this paper.

Diagram 1 represents, above, the toxin molecule, showing its haptophore and toxophore groups, and, below, the cell, with its corresponding haptophile and toxophile side-chains.

Chart to Show the Relation Between Toxin and Serum.

Toxic Material	Filtered bacterial culture, containing extra-cellular toxin, in solution	Tetanus Diphtheria	Containing stable antitoxin; action quantitative, by chemical neutralisation	Antitoxic	Sera
	Unfiltered bacterial culture, containing intra-cellular, *i.e.*, intra-bacterial toxin, in suspension	Streptococcus Pneumococcus Staphylococcus	Containing stable immune-body, and unstable complement.	Anti-bacterial	
		Plague Cholera Typhoid	Action by bacteriolysis, not quantitative		

Diagram 2 represents a cell with various side-chains, having different affinities, as illustrated by the protuberances of various shapes. It is assumed that the protoplasmic molecule exercises its capacity for selecting its nutritive substances by means of its side-chains, the free bodies shown in the diagram being those suited to its special affinities. Diagram 3 represents the cell, to which the toxin has become anchored by its haptophore groups. If an injection of toxin is immediately followed by an injection of antitoxin, neutralisation results, but if a short period is allowed to elapse between the injections, toxic symptoms will ultimately develop. Once the haptophore group has become fixed to the cell, its dislodgment is very difficult. Diagram 4 shows the toxin in combination with the cell by both its groups, with the result that toxic symptoms ensue. The haptophore group exerts its affinity directly after injection, whilst the toxophore group completes the combination after a longer or shorter interval.

It is now apparent that since two normally occurring side-chains have been diverted from their proper physiological functions by the combination with their groups of the toxin molecule, a defect must have been created in the nutrition of the cell. To remedy this defect, new side-chains are developed, similar to those rendered useless by the toxin groups. If more toxin be then injected, it is obvious that the process will be repeated, but on an increasing scale, as the doses of toxin are multiplied. The cell is thus gradually trained to the production of the necessary side-chains in very large quantities, until ultimately their profusion is so great that they separate themselves from the parent molecule and become free in the body-fluids. It is the liberated side-chains that Ehrlich believes constitute "antitoxin." Diagrams 6 to 8 illustrate the stages of this process. Diagram 9 shows antitoxin free in the blood, whilst Diagram 10 represents toxin neutralised by free antitoxin, the process by which antitoxin exerts its remedial properties.

Upon this theory it is easily comprehensible why enormous doses of toxin are tolerated as immunity is established. Large initial doses would poison the cell and prevent regeneration, whilst the existence of very numerous side-chains at a later period protects the cell against serious lesion. It is evident also why a mixture of toxin and antitoxin is innocuous, for the haptophore group is monopolised by the antitoxin, and its affinity for the haptophile side-chain thus neutralised.

We have so far considered Ehrlich's theory only in its application to antitoxic sera. The mode of action of antibacterial sera is more complicated, since at least two substances are involved in the process of bacteriolysis. The properties of antibacterial sera have been worked out principally with cholera serum. It is found that if *perfectly fresh* cholera serum be mixed with a cholera culture *in vitro*, the bacilli are speedily destroyed. This bacteriolytic property is not possessed by old cholera serum, but it is immediately restored to old serum by the addition of a small quantity of *fresh normal* serum. Ehrlich assumes that perfectly fresh cholera serum contains the "immune-body" and the "complement," but that the latter is very unstable. Fresh complement can, however, be supplied in recent normal serum. The complement or alexin is presumably not itself able to combine with the bacterial protoplasm, the function of the immune-body being to act as the intermediate link. Diagram 5 shows the complement joined to the cell by means of the immune-body.

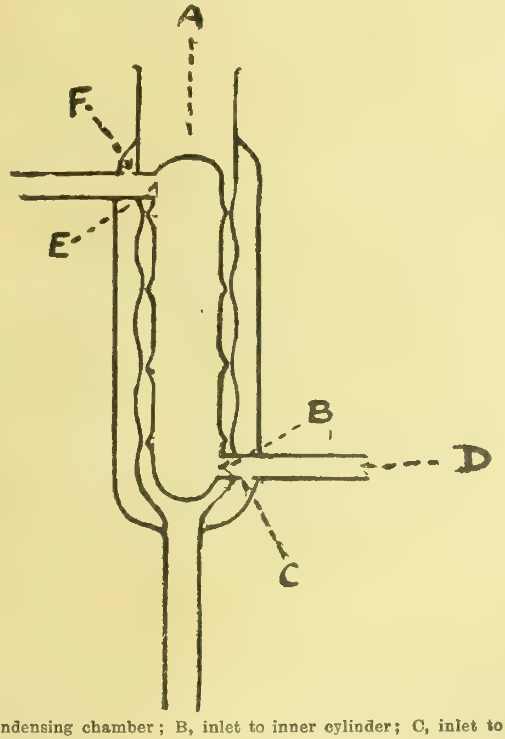
It is reasonable to suppose that antibacterial sera containing their natural complement in an active condition would be more powerful therapeutically than sera containing perhaps equine immune-body, relying for their complement upon the human alexin. Unfortunately the complement is so unstable that the former condition can seldom be satisfied, and perhaps this is one of the reasons for the comparative non-success that has attended the therapeutic use of sera of this class.

It has recently been well said by Sir Oliver Lodge that "a bare fact by itself was nothing or was little; it was a bald, bleak thing until it was clad in theory." The absorbing physiological problem of immunity has been endued with new life by the theory fashioned by Ehrlich, and fitted in some of its intricacies by other workers, including many of our own nationality. The theory is not complete, it is even repudiated by some; but what if portions of the outfit must be remade at some future time? Is it not a great thing to have so co-ordinated facts as to make their meaning plain, to have warmed bare bleakness into life?

A DOUBLE-SURFACE CONDENSER.

BY E. DOWZARD, F.C.S.

The various forms of condensing apparatus are very numerous, but until recently they were all on the principle of the single surface. Some of the old Liebig condensers for laboratory purposes, when compared with a modern condenser, are very cumbersome, but even some modern condensers are not all that could be desired. By having two condensing surfaces the efficiency is greatly increased, and the condenser may be made much smaller. Some so-called double-surface condensers have one water-cooled and one air-cooled surface; these can hardly be called double-surface condensers. Only those which have two water-cooled surfaces can truly be so called.



A, condensing chamber; B, inlet to inner cylinder; C, inlet to outer cylinder; D, inlet for water; E, outlet to inner cylinder; F, outlet to outer cylinder.

So far as I am aware, Cripp's condenser is the first laboratory apparatus made on this principle, and several made on the same principle have since appeared; but, I believe, all have either rubber or cork connections. So far an all-glass double-surface condenser has not been described.

The above illustration is that of an all-glass double-surface condenser, although the body is only four inches long; yet, so great is its efficiency that it is in excess of all ordinary analytical requirements. The apparatus may be obtained from Messrs. Gallenkamp and Co.

A SYNOPSIS OF THE PHARMACY ACTS, GREAT BRITAIN.

THE PRACTICE OF PHARMACY AND SALE OF POISONS.

THE Pharmacy Act, 1852 (15 and 16 Victoria, Cap. 56), was intended to regulate the qualifications of pharmaceutical chemists, the preamble stating that, whereas it is expedient for the safety of the public that persons exercising the business or calling of Pharmaceutical Chemists in Great Britain should possess a competent practical knowledge of Pharmaceutical and General Chemistry and other branches of useful knowledge, and to prevent ignorant and incompetent persons from assuming the title of or pretending to be Pharmaceutical Chemists or Pharmaceutists in Great Britain, or Members of the Pharmaceutical Society, it is desirable that all persons before assuming such title should be duly examined as to their skill and knowledge by competent persons, and that a Register should be kept by some legally authorised officer of all such persons.

The Council of the Pharmaceutical Society was authorised and empowered to appoint a fit and proper person as a Registrar, who should from time to time make out and maintain a complete register of all persons being Members of the said Society, and also of all persons being Associates and Apprentices or Students respectively, according to the terms of the Charter of Incorporation granted to the Society on February 18, 1843.

Appointment of Examiners.

Further, certain persons, to be appointed by the Council of the Society, were authorised and empowered to examine all persons who shall present themselves for examination under the provisions of the Act in their knowledge of the Latin language, in Botany, in Materia Medica, and in Pharmaceutical and General Chemistry, and such other subjects as may from time to time be determined by any Bye-law: Provided always, that such examinations shall not include the theory and practice of Medicine, Surgery, or Midwifery. The Examiners were also empowered to grant or refuse to such persons, as in their discretion may seem fit, certificates of competent skill and knowledge and qualification to exercise the business or calling of Pharmaceutical Chemists, or as the case may require, to be engaged or employed as Students, Apprentices, or Assistants respectively. In order to enable the Society to provide for the examination in Scotland of such Students, Apprentices, or Assistants in Scotland as may desire to be examined there, it was declared to be lawful for the Council of the Society to appoint such fit and proper persons in Scotland, to meet in Edinburgh or Glasgow, or such other place or places as the Council may think desirable, and to conduct there all such examinations as are provided for and contemplated by the Act, all the provisions of the Act being equally applicable to the Examiners, examinations, and parties examined in Scotland as to the Examiners, examinations and parties examined in England.

Section X. provides that "Every such person who shall have been examined by the persons appointed as aforesaid, and shall have obtained a certificate of qualification from them, shall be entitled to be registered by the Registrar according to the provisions of this Act, upon payment of such fee or fees as shall be fixed by the Bye-laws; and every such person duly registered as a Pharmaceutical Chemist shall be eligible to be elected as a Member of the said Society; and every such person duly registered as a Student or Apprentice to a Pharmaceutical Chemist shall be eligible for admission into the said Society; according to the Bye-laws thereof." No person who is a member of the medical profession, or who is practising under right of a degree of any university, or under a diploma or licence of a medical or surgical corporate body, is entitled to be registered under this Act; and if any registered Pharmaceutical Chemist shall obtain such diploma or licence, his name may not be retained on the said register during the time that he is engaged in practice as aforesaid.

Penalty for Infringement of the Act.

Section XII. provides that "From and after the passing of this Act, it shall not be lawful for any person, not being duly registered as a Pharmaceutical Chemist according to the provisions of this Act, to assume or use the title of Pharmaceutical Chemist or Pharmaceutist in any part of Great Britain, or to assume, use, or exhibit any name, title, or sign implying that he is registered under this Act, or that he is a Member of the said Society; and if any person, not being duly registered under this Act, shall assume or use the title of Pharmaceutical Chemist or Pharmaceutist, or shall use, assume, or exhibit any name, title or sign implying that he is a person registered under this Act, or that he is a Member of the said Society every such person shall be liable to a penalty of five pounds; and such penalty may be recovered by the Registrar to be appointed under this Act, in the name and by the authority of the Council of the said Society, in manner following (that is to say):

> "In England or Wales, by plaint under the provisions of any Act in force for the more easy recovery of small debts and demands:—
>
> "In Scotland, by action before the Court of Session in ordinary form, or by summary action before the Sheriff of the county, or in the royal burghs before the Magistrates of the burghs where the offence may be committed or the offender resides, who, upon proof of the offence or offences either by confession of the party offending or by the oath or affirmation of one or more credible witnesses, shall convict the offender, and find him liable in the penalty or penalties aforesaid, as also in expenses; and it shall be lawful for the Sheriff or Magistrate, in pronouncing such judgment for the penalty or penalties and costs, to insert in such judgment a warrant, in the event of such penalty or penalties and costs not being paid, to levy and recover the amount of the same by poinding:

"Provided always, that it shall be lawful to the Sheriff or Magistrate, in the event of his dismissing the action and assoilzieing the defender, to find the complainer liable in expenses; and any judgment so to be pronounced by the Sheriff or Magistrate in such summary application shall be final and conclusive, and not subject to review, by advocation, suspension, reduction, or otherwise."

No action or other proceeding for any offence under this Act may be brought after the expiration of six months from the commission of such offence; and Section XIII. provides that in every such action or proceeding the party who shall prevail shall recover his full costs of suit or of such other proceedings. Finally, Section XVI. states any person who shall wilfully procure by any false or fraudulent means a Certificate purporting to be a Certificate of Registration under this Act, or shall fraudulently exhibit a Certificate purporting to be a Certificate of Membership of the Pharmaceutical Society, shall be adjudged guilty of a misdemeanour.

The Sale of Poisons.

The Pharmacy Act, 1868 (31 and 32 Victoria, Cap. 121), was intended to regulate the sale of poisons, and alter and amend the Pharmacy Act, 1852, the preamble stating that it is expedient for the safety of the public that persons keeping open shop for the retailing, dispensing, or compounding of poisons, and persons known as Chemists and Druggists, should possess a competent practical knowledge of their business, and to that end that all persons not already engaged in such business should, before commencing such business, be duly examined as to their practical knowledge, and that a register of duly qualified persons should be kept. The following are the more important provisions of the Act:—

Section I. From and after the 31st day of December, 1868, it shall be unlawful for any person to sell or keep open shop for retailing, dispensing, or compounding poisons, or to assume or use the title "Chemist and Druggist," or Chemist or Druggist, or Pharmacist, or Dispensing Chemist or Druggist, in any part of Great Britain, unless such person shall be a Pharmaceutical Chemist, or a Chemist and Druggist within the meaning of this Act, and be registered under this Act, and conform to such regulations as to the keeping, dispensing, and selling of such poisons as may from time to time be prescribed by the Pharmaceutical Society with the consent of the Privy Council.

Poison Regulations.

Regulations for the keeping, dispensing, and selling of poisons, as provided for in Section I.

1. **That in the keeping of poisons** each bottle, vessel, box, or package containing a poison be labelled with the name of the article, and also with some distinctive mark indicating that it contains poison.
2. **Also that in the keeping of poisons,** each poison be kept on one or other of the following systems, viz.:—

    (*a*) In a bottle or vessel tied over, capped, locked, or otherwise secured in a manner different from that in which bottles or vessels containing ordinary articles are secured in the same warehouse, shop, or dispensary; or

    (*b*) In a bottle or vessel rendered distinguishable by touch from the bottles or vessels in which ordinary articles are kept in the same warehouse, shop, or dispensary; or

    (*c*) In a bottle, vessel, box, or package kept in a room or cupboard set apart for dangerous articles.
3. **That in the dispensing and selling of poisons** all liniments, embrocations, lotions, and liquid disinfectants containing poison be sent out in bottles rendered distinguishable by touch from ordinary medicine bottles, and that there also be affixed to each such bottle (in addition to the name of the article, and to any particular instructions for its use) a label giving notice that the contents of the bottle are not to be taken internally.

Section II. The several articles named or described in the Schedule (A) shall be deemed to be Poisons within the meaning of this Act, and the Council of the Pharmaceutical Society of Great Britain may from time to time, by resolution, declare that any article in such resolution named ought to be deemed a poison within the meaning of this Act; and thereupon the said Society shall submit the same for the approval of the Privy Council, and if such approval shall be given, then such resolution and approval shall be advertised in the *London Gazette*, and on the expiration of one month from such advertisement the article named in such resolution shall be deemed to be a poison within the meaning of this Act.

Retailing and Dispensing Poisons.

The following are the statutory requirements in the retailing and dispensing of poisons (see next page):—

TABULATED LIST OF POISONS WITHIN THE MEANING OF THE PHARMACY ACT, 1868.

PART 1.

Not to be sold unless *the purchaser is known to, or is introduced by some person known to the seller;* ALSO **Entry to be made in Poison Book** OF 1. *Date of Sale;* 2. *Name and address of purchaser;* 3. *Name and quantity of article;* 4. *Purpose for which it is wanted;* *attested by signature;* AND **Must be labelled with** 1. *Name of article.* 2. *The word "Poison."* 3. *Name and address of seller.*	**Arsenic,** and its preparations. (*For special regulations see page* 58); **Aconite,** and its preparations; **Alkaloids.**—All poisonous vegetable alkaloids and their salts; **Atropine,** preparations of; **Cantharides;** **Corrosive Sublimate;** **Cyanides of Potassium** and all metallic cyanides and the preparations of such articles; **Emetic Tartar;** **Ergot of Rye,** and its preparations; **Prussic Acid,** and its preparations; **Savin,** and its oil; **Strychnine,** and its preparations;

PART 2.

Must be labelled with 1. *Name of Article.* 2. *The word "Poison."* 3. *Name and address of seller.*	**Almonds, Essential Oil of** (*unless deprived of its Prussic Acid*); **Belladonna,** and its preparations; **Cantharides,** Tincture and all vesicating liquid preparations of; **Carbolic Acid,** liquid preparations of, and homologues (see Privy Council Order, *page* 55); **Chloroform;** **Chloral Hydrate,** and its preparations; **Corrosive Sublimate,** preparations of; **Morphine,** preparations of; **Nux Vomica,** and its preparations; **Opium,** and all preparations of Opium or of Poppies; **Oxalic Acid;** **Precipitate, Red** (Red Oxide of Mercury); **Precipitate, White** (Ammoniated Mercury);

Every Compound containing a poison within the meaning of the Act when prepared or sold for the destruction of vermin.

RETAILING POISONS.

I. Relating to Part 1 and Part 2 of the List.

It is unlawful to sell any "Poison" by retail, unless the vessel, wrapper, or cover in which it is contained, be distinctly labelled with the name of the article, the word "Poison," and the name and address of the seller. This applies to all the articles in both Parts of the List. In addition the Poison Regulations require that all liniments, embrocations, lotions, and liquid disinfectants containing poison (whether in Part I. or Part II. of the Schedule) must be sent out in bottles rendered distinguishable by touch from ordinary medicine bottles, and must bear an indication that the contents are not for internal use.

II. Relating to Part 1 only.

It is unlawful to sell, by retail, any poison included in Part 1 of the List, to any person unknown to the seller, unless introduced by some person known to the seller; and on every sale of any such article the seller shall, before delivery, make or cause to be made an entry, in a book to be kept for that purpose, of—

1. The date of sale;
2. The name and address of the purchaser;
3. The name and quantity of the article sold; and
4. The purpose for which it is stated to be required;

to which the signature of the purchaser, and of the person, if any, who introduced him, shall be affixed. The article must also be labelled with the name of the article, the word "Poison," and the name and address of the seller.

III. Relating only to Arsenic and its Preparations.

It is unlawful to sell Arsenic or any of its preparations, unless, in addition to all foregoing regulations, the following provisions of the Arsenic Act be also observed:—

1. That the poison, if colourless, be mixed with soot or indigo, so as to colour it.
2. That the person to whom the poison is sold or delivered be of mature age.
3. That the occupation, as well as the name and address, of the purchaser be entered in the poison-book.
4. That when the purchaser is not known to the seller, and is introduced by some person known to both, this person shall be present as a witness to the transaction, and shall enter his name and address in the poison-book.

DISPENSING POISONS.

None of the foregoing regulations apply to any article when forming part of the ingredients of any medicine dispensed by a Registered Chemist and Druggist; but it is necessary, if a medicine contain a poison included in Part 1 or Part 2 of the List, that the ingredients of the medicine, together with the name of the person to whom it is sold or delivered, be entered in a book kept for that purpose (Prescription-Book), and that the name and address of the seller be attached to the medicine.

Examiners and Examinations.

Section VI. All such persons as shall from time to time have been appointed to conduct examinations under the Pharmacy Act shall be and are hereby declared to be examiners for the purposes of this Act, and are hereby empowered and required to examine all such persons as shall tender themselves for examination under the provisions of this Act; and every person who shall have been examined by such examiners, and shall have obtained from them a certificate of competent skill and knowledge and qualification, shall be entitled to be registered as a Chemist and Druggist under this Act; and the examination aforesaid shall be such as is provided under the Pharmacy Act for the purposes of a qualification to be registered as Assistant under that Act, or as the same may be varied from time to time by any Bye-law to be made in accordance with the Pharmacy Act as amended by this Act; provided that no person shall conduct any examination for the purposes of this Act until his appointment has been approved by the Privy Council; and such appointment and approval shall not in any case be in force for more than five years; moreover, it shall be the duty of the said Pharmaceutical Society to allow any officer appointed by the said Privy Council to be present during the progress of any examination held for the purposes of this Act.

The Register of Chemists and Druggists.

Section X. It shall be the duty of the Registrar to make and keep a correct register, in accordance with the provisions of this Act, of all persons who shall be entitled to be registered under this Act, and to erase the names of all registered persons who shall have died, and from time to time to make the necessary alterations in the addresses of the persons registered under this Act; to enable the Registrar duly to fulfil the duties imposed upon him, it shall be lawful for the Registrar to write a letter to any registered person, addressed to him according to his address on the register, to inquire whether he has ceased to carry on business or has changed his residence, such letter to be forwarded by post as a registered letter, according to the Post-Office regulations for the time being, and if no answer shall be returned to such letter within the period of two months from the sending of the letter, a second, of same purport, shall be sent in like manner, and if no answer be given thereto within three months from the date thereof it shall be lawful to erase the name of such person from the register; provided always, that the same may be restored by direction of the Council of the Pharmaceutical Society should they think fit to make an order to that effect.

Offences and Penalties under the Act.

Section XV. From and after the 31st day of December, 1808, any person who shall sell or keep an open shop for the retailing, dispensing, or compounding poisons, or who shall take, use, or exhibit the name or title of Chemist and Druggist, or Chemist or Druggist, not being a duly registered Pharmaceutical Chemist, or Chemist and Druggist, or who shall take, use, or exhibit the name or title Pharmaceutical Chemist, Pharmaceutist or Pharmacist, not being a Pharmaceutical Chemist, or shall fail to conform with any regulation as to the keeping or selling of poisons made in pursuance of this Act, or who shall compound any medicines of the British Pharmacopœia except according to the formularies of the said Pharmacopœia, shall for every such offence be liable to pay a penalty or sum of five pounds, and the same may be sued for, recovered, and dealt with in the manner provided by the Pharmacy Act for the recovery of penalties under that Act; but nothing in this Act contained shall prevent any person from being liable to any other penalty, damages, or punishment, to which he would have been subject if this Act had not passed.

Exemptions.

Section XVI. Nothing herein-before contained shall extend to or interfere with the business of any legally qualified apothecary or of any member of the Royal College of Veterinary Surgeons of Great Britain, nor with the making or dealing in patent medicines, nor with the business of wholesale dealers in supplying poisons in the ordinary course of wholesale dealing; and upon the decease of any Pharmaceutical Chemist or Chemist and Druggist actually in business at the time of his death it shall be lawful for any executor, administrator, or trustee of the estate of such Pharmaceutical Chemist or Chemist and Druggist to continue such business if and so long only as such business shall be *bonâ fide* conducted by a duly qualified Assistant, and a duly qualified Assistant within the meaning of this clause shall be a Pharmaceutical Chemist or a Chemist and Druggist registered by the Registrar under the Pharmacy Act or this Act; provided always, that registration under this Act shall not entitle any person so registered to practise medicine or surgery, or any branch of medicine or surgery.

Labelling and Registering Sales of Poisons.

Section XVII. It shall be unlawful to sell any poison, either by wholesale or retail, unless the box, bottle, vessel, wrapper, or cover in which such poison is contained be distinctly labelled with the name of the article and the word poison, and with the name and address of the seller of the poison; and it shall be unlawful to sell any poison of those which are in the first part of Schedule (A) to this Act, or may hereafter be added thereto under Section II. of this Act, to any person unknown to the seller, unless introduced by some person known to the seller; and on every sale of any such article the seller shall, before delivery, make or cause to be made an entry in a book to be kept for that purpose stating, in the form set forth in Schedule (F) to this Act, the date of the sale, the name and address of the purchaser, the name and quantity of the article sold, and the purpose for which it is stated by the purchaser to be required, to which entry the signature of the purchaser and of the person, if any, who introduced him shall be affixed; and any person selling poison otherwise than is herein provided shall, upon a summary conviction before two Justices of the Peace in England or the Sheriff in Scotland, be liable to a penalty not exceeding five pounds for the first offence, and to a penalty not exceeding ten pounds for the second or any subsequent offence, and for the purposes of this section the person on whose behalf any sale is made by any apprentice or servant shall be deemed to be the seller; but the provisions of this section, which are solely applicable to poisons in the first part of the Schedule (A) to this Act, or which require that the label shall contain the name and address of the seller, shall not apply to articles to be exported from Great Britain by wholesale dealers nor to sales by wholesale to retail dealers in the ordinary course of wholesale dealing, nor shall any of the provisions of this section apply to any medicine supplied by a legally qualified apothecary to his patient, nor apply to any article when forming part of the ingredients of any medicine dispensed by a person registered under this Act; provided such medicine be labelled in the manner aforesaid, with the name and address of the seller, and the ingredients thereof be entered, with the name of the person to whom it is sold or delivered, in a book to be kept by the seller for that purpose; and nothing in this Act contained shall repeal or affect any of the provisions of an Act of the Session holden in the fourteenth and fifteenth years in the reign of Her present Majesty, intituled An Act to Regulate the Sale of Arsenic.

The Benevolent Fund.

Section XXII. And whereas by the Charter of Incorporation of the said Pharmaceutical Society it is provided that the Council of the said Society shall have the sole control and management of the real and personal property of the said Society, subject to the Bye-laws thereof, and shall make provision thereout, or out of such part thereof as they shall think proper, for the relief of the distressed Members or Associates of the said Society, and their widows and orphans, subject to the regulations and Bye-laws of the said Society; and whereas, for extending the benefits which have resulted from the said provision in the said Charter of Incorporation, it is desirable that additional power should be granted to the said Council; be it enacted that from and after the passing of this Act the said Council may make provision out of the real and personal property aforesaid, and out of any special fund known as the Benevolent Fund, not only for the relief of the distressed Members or Associates of the said Society and their widows and orphans, subject to the said regulations and Bye-laws, but also for all persons who may have been and have ceased to be Members or Associates of the said Society, or who may be or have been duly registered as "Pharmaceutical Chemists" or "Chemists and Druggists," and the widows and orphans of such persons, subject to the regulations and Bye-laws of the said Society.

Removal from the Register.

Section XXVI. The Privy Council may direct the name of any person who is convicted of any offence against this Act which in their opinion renders him unfit to be on the register under this Act to be erased from such register, and it shall be the duty of the Registrar to erase the same accordingly.

Exemption of Medical Practitioners, etc.

The Pharmacy Act, 1869, provided that nothing contained in the first fifteen sections of the Pharmacy Act, 1868, shall affect any person who has been registered as a legally qualified medical practitioner before the passing of this Act; and the said clauses shall not apply to any person who may hereafter be registered as a legally qualified practitioner, and who, in order to obtain his diploma for such registration, shall have passed an examination in pharmacy; nor shall the said clauses prevent any person who is a member of the Royal College of Veterinary Surgeons of Great Britain, or holds a certificate in veterinary surgery from the Highland and Agricultural Society of Scotland, from dispensing medicines for animals under his care. This amending Act also provided that nothing contained in Section 17 of the 1868 Act shall apply to any medicine supplied by a legally qualified medical practitioner to his patient or dispensed by any person registered under the said Act, provided such medicine be distinctly labelled with the name and address of the seller, and the ingredients thereof be entered, with the name of the person to whom it is sold or delivered, in a book to be kept by the seller for that purpose.

Qualification for Membership.

The Pharmacy Acts Amendment Act, 1898, was passed for the purpose of making every chemist and druggist eligible to be elected a member of the Pharmaceutical Society of Great Britain; it also effected certain modifications in the Society's internal arrangements.

PHARMACY BILL, 1904.

MEMORANDUM.

The objects of this Bill are—

(*a*) To check the modern and growing practice on the part of a duly qualified person to open and carry on divers shops for the sale of poisons whereby adequate protection is not afforded to the persons frequenting the same by providing that every such shop shall be under the *bonâ-fide* personal conduct and supervision of a duly qualified person

(*b*) To put an end to the abuses at present attending the hawking of poisons and to better regulate the sale of the same by providing that no poison shall be sold except in a shop which shall first have been duly registered

(*c*) To provide for the maintenance of a Register of Shops where poisons may be sold and also a Register of the duly qualified chemists *bonâ-fide* conducting such shop and to enable the Registrar from time to time to make corrections in and additions to the same

(*d*) To provide that the compounding of prescriptions shall be in the hands only of persons duly qualified to sell "poisons"

(*e*) To require that companies keeping open shops for the sale of poisons shall be managed by duly qualified chemists as directors.

(*f*) To extend to corporate bodies certain of the provisions of the Pharmacy Acts 1852 and 1868 from which they are at present exempt by reason of the decision of the House of Lords in the case "The Pharmaceutical Society *v.* The London and Provincial Supply Association Limited" Law Reports 1880 Appeal Cases 857

(*g*) To facilitate the examination of persons desiring to qualify as Chemists and Druggists and to enable the Pharmaceutical Society to accept certain certificates of kindred bodies in lieu of examination

A BILL

To further Regulate the Sale of Poisons also to Regulate the Compounding of Medical Prescriptions and to Alter and Amend the Pharmacy Acts 1852 and 1868

BE IT ENACTED by the King's Most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal and Commons in this present Parliament assembled and by authority of the same as follows—

(1) In this Act "the Society" shall mean "the Pharmaceutical Society of Great Britain" "registered person" shall mean a Pharmaceutical Chemist or a Chemist and Druggist "poison" shall mean a poison within the meaning of the Pharmacy Act 1868 "Registrar" shall mean the Registrar of the Society

(2) From and after the 31st day of December 1901 it shall be unlawful for any person or any company firm co-partnership or body of persons to keep any open shop or shops for the retailing dispensing or compounding of poisons or of medical prescriptions unless each shop shall be *bonâ-fide* conducted by a registered person or to permit or suffer in such shop any poison to be retailed or any medical prescription to be retailed dispensed or compounded otherwise than by or under the supervision of a registered person also it shall be unlawful for any person or any company firm co-partnership or body of persons to keep any such shop unless the address of the shop shall have been registered upon the Register of Shops to be kept under this Act and the name and address of the registered person to be in the *bonâ-fide* conduct of the shop shall have been registered upon the Register of Persons in the *bonâ-fide* conduct of shops to be kept under this Act and also it shall be unlawful for any person or for any company firm co-partnership or body of persons to sell or to negotiate or participate in the sale by retail of any poison at or upon any place other than an open shop registered upon the said Register of Shops

(3) The address of the registered shop whereat a sale of poison takes place shall be the address of the seller for the purpose of the labelling required by Section 17 of the Pharmacy Act 1868

(4) It shall be the duty of the Registrar to make and keep a Register of Shops and also a Register of Persons to be in the *bonâ-fide* conduct of shops in accordance with the provisions of this Act and to make such alterations in the said Registers as shall from time to time become necessary. No entry shall be made in either of the said Registers until receipt by the Registrar of a request in writing for the purpose by an owner of the shop made in a form in that behalf appearing in the Schedule to this Act The Council of the Society may make regulations under which either of the several entries in the said Registers may be inspected or may be removed therefrom and under which a certified extract of any entry may be obtained There shall be payable to the Society in respect of each request aforesaid and also in respect of each certified extract aforesaid a fee of two shillings and sixpence and also in respect of each inspection of an entry a fee of one shilling Any certified extract as aforesaid under the hand of the Registrar shall without proof as to his signature be evidence in all Courts and before all Justices of the Peace and others of the matters thereby certified

(5) It shall be unlawful for any place other than a shop or building separately rated to the poor to be entered or continued on the said Register of Shops.

(6) It shall be unlawful for one and the same registered person to be at one and the same time entered upon the said Register of Persons in the *bonâ-fide* conduct of shops in respect of more than one shop provided always that any entry upon the Register of Persons in the *bonâ-fide* conduct of shops may upon request in writing signed by the person on whose application such entry was made or the person whose name is registered and delivered to the Registrar become removed therefrom

(7) It shall be unlawful for any company incorporated under the Acts in force regulating Joint Stock Companies to retail dispense or compound poisons or medical prescriptions unless the business of such company shall be managed by one or more Director or Directors who or all of whom shall be registered persons not Directors of any other company carrying on the like business and who shall exercise all such powers of the company as are not by the Companies Acts required to be exercised by the company in general meeting.

(8) The Registrar may from time to time either by letter signed by him as Registrar or verbally by himself or by a person authorised in writing by him for the purpose make such inquiries as he shall think fit of any person retailing dispensing or compounding poisons or medical prescriptions at or of any owner of a registered shop and it shall be unlawful for such person or owner to refuse or neglect to furnish (by writing signed by him if so required) the information inquired for

(9) Any Registrar who shall wilfully make or cause to be made any falsification in any matter relating to the said Registers and any person who shall wilfully procure or attempt to procure any registration under this Act by making or producing or causing to be made or produced any false or fraudulent representation or declaration either verbally or in writing and any person aiding or assisting him therein shall be deemed guilty of a misdemeanour in England and in Scotland of a crime or offence punishable by fine or imprisonment and shall on conviction thereof be sentenced to be imprisoned for any term not exceeding twelve months

(10) The Society shall have power by bye-laws duly confirmed to authorise the persons from time to time appointed by the Council of the Society to conduct examinations to require from persons who shall present themselves for any examination evidence of their having received systematic training in some University or other place for learning approved by the Council of the Society and to divide any examination into two or more portions with or without an interval of time between the same portions and to authorise the said Council to accept in lieu of certificates of the said Examiners such certificates of competent skill and knowledge granted by legally constituted Pharmaceutical authorities in the United Kingdom or in any Colony or Possession thereof as may to the said Council seem fitting provided always that no certificate shall be accepted which has been granted to the holder without examination or which he has obtained without having first received such systematic training as aforesaid and to prescribe the fees to be payable by persons tendering for acceptance the certificates aforesaid of competent skill and knowledge.

(11) Any act or omission which would be an offence under the Pharmacy Act 1852 or the Pharmacy Act 1868 if committed by a person except the offence of selling or keeping open shop for the retailing dispensing or compounding of poisons by a person not registered under the said Acts shall be an offence if committed by any company firm co-partnership or body of persons and any company firm co-partnership or body of persons committing any such offence shall be liable to the penalty by the said Acts provided for the same

(12) For every offence under this Act the offender shall be liable to pay a penalty or sum of Five Pounds sterling

(13) Except where in this Act it is otherwise provided any penalties incurred under or by virtue of any of the provisions of this Act or the Pharmacy Act 1852 or the Pharmacy Act 1868 may be sued for recovered and dealt with in the manner provided by the Pharmacy Act 1852 for recovery of penalties under that Act without prejudice however to the provisions of the Summary Jurisdiction (Scotland) Acts 1864 and 1881 and the Criminal Procedure (Scotland) Act 1887 with reference to proceedings thereunder taken in Scotland for any contravention of this or either of the other before-mentioned Pharmacy Acts

(14) The provisions of this Act shall not interfere with or abrogate any of the rights reserved by Section 16 of the Pharmacy Act 1868 or by Section 1 of the Pharmacy (1868) Amendment Act 1869

(15) This Act shall not extend to Ireland

(16) This Act may be cited as the Pharmacy Act 1904

THE BRIGHTER SIDE OF A CHEMIST'S LIFE (2).

BY J. TAYLOR.

The chemist's assistant is not worked too hard on the Riviera, although the hours of attendance are many; the time seems longer by various spells of forced inactivity during the day, when the visitors are trying Nature's remedy by basking in the brilliant sunshine in preference tō the remedies devised by medical men, and endorsed by pharmaciens. But the hours of leisure are correspondingly sweet, and even if you only have one Sunday out of two, and no half-day holiday, you can be almost certain that when your free Sunday does arrive it will be as fine and the sun as brilliant as on the days when you longingly glanced over the top of the dispensing counter and envied the happy passers-by. The excursions one can make are almost unlimited, and a short account of one of a series undertaken by a friend and myself might prove interesting.

We were working at Nice, and arranged to climb to a little village called Eze, perched on the top of a precipitous mountain rising almost straight from the sea. Immediately after an early *déjeuner*, on the Sunday, for which we had waited fourteen days, we took the electric tram to Beaulieu; this ride is one of the finest it is possible to have, especially if you take a place beside the driver of the car, which you are allowed to do. Leaving the Place Masséna, the way lies behind the docks, where in the season you will always see one or two steam yachts anchored, belonging to American millionaires or British noblemen—veritable floating palaces they are, the white paint and metal-work polished to such a degree that under the glare of the sun they dazzle the eyes. Leaving the docks, the car mounts by a tortuous road the side of Mont Boron, a rocky promontory between the docks at Nice and the Bay of Villefranche. On the top the road at places seems perilously near the edge of the cliffs, reaching almost straight down to the sea, a few hundred feet below. The panorama is magnificent. You are at the extreme point of a bay, widening out inland and forming a perfect natural harbour, in which fifty men-of-war could ride safely at anchor; facing you at the other side of the bay is Cap Ferrat, a signalling station being at the extreme point.

Now the exhilarating part of our ride begins. The corner of the promontory safely turned, there are two miles of comparatively straight road on the side of the cliff, and gradually descending to the village of Villefranche, at the end of the bay. The driver, anxious to let these English see what he can do in the way of car-driving, relaxes the brake, and away we glide, gaining impetus every second. It is splendid, the rushing and swaying of the car, and as each gentle curve in the road is passed the beauties of the bay lying at our feet gradually unfold, men-of-war lying at anchor, small yachts gliding about, their white sails looking whiter in the sunshine; on the beach the fishermen drying their nets; then the village itself, that is at our feet, too, and is reached by wide, steep-terraced, steps. Leaving Villefranche we wind round the back of the bay, but still at a high elevation, then behind Cap Ferrat we descend to sea-level again, and stop at the terminus Beaulieu, nestling at the foot of the cliffs, and protected by the sheltering arm of Cap Ferrat. This village is well named, the view being charming, and, in comparison to Nice and Monte Carlo, there is always an effect of serene tranquility and peace. From here to the foot of our proposed climb is about two miles along the Cornich Road, in the direction of Monaco. At a bend in the road Eze suddenly comes in view, having been previously hidden by the cliffs towering on our left. Craning our necks and gazing steadily, we can make out the forms of one or two houses protected by a wall, apparently built out, and forming part, of the utmost pinnacle of the mountain. It looks decidedly interesting; but how to get there? The sheer face of rock rising for hundreds of feet in front of us is out of the question. Upon a closer inspection, however, we found a footpath bearing from the road, and in the direction we wanted, and as the climbing began straight away we decided we were on the right track, especially when we came across a villainous-looking man standing in the way, who demanded in the patois of the district (a mixture of French and Italian) if we wanted a guide. Not liking the look of him, and the path seeming to be very well defined, we declined his proffered services.

Then the hard work began, the sun was just at its full power, and beat on our backs as we scrambled upwards, making us think of apoplexy and all kinds of kindred things. The path twisted about worse than the maze at Hampton Court. One moment we would be going from left to right, then in the opposite direction, then straight up for a short way, making us feel like two flies on a wall, then, as if at a final effort to lose us, the path turned sharp to the right, and began to descend. We followed, not caring very much where it might lead to, if it only gave us a chance to straighten our backs again. Eventually it conducted us to a projecting angle of the mountain, which, once turned, we began to climb again; but so different, the footpath widened, and became respectable, shrubs and trees appeared, and although, glancing up to the village, it seemed as far away and impossible as ever, the difficulties melted away as we approached, until we finally reached what had been a strongly fortified stone gateway, leading into the main street of the village, which street was cut out of the rock, covered in, and only wide enough for walking in single file. Doorways appeared at intervals on either side leading into the houses; black, unwholesome places they were, the majority crumbling away and filled with filth, which made us hurry by without devoting much time to details. Some of the houses were occupied, and, emerging from the main street into a tiny square surrounding the inevitable church (no robbers' retreat being complete without one), we soon had the younger portion of the community around us, showing their inherited vices of brigandage by clustering about, begging in a remarkably persistent and vindictive manner, then fighting amongst themselves for the stray coppers we threw to them.

The view obtained from here was worthy of even a harder climb than the one we had had; the height of the mountain, and the fact that it rose almost straight from the sea, made the view most extensive. So clear was the air that we could follow the outline of the coast, standing out dark and distinct from the radiantly blue sea almost as far as the Esterel Mountains, miles away; whilst in the opposite direction Monaco was clearly defined. At our backs rose the higher mountains of the Alpes Maritimes, all covered with snow, and after our late exertions we found it most refreshing just to gaze at them. As our eyes slowly descended and included nearer objects in their range, we discovered there was an easier approach to our fortress than the one we had come by, and leading in the direction of La Turbie. As it was still a few hours from sunset, we decided to prolong our excursion thither, so, after another long look at the wonderful panorama around us, we dragged ourselves away, and were soon passing along the face of a mountain called Tête de Chien, upon the top of which was one of the numerous hidden forts which are scattered all over the district, garrisoned by one of the finest regiments in France, the soldiers being skilled mountaineers. The Tête de Chien crossed, we found a well-made road leading to La Turbie, which we reached at sunset. Passing through the village, the road came to an abrupt end, and a wall barred the way. Glancing over, there beneath us was Monte Carlo, the last rays of the setting sun being reflected from the white ornamental buildings in their setting of luxuriant gardens. And yet this divine-looking place was the greatest gambling hell in the world. We sadly turned away at the thought, and sought the station of the Mountain Railway, the link between La Turbie on the cliffs and Monte Carlo below. Obtaining seats at the end of the train, which were not covered in nor protected in any way, we made our first entry into this celebrated resort, heads first, thinking how awkward it would be for Monte Carlo if the cogs which held the train were to give way and we descended on it like an avalanche. But we arrived safely, and, making our way to the railway station, booked for Nice, sinking back on the seats as the train moved off, tired, but happy and contented with our day's excursion.

IN QUEST OF SEA-LAVENDERS.

BY JAMES W. WHITE, F.L.S.

The Plumbaginaceæ, or Thrift Order, is one of the most natural and well-defined groups in the vegetable kingdom. It contains but few genera, the largest being that of the sea-lavenders, or *Statice*, as it has hitherto been called. However, there have been a good many recent and tiresome alterations in botanical nomenclature, and it seems that it will be necessary to change that title for *Limonium*, a name of very ancient origin; and the Thrift genus (hitherto *Armeria*) will have to be *Statice* in future, in deference to the law of priority now in force.

Although of no economic importance, the sea-lavenders have interesting features in their structure, in their general habit or *facies*, and in the location and distribution of the species. Characters of distinctive value are a ribbed, membranous calyx; three little bracts of variable size and shape at the base of each spikelet, enclosing one to three flowers; and the one-celled fruit with a single inverted seed, curiously pendulous at the end of a long stalk or funicle arising from the bottom of the ovary. In appearance, the little wiry branching plants, leafless except about the root-stock, have all so much in common that any person, whether botanist or not, if acquainted with one member of the group, would scarcely fail to recognise another whenever he came across it. Very generally throughout the genus the flowers, usually in spikes or clusters, possess that rare and beautiful pale lavender tint which has conferred the English name. Other colours occur but rarely. And, to my mind, the fact that all these plants are maritime, and grow only on coast rocks and cliffs, or in sand and marsh moist with salt water, where at some former period the tides have flowed appeals rather strongly to a British botanist, who possibly has been raised under similar conditions.

Over fifty species of *Statice* have been recognised in Europe; but the flora of Great Britain contains a bare half-dozen only, even if we include the recently described *L. recurvum* from Portland Isle, which unhappily appears to have been destroyed by quarrying shortly before it was christened! It is in the South of France, and on the Mediterranean shores of Italy and Spain that sea-lavenders are especially frequent. One small bit of French coast far down towards the Eastern Pyrenees is perhaps the most favoured spot in Europe, for at the Ile Ste. Lucie and its vicinity, in an area of a very few square miles, there grow at least twelve species, several of which are unknown elsewhere. Their time of flowering is in late summer, when even botanical holiday-makers yearn for the cool North, or for bracing air among Swiss mountains, and take no thought of dusty plains and steamy marshes under a sweltering Southern sun. But, said Aristotle, "no excellent soul is exempt from a mixture of madness," and when at the beginning of August two genial friends of mine suggested that a week might be very profitably spent between Narbonne and the Spanish frontier, where doubtless we should gather most of the aforementioned rarities, visions of green alps and snowy peaks in Grindenwald faded from my mind, and packing up some drying paper, eucalyptus oil and insect-powder, I set out for the trysting place.

In a few hours we had journeyed across the great central plain of France, down through beautiful Auvergne, where the peaks of Puy de Dôme stand over Mont Dore, La Bourboule, and a hundred other health-resorts and celebrated springs; and had dozed on restlessly through the night, heedless of the antiquities of Nimes or the learning of Montpellier, until day broke over the salterns and marshes about Frontignac and Cette. I do not know a pleasanter feeling than that of waking with the sun shining on objects quite new and strange—the sun brighter than one has seen it for many months, and the sky a hundred times bluer. And so, about 6 a.m., we escaped from the train at Narbonne, turned into quarters at the Hôtel de l'Univers, and speedily got rid of the grime and weariness of travel. Breakfast under a pleasant awning on the cool street pavement restored our wonted good spirits, and gave us vigour for immediate work.

Narbonne is a big sun-baked town of small interest to the tourist. A prosperous seaport under the Romans it gradually lost command of the Narbonaise maritime commerce, and now lies in a dusty plain five or six miles from the Mediterranean. This change has been wrought by the River Aude, which accumulates in its delta deposits to the amount of two million cubic metres annually.

But already, on a short stroll towards the outskirts, our exploration has commenced. Along a watercourse we find luxuriant examples of rare British plants.—*Mentha rotundifolia*, *Cynodon dactylon*, and *Polypogon monspeliense*. The path is bounded by a fence of *Atriplex halimus*, and there climbs among the bushes a convolvulus-like plant with many clusters of pale pink flowers. This is *Cynanchum monspeliacum*, one of those species that yield the drastic gum-resin called "Montpellier Scammony." The gatherings were hurriedly put into press, and at 11.11 a train took us to the Ile Sainte Lucie, where there is a little station. This island is a rocky hill about two miles across, well covered with shrubby vegetation and bounded by lagoons and marshes over which the Southern Railway is carried towards the frontier. On alighting we were at once pounced upon by a couple of gamekeepers, who represented that we could not be allowed to ramble without permission from the proprietor, and he would severely "reproach" them for any neglect of duty. So off we went to the château for an interview with the owner, feeling some content that the rare plants of the place were now well safeguarded. The *patron* and his great dogs came out in no very good humour, with dark looks and much snarling, but our spokesman was not scared, used a civil tongue, and obtained what we wanted.

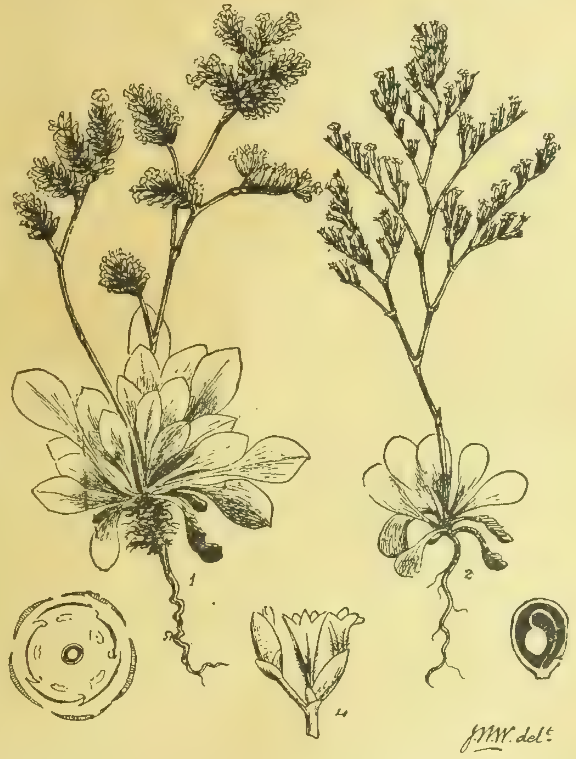
At this point, near the highest ground on the island, the great heat was tempered by fresh breezes. We had no special botanical find, but the views were delightful. Bright changeful tints flitted over the deep blue Eastern sea, whilst towards the south and west the placid waters of the *étangs* shone as misty mirrors becoming more and more obscure in the marsh vapour as the eye travelled down over La Nouvelle and the dim coast-outline into empyrean haze among the foothills of the Pyrenees.

The vegetation of the rocky soil along our path and the adjacent slopes was for the most part that of similar *mâquis* frequent in the South, and comprised calycotome, lentisk, myrtle, *Rhamnus alaternus*, *Lavandula stæchas*, two or three cisti, and two scrub oaks, growing low along the ground, their boughs closely twisted, their foliage compact—*Quercus coccifera* and *Q. ilex*. In more open ground there abounded two large spinous yellow composites — *Kentrophyllum lanatum* and *Scolymus hispanicus;* as well as *Centaurea intybacea*, *Cneorum tricoccum*, *Echinops ritro*, *Ononis minutissima*, *Phyllirea*, *Psoralea*, *Teucrium polium*, and *Plumbago europæa*. Noting a small sandy bay facing south-west that looked as if it might yield some of the special plants that we had come to look for, we passed down by vines and ploughed land, and tried to lunch in the shade of tamarisks close to the shore. But there came no enjoyment with that meal, ready as we were, for mosquitoes swarmed around in clouds, and from that moment hardly ever left us night or day during our stay on the coast. However, botany and entomology go always hand in hand. The traveller fond of natural history must needs come across curious specimens of the insect tribes, and some too curious insects will as certainly come across *him!* I do not think I had seen much beauty in a spider until we found those gold and russet monsters spreading webs in a Rousillon vineyard; nor had I realised the possibilities of grasshoppers until I met with the "praying Mantis" quaintly posturing upon a twig.

Far out on the sand some promising specks of colour showed here and there, and were quickly proved to be the handsome flowers of *Statice virgata*, widely open in the sunshine. A little further, amid herbage edging the brackish pool, was *S. limonium*, and its near ally, *S. serotina* = *S. macroclada*, Boiss., a far larger, more abundant, and more graceful plant, with a widely spreading panicle two to three feet high. Only a few steps more in the loose sand, and, lo! two other species, quite tiny in comparison—*S. duriuscula* and *S. echinoides*, the former with rosettes of leaves still perfect, but the latter brittle and its flowering rather past. Elated by so much good fortune, we (to use a metaphorical phrase of the youngest and least prosaic of the party), "curled up" on these good finds, and added to them a few yards of the prostrate culms of *Dactylis litoralis*, which themselves were curling about upon the sand. Later, in a marsh, we gathered yet another sea-lavender, *S. lychnidifolia*, some of the specimens bearing a leafy bract below the point where the scape first branches, a feature, I believe, that does not occur in any other species of that section. And to crown all, on a rock by the water's edge, were great bushes of *Limoniastrum monopetalum* covered with violet flowers. This beautiful species is unknown in Europe except on the Narbonne coast.

From so successful an excursion we returned merrily enough, and even, it may be feared, with "swelled heads" in two senses.

The next day there was a long drive under the heights of La Clappe to Gruissan-la-Mer, a bathing place where are wide stretches of damp sand, and plenty of salt-marsh vegetation. Here, again, good luck awaited us with a new series of rare plants that we especially desired. An abundance of *Statice bellidifolia*, Gouan. (*S. caspia*, Willd.), first called for admiration. This is a pretty little species with diffuse slender feathery stems, usually several from one root. Our own eastern counties' *S. reticulata*, Sm., is a very closely allied form. Next came a plant of far different habit and hitherto unknown to us—*S. girardiana.* It has stout scapes bearing short dense spikes of flowers. And then, sparingly scattered among the other species, were some overblown and rather dilapidated specimens of seemingly *S. occidentalis*, but subsequent examination showed them to be without doubt the rare *S. confusa*, Gr. et Godr., well marked by characters of the internal bract. According to the authors, this plant, at the date of their work, had been detected only in S. E. France and Corsica.



1. *Statice Girardiana*, reduced. 2. *S. duriuscula*, reduced. 3. Diagram of fl. of *Statice*. 4. Two spikelets of ditto. 5. Section of ovary.

A strong wind across the Gruissan flats had that day mitigated the mosquito plague from which we suffered, and, taking now our good fortune more as a matter of course, our heads began to lose their unwonted puffiness.

Some following days were passed in bearing up against siroccos and dust-storms about Fitou, Collioure, and Port Veudres. We gave, in fact, a complete illustration of what a dear old lady once described as "one of Allsop's fables about the sun, the wind, and the travellers." At length, finding no more sea-lavenders, the quest was relinquished, and we fled up the Vernet Valley to less arid and more health-giving resorts among the gorges of Canigou.

TAMACOARE BALSAM.

BY E. M. HOLMES, F.L.S.

Curator of the Museums of the Pharmaceutical Society.

In the collection of materia medica belonging to the late Daniel Hanbury there exists a specimen of this product bearing on the label, "Collected in Manaós, in 1869, by J. Costa," and a reference to the *Journal of the Linnean Society*, 1861, p. 62, which contains remarks by R. Spruce* concerning some plants of the genus *Caraipa* (Ternstrœmiaceæ) as follows: "From a closely allied species with larger leaves, frequent on the Rio Negro about Gastanheiro and St. Isabel, but of which I have not seen flowers or fruit, is extracted the celebrated balsam of Tamacoaré." During his stay in this country some specimens of derivative products of this "balsam" were presented to the Museum of the Society by Dr. Pfaff, who has travelled in the district where the tree grows, and has made a chemical examination of it in the Pharmacological Laboratory of Strassburg University. An account of the results he obtained has been published in the *Avchiv der Pharm.*, 1893, pp. 522-541. From this it appears that the "balsam" is highly esteemed by the natives as a remedy for skin diseases, and that the demand is greater than the supply, even where the tree grows, since the amount obtained from a single tree is very small.

In the neighbourhood of St. Isabel, where thirty years before Spruce had seen the plant, Dr. Pfaff found that the tree still grew abundantly. The natives recognised three kinds, "Tamacoaré reté," or true; "T. rana," or false; and "T. do igapo,"—*i.e.*, growing on land inundated at high water. Of these the genuine is a taller tree than the two others, growing at a greater distance from the shore of the river. Unfortunately Dr. Pfaff was unable to procure either flowers or fruit of it, as it bore none at the time of his visit. Of the other two trees, however, he obtained flowers and fruit which were identified by Mr. J. G. Baker, of Kew Herbarium, as *Caraipa fasciculata*, Camb., and *Caraipa myrciæfolia*, Spruce. (In the 'Index Kewensis' these two plants are referred to the same species.) With respect to the collection of the drug, Spruce stated: "The balsam is extracted from the tree in the same manner as the oil of cupauba, that is, by making an incision to the very heart, from which the balsam slowly distils, and in so small a quantity does it exist, that some days are required to fill a small bottle." Dr. Pfaff, however, never saw it obtained in this manner, nor does he believe that such a method would possess any advantage, since the "balsam" does not accumulate in cavities as in the copaiba tree. The natives incise the bark above the ground and place a pad of cotton upon the cut. From twelve to twenty-four hours afterwards the cotton is collected and expressed in a "tipiti," or elastic cylindrical tube made of basket-work, like that used in British Guiana for squeezing the juice out of the root of the tapioca plant (*Manihot utilissima*).† Dr. Pfaff himself adopted the process used by the india-rubber collectors, viz., fastening a small tin vessel ("tijolinha") to the cut in the tree by means of some clay. To collect sufficient for a chemical examination proved no easy matter; indeed, it took Dr. Pfaff, with six to eight people, ten days to complete the task. The trees grow singly, and a considerable extent of forest had to be searched and the lianas cut down to obtain access to them. Only a few drops of the balsam were yielded by small trees, and by larger trees only a few cubic centimetres, that from older trees being of a darker colour than from young trunks. Dr. Pfaff found that the natives used it not only for parasitic skin diseases, but also for syphilitic ulcers. The balsam was spread over the wound and a dry bandage then placed over it. The natives forbid the use of baths during the treatment, since water has an unfavourable influence in preventing cicatrisation. The Tamacoaré balsam is of a golden-brown colour, and heavier than water. It is soluble in alcohol, ether, bisulphide of carbon, chloroform, benzine, acetic acid, only slightly soluble in oil of turpentine, and insoluble in water. It is also soluble in solutions of the caustic but not of the carbonated alkalies.

When an alcoholic solution of Tamacoaré balsam is mixed with a similar solution of mercuric chloride the mixture remains perfectly clear, but after a time the whole forms a gelatinous mass, which, when dried in vacuum, forms a white amorphous powder. The mercuric compound is soluble in cold chloroform and in ether, but almost insoluble in alcohol, even when boiling. By precipitating the chloroformic solution with alcohol the compound can be obtained in acicular crystals. For this end alcohol is added to the solution, warmed and stirred, until a precipitate begins to form; a little chloroform is then poured in, the glass covered, and the solution very gradually cooled. The formula for this compound was found to be $C_{23}H_{33}O_5HgCl$, and the Tamacoaré balsam, which leaves no residue when the compound is formed, was, therefore, regarded as a simple substance having the formula $C_{23}H_{34}O_5$. This seemed to be proved by decomposing the mercury compound and obtaining the Tamacoaré balsam from it in its original condition. A portion of the specimen in the Hanbury Collection, where it has remained for twenty-four years, has been examined by Dr. Pfaff, who ascertained that it was identical with the substance collected by himself, and had apparently undergone no change.

An attempt was made to separate the balsam into its constituent parts. When distilled by steam heat no volatile oil passed over, nor could anything be obtained by distillation *in vacuo*. Superheated steam and dry distillation both caused decomposition. To obtain some idea of its constitution a portion was saponified. The soap thus formed was found to consist of normal caprylic and butyric acids, which formed more than 50 per cent. of the balsam used. An agreeably smelling oil was obtained by steam distillation from the soap solution, and this oil, which boiled between 180° to 191° C., was found to consist of two bodies, the one with the lower boiling point being found to possess a somewhat curare-like action, causing paralysis. The one with the higher boiling point did not possess the same property. Two crystalline bodies, one forming acicular and the other large flat crystals, were obtained, but were not further examined, from insufficiency of material. It would thus appear that Tamacoaré balsam is of somewhat complex constitution. Even in Manaós a false drug is sold, which is, however, readily distinguished from the true by its insolubility in dilute alkaline aqueous solutions, whereas the true Tamacoaré is readily soluble. In concentrated alkaline solution of the genuine drug an alkaline compound is precipitated, but is redissolved on the addition of water.

The balsam has been tried in the Strassburg clinic by Dr. Wolff, who reports that its action resembles that of balsam of Peru or camphor, and that it promotes granulation in wounds. This action, however, appears to be due rather to protecting ulcers from the air than to any specific action. Although called a balsam, it does not contain either benzoic or cinnamic acid, and cannot be included in that class of bodies. It may more appropriately be termed an oil.

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* Spruce remarks "Its great use is in the cure of itch," etc.

† One of these basket-work cylinders is in the Museum of the Society. The pressure is exerted laterally by elongating the cylinder, which is done by fastening one end and pulling at the other.

DIAGNOSTIC CHARACTERS OF POWDERED RHIZOMES AND ROOTS.*

BY PROFESSOR HENRY G. GREENISH AND EUGÈNE COLLIN.

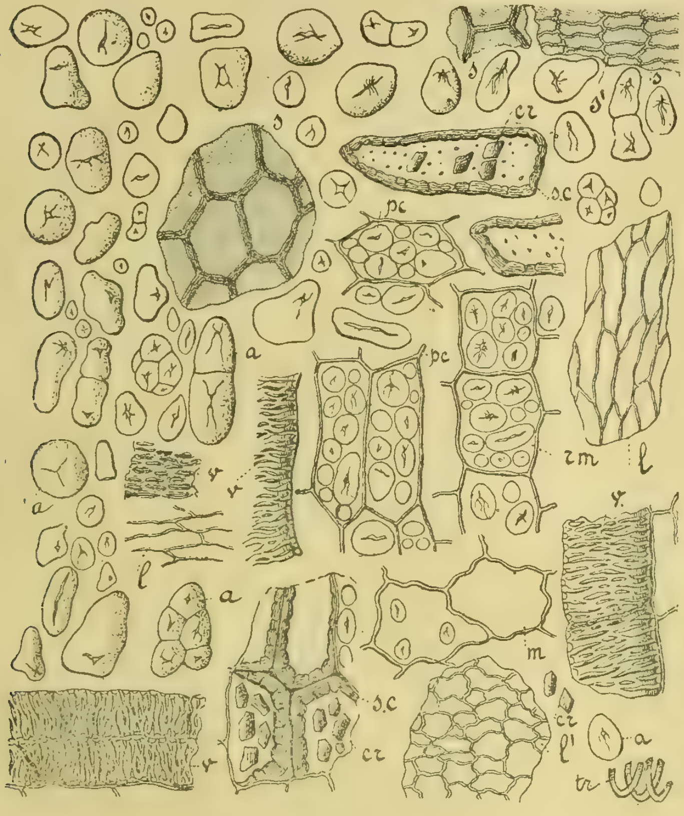
Calumba Root.

The root of *Jateorhiza Columba*, Miers (N.O. Menispermaceæ).

The root presents the following structure :—

(1) *Cork*, consisting of several rows of brown, tabular cells, which in surface view are polygonal and isodiametric.

(2) *Cortex* (secondary), the cells of which are polygonal and tangentially elongated; they contain large starch grains (20 to 70μ) which are mostly simple, irregularly ovoid, rounded or pear-shaped and exhibit a very conspicuous cleft or stellate hilum. There are also compound grains with from two to six constituent grains, measuring about 8-20μ in diameter; these constituent grains are rounded on one side and angular on the others. Towards the periphery the cortex contains large, scattered, thick-walled, sclerenchymatous cells either isolated or in groups; the cavities of these cells are large and contain one or more prismatic crystals of calcium oxalate; the walls are bright yellow in colour and often exhibit a one-sided thickening.



Calumba Root.

Powdered Calumba Root (× 240).—*a*, starch grains; *cr.*, calcium oxalate crystals; *l.*, *l'.*, bast in longitudinal and transverse section; *m.*, parenchyma of wood; *pc.*, *p'c'.*, cortical parenchyma in transverse and longitudinal section; *rm.*, medullary ray; *s.*, *s'.*, cork in surface view and transverse section; *sc.*, sclerenchymatous cells; *v.*, *tr.*, vessels, tracheids, etc.

(3) *Bast ring*, containing very long and narrow bast rays destitute of fibres.

(4) *Wood*, largely composed of parenchyma, traversed by scattered fibrovascular bundles. These bundles are narrow and radially elongated; they are composed of large pitted vessels surrounded by a layer of more or less thickened but only very slightly lignified fibrous cells.

The diagnostic characters of powdered calumba root are :—

(*a*) *The yellow colour of the sclerenchymatous cells and vessels.*

(*b*) *The sclerenchymatous cells with calcium oxalate crystals.*

(*c*) *The characteristic starch grains.*

Gentian Root.

The root of *Gentiana lutea*, Linn. (N.O. Gentianaceæ).

The commercial drug consists of rhizome as well as root.

The root presents the following structure :—

(1) *Cork*, consisting of several rows of tabular cells which in surface view are polygonal and have slightly wavy walls.

(2) *Collenchyma*, the cells of which are rounded, have rather thick walls and contain an amorphous substance, very minute crystals, and small oily globules.

(3) *Cortical parenchyma*, very narrow and composed of tangentially elongated polygonal cells, each of which contains a distinct nucleus and minute crystals, the latter being often collected in one of the angles of the cell. There is no sclerenchyma in the cortex.

(4) *Bast ring*, the cells of which are small; it contains scattered groups of sieve tissue.

(5) *Wood*, consisting principally of parenchymatous tissue and traversed by medullary rays seven or eight cells wide. The vessels are scattered and isolated or in small groups; the wood parenchyma is not lignified, and closely resembles that of the bast ring, the cells containing minute crystals and oily globules. The root contains at most an occasional small starch grain.

The diagnostic characters of powdered gentian root are :—

(*a*) *The absence of starch.*

(*b*) *The presence of minute crystals and oily globules.*

(*c*) *The brownish colour.*

(*d*) *The large reticulated or scalariform vessels.*

(*e*) *Absence of sclerenchymatous cells or fibres.*

Ginger Rhizome.

The rhizome of *Zingiber officinale*, Roscoe (N.O. Scitamineæ).

The rhizome presents the following structure, but the epidermis, hypoderma, cork and part of the cortex are often removed by peeling; this is particularly the case with Jamaica ginger.

(1) *Epidermis*, the cells of which are polygonal and thin-walled.

(2) *Hypoderma*, subjacent to the epidermis and consisting of a few rows of polygonal cells.

(3) *Cork*, of which there are usually several rows; the cells are rather large and thin-walled.

(4) *Cortex*, composed of polygonal, thin-walled, parenchymatous cells, most of which are filled with starch grains, but some contain yellowish-brown oleoresin, and these have suberised walls.

(5) *Stele*, resembling the cortex in structure. Both cortex and stele are traversed by numerous fibrovascular bundles which contain a few reticulated vessels, and are supported by a crescent-shaped mass of sclerenchymatous fibres, some of which are chambered. Narrow, axially elongated cells, containing a dark brown secretion, are occasionally to be seen abutting on the vessels.

The starch grains are very characteristic. They are simple and of considerable size, measuring 12 to 30μ in length; they

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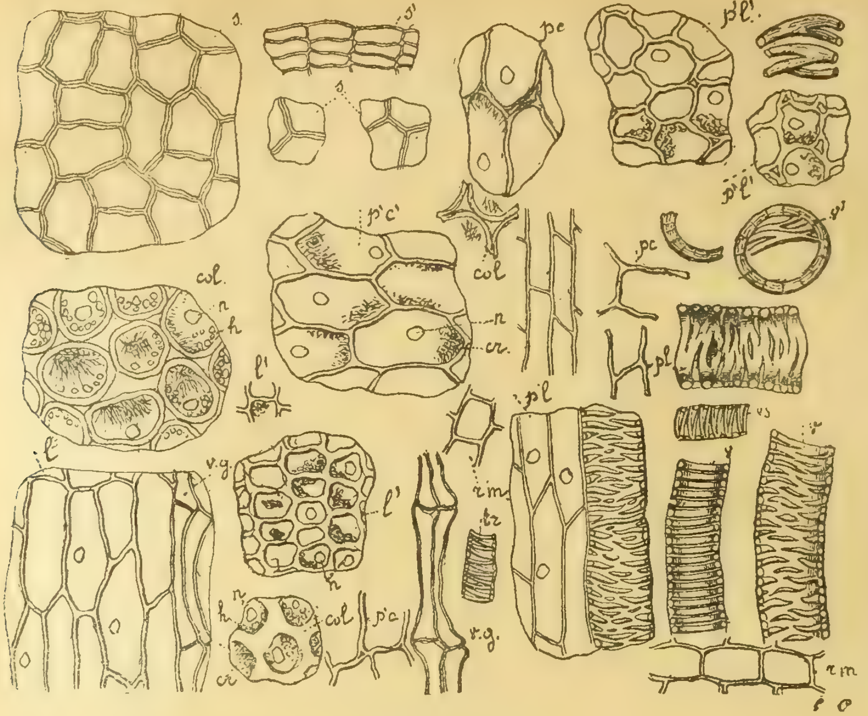
* From Greenish and Collin's 'Anatomical Atlas of Vegetable Powders' (J. and A. Churchill, 12s. 6d.).



Gentian Root.

Powdered Gentian Root (× 240).—*col.*, rounded collenchymatous cells; *cr.*, minute crystals; *h*, oily globules; *l.*, *l'.*, bast in longitudinal and transverse section; *n.*, nucleus; *pc.*, *p'c'.*, cortical parenchyma in longitudinal and transverse section; *pl.*, *p'l'.*, parenchyma of wood; *rm.*, medullary ray; *s.*, *s'.*, cork, in surface view and section; *tr.*, *v.*, *v'.*, vessels, etc.; *vg.*, sieve tubes.

are somewhat, but not strongly, flattened, and exhibit an ovoid, trapezoidal or sack-shaped outline; the striations are faint but frequently discernible.

Most of the oleoresin cells are broken during pulverisation and their contents escape; a few, however, remain intact.

The diagnostic characters of powdered ginger are:—

(*a*) *The starch grains; their number, size and shape.*

(*b*) *The oleoresin cells.*

(*c*) *The sclerenchymatous fibres.*

(*d*) *The thin-walled parenchymatous cells.*

Jalap Root.

The root of *Ipomœa Purga*, Hayne (N.O. Convolvulaceæ).

The root presents the following structure:—

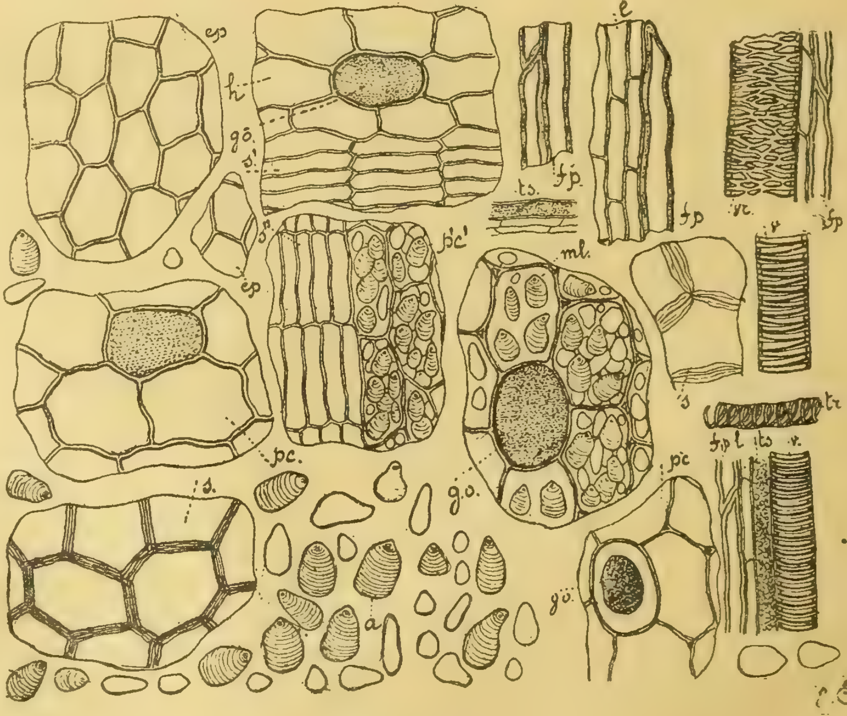
(1) *Cork*, composed of a rather thick layer of flattened, brown, tabular cells which, in surface view, are polygonal and isodiametric.

(2) *Cortex*, of moderate extent, the cells of which are polygonal and contain starch and calcium oxalate. The starch occurs in both simple and compound grains; the former are rounded and have a stellate hilum, the latter vary very much in size and shape, according to the number of the component grains. This tissue also contains numerous resin cells. These appear rounded or oval in transverse section; in longitudinal section they are seen to be axially elongated and superposed in vertical rows; they contain a brownish resin. The cortex also contains sclerenchymatous cells with thick pitted walls.

(3) *Bast ring*, narrow and rich in resin cells and stellate crystals.

(4) *Wood*, which is contained within the cambium, and is of very abnormal development. It contains a large number of bundles developed from abnormal merismatic tissue. The vascular portion consists of pitted vessels and tracheids. The parenchyma contains starch, resin cells and calcium oxalate crystals. The starch grains, both of this tissue and the cortex, are often gelatinised by the heat to which the drug has been subjected.

In the powdered drug there are but few intact resin cells, but numerous



Ginger Rhizome.

Powdered Ginger Rhizome (× 240).—*a.*, starch grains; *ep.*, epidermis; *fp.*, sclerenchymatous fibres; *go.*, oleoresin cells; *h.*, hypoderma; *l.*, bast; *ml.*, parenchyma of stele; *pc.*, cortical parenchyma, the walls somewhat swollen by treatment with potash; *p'c'.*, the same in longitudinal section; *s.*, *s'.*, *s''.*, cork, in surface view, transverse and longitudinal section respectively; *ts.*, elongated secretion cells; *v.*, *vr.*, vessels.

globules of secretion that have been liberated during the pulverisation.

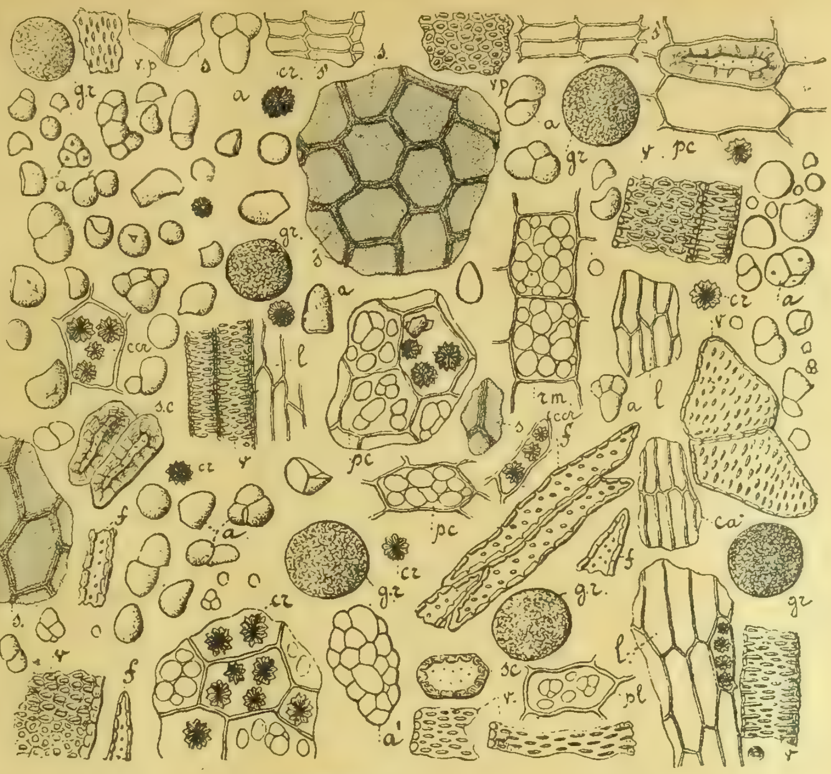
The diagnostic characters of powdered jalap root are:—

(a) *The starch grains, many of which are gelatinised.*

(b) *The secretion cells and the droplets of resinous emulsion that have escaped from them.*

(c) *The sclerenchymatous cells.*

(d) *The rosette crystals of calcium oxalate.*



JALAP ROOT.

POWDERED JALAP ROOT (× 240).—*a.*, *a'.*, starch in simple and compound grains; *ca.*, cambium cells; *ccr.*, crystal cells; *cr.*, crystals of calcium oxalate; *f.*, fibrous tracheids; *gr.*, droplets of resinous emulsion; *l.*, bast; *pc.*, cortical parenchyma; *pl.*, parenchyma of inner portion *s.*, *s'.*, cork in surface view and profile *sc.*, sclerenchymatous cells; *v.*, *vp.*, vessels and *débris* of vessels.

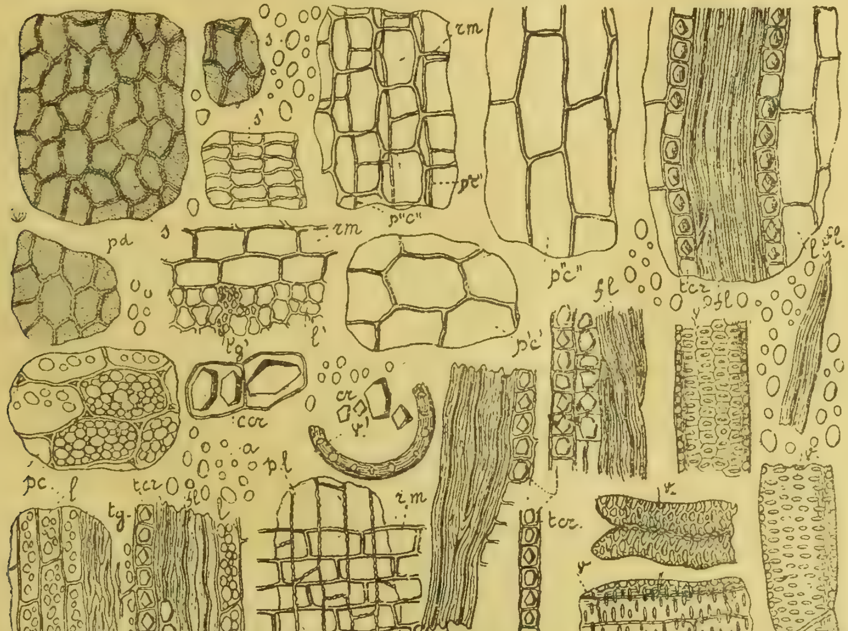
Liquorice Root.

The root and subterranean stem of *Glycyrrhiza glabra*, Linn. (N.O. Leguminosæ).

The root presents the following structure:—

(1) *Cork*, the cells of which are brown in colour and flattened; in surface view they are polygonal and isodiametric, their walls are slightly thickened and wavy in outline.

(2) *Cortex*, composed of tangentially elongated polygonal cells with intercellular spaces. The cells are filled with small simple starch grains. This tissue does not contain any sclerenchymatous cells, but near the periphery there are numerous cells containing prismatic or rhombohedral crystals of calcium oxalate.



LIQUORICE ROOT.

POWDERED LIQUORICE ROOT (× 240).—*a.*, starch grains; *ccr.*, crystal cells, from cortex; *fl.*, sclerenchymatous fibres, from wood and bast; *l.*, *l'.*, bast, in longitudinal and transverse section; *pc.*, cortical parenchyma, in transverse section; *p'c'.*, the same after treatment with potash; *p"c"*., the same in longitudinal section; *pd.*, phelloderm; *pl.*, pitted cells of wood parenchyma; *rm.*, *r'm'.*, medullary rays in longitudinal and transverse section; *s.*, *s'.*, cork in surface view and section; *tcr.*, crystal cells in rows; *tg.*, *t'g'.*, sieve tissue in longitudinal and transverse section; *v.*, *v'.*, vessels in longitudinal and transverse section.

(3) *Bast ring*, characterised by the presence of numerous bundles of bast fibres arranged in concentric circles. Each bundle consists of a number of fibres with very strongly thickened walls, and is surrounded by small cells containing crystals of calcium oxalate. The bast consists of bast parenchyma traversed by numerous groups of sieve tissue, many of which are nearly obliterated.

(4) *Wood*, divided into wood bundles by medullary rays three or four cells wide. The wood bundles consist of vessels of varying size, but often wide (100μ), wood parenchyma and wood fibres, the latter closely resembling the bast fibres and like these accompanied by calcium oxalate crystals.

The diagnostic characters of powdered liquorice root are:—

(a) *The abundant, very thick-walled, grouped, yellowish bast fibres.*

(*b*) *The abundant calcium oxalate crystals.*
(*c*) *The small starch grains.*
(*d*) *The characteristic vessels, especially the larger.*

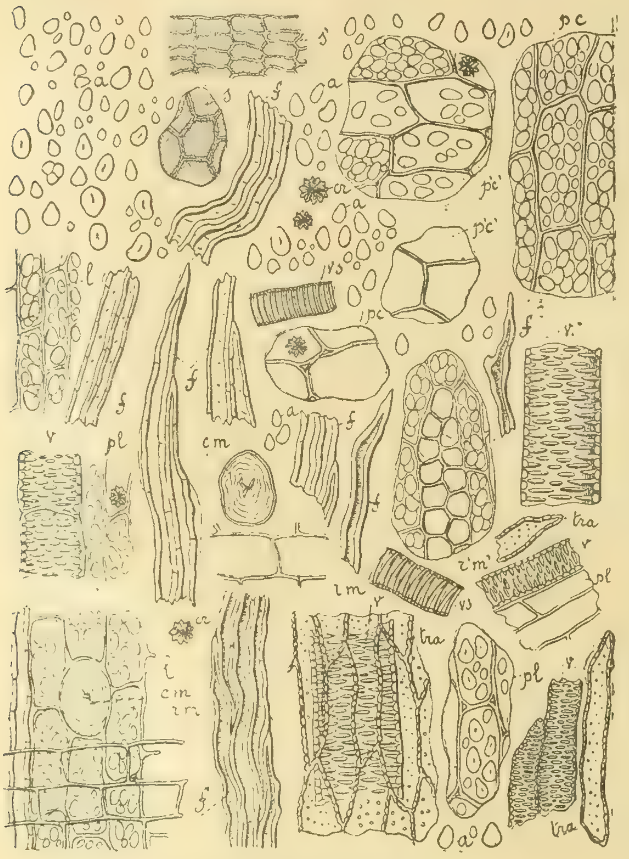
Marshmallow Root.

The root of *Althæa officinalis* (N.O. Malvaceæ).

The root presents the following structure:—

(1) *Cork*, composed of several rows of flattened cells which, in surface view, are polygonal and isodiametric.

This part of the root is often removed by scraping; the finer qualities of powdered marshmallow root do not therefore contain any cork, but in the lower qualities, such as are used for veterinary medicines, it is almost always to be found.



Marshmallow Root.

Powdered Marshmallow Root (× 240).—*a.*, starch grains; *cm.*, mucilage cells; *cr.*, crystals of calcium oxalate; *f.*, sclerenchymatous fibres from bast ring and wood; *l.*, bast; *pc.*, *p'c'.*, cortical parenchyma in longitudinal and transverse section; *pl.*, parenchyma of the wood in longitudinal section; *rm.*, *r'm'.*, medullary rays in longitudinal and tangential section; *s.*, *s'.*, cork in surface view and profile; *tra.*, pitted tracheids; *v.*, *vs.*, vessels.

(2) *Cortex*, the cells of which are polygonal and contain starch, together with an occasional rosette of calcium oxalate. The starch grains are mostly simple and oval or elongated in shape, measuring from 4 to 15μ in length; here and there compound grains with three or four component grains may be detected. Distributed throughout the cortex, and, indeed, through all the parenchymatous tissue of the root, are numerous cells filled with mucilage; these cells are rather larger than the surrounding parenchymatous cells, and the mucilaginous contents may be detected by examination in alcohol or by staining with solution of ruthenium red in lead acetate.

(3) *Bast ring*, which is particularly characterised by the presence of numerous tangentially elongated groups of bast fibres. These fibres are very long, and their walls, which are not very thick, are only slightly lignified.

(4) *Wood*, in which the parenchymatous tissue is largely developed. The vessels are not numerous, they are either single or in small radially elongated groups, accompanied by a few thin-walled tracheids and surrounded by wood-fibres. The parenchymatous cells contain either starch grains, or rosettes of calcium oxalate, and as already observed, numerous mucilage cells are scattered throughout this tissue, as also throughout the cortex and bast ring.

The diagnostic characters of powdered marshmallow root are:—

(*a*) *The numerous mucilage cells.*
(*b*) *The small starch grains.*
(*c*) *The long bast fibres with moderately thick walls.*

PHARMACY ON "THE FIELDS."

BY WALTER H. INCE.

One of the beauties as well as the complexities of the English language lies in the fact that so often the same word conveys so many different meanings. "Fields" to the jaded town-dweller call up before the mental vision vistas of waving corn, besprinkled with poppies, or undulating grassy downs, whereon lambkins carelessly disport, where shady hedges entice the candidate for examination honours to wander with a "Flora" (not Bentley's, but the cousin variety, for choice). "The Fields" invoke a vastly different picture to the West Australian, and it is to depict as truthfully as possible the environment and life on the West Australian goldfields that the following is penned.

Australia is mostly populated by English emigrants or their descendants, the English language, ideals, and procedure, only modified by the natural forces of local conditions, obtain, and hence it suffers, in its commercial aspect, from colonies which are inhabited either by indigenous or alien races. Pharmacy, not only in its outward form, but in its inner working, is essentially English; the pharmacopœia used is our familiar B.P.; the "patents," soaps, and druggists' sundries are, with the exception of price, similar to those found anywhere within the British Isles. The windows are adorned by carboys of coloured liquids; the display includes all the well-known proprietary articles which, thanks to the sweet uses of advertisement, are household English words.

The total population of Australia is less than that of London. Western Australia boasts of a little more than 200.000 inhabitants, scattered over a vast slice of continent chiefly consisting of waterless desert. These are mostly focussed in two towns—Perth, with its port, Fremantle, represents the commercial centre, while Kalgoorlie and its sister city, Boulder, are respectively the commercial and mining centres of the goldfields. Leaving Perth, which is a commonplace, prosperous, modern town, let us proceed north-west. I have not had the pleasure of travelling on the Siberian Railway, but I doubt whether it can be more desolate, wearying, or monotonous than the great goldfields' line. Mile after mile, hour after hour, the way proceeds, past desolation, scrubby trees, patches of stunted bushes, flat stretches of red clay, miles wide—these are humorously called lakes—more scrub, and yet more scrub. It is impossible to convey an idea of the unutterable desolation of this waterless land. The horizon for over 500 miles is practically dead level. Occasionally there is a slight rise where a so-called mountain towers 200 ft., and sometimes 300 ft., above the plain, but, generally speaking, the horizon is as invariable as that of a placid sea.

After jolting 360 miles we pass Coolgardie, once the metropolis of the goldfields, from whence the refluent wave of prosperity has receded, and reach Kalgoorlie. Kalgoorlie and Boulder form practically one city, though at present two municipalities. The former was the original settlement, but the Golden Mile, the great auriferous belt, is two miles distant, and round about the mines the essentially mining population is concentrated, resulting in a second city, connected by a continuous straggling line of buildings. These two are, to me, a source of continual wonder, a modern miracle! Where, but ten years back, was nothing but illimitable desert, is now a populous town of 40,000 inhabitants, with permanent buildings of brick and stone—Government offices, post-office, court-house, police-station, churches, public library, palatial hotels, electric light, trams, and telephone. Each town boasts of a mayor and all the mechanism of municipal life—all this dumped down hundreds of miles from food supplies, permanent water, or any of the conveniences of civilisation. Even those who have watched the slow process of distillation can scarcely grasp the idea of supplying these teeming thousands with water for drinking, cooking, washing—everything with the products of the still. Water obtained by sinking consists of a saturated solution of salt, with 20 per cent. solids. Huge condensing plants used to be, and still are, out back, one of the most striking features of the landscape.

Within a few months ago water was thus obtained, when, wonderful to relate, a supply has been laid on, pumped through more than 300 miles of pipes across the arid desert. I do not think I exaggerate when I say this twin-city is a modern marvel.

In spite of its wonders, in spite of the glories of Hannan Street, with its public buildings and gorgeous public-houses, in spite of alleviating circumstances and the theatre in prospect, life here is far from Utopian. Drought is writ large on the landscape. It rarely rains; the heat of summer is appalling. Last Christmas Day it was 120° in the shade. When off duty there is nowhere to go and nothing to do—no boating, no river, no lake, no wooded dell for picnics, no lane for pleasant walks.

Lake Gnumballa, a mile or so to the north, is an arid sandpatch. A creek here is a stony ravine. What little timber there was formerly has disappeared long ago to feed the boiler fires and roasters on the mines; one step from the straggling and unutterably hideous environs and before one spreads the desert and the dead level horizon. All the outlying houses are built of whitewashed hessian on wood frames, with galvanised iron roofs—ovens in summer and ice-houses in winter.

I know of no printable adjective to describe Boulder. Few care to embellish their homesteads; flower-gardens are practically non-existent; and, though the mines seem permanent enough, the whole of the mining population is characterised by an air of unrest—no one knows from day to day whether tomorrow he will be here or elsewhere. No one intends settling down and becoming a permanent resident unless fate wills otherwise; no one contemplates this as a place wherein to pass his declining years.

One must not forget the curse of all goldfield towns—dust. Every wanton wind stirs up dust—acrid, salt-laden, gritty dust. Dust-storms are frequent during several months of the year; I have experienced some lasting for days. One characteristic of the summer is the "willy-willy." A little whirl of dust starts in the roadway; this increases in size, and, rapidly revolving, starts on its travels. It prances along, gathering up lighter articles—paper and garbage; it increases in strength, and swoops towards the city; when fairly going, it will wreck an insecurely-built humpy (shed), lift off roofs, and once I saw it take up in its embrace the partly-erected marquee of a travelling circus. The houses of the town break its base. It bursts, and everything in the neighbourhood is smothered with its remains.

From Kalgoorlie Hill I have seen five or six "willy-willys" solemnly progressing up the Boulder Road, obliterating the town, so that only the top of one hotel could be seen peering above a brick-red cloud. They sometimes attain the height of over a mile. These only form on light, breezy days; steady wind invariably results in dust-storms as thick as a London fog. Further afield, where the ground is not so cut up with heavy traffic, an eleven-months' plague of flies partly replaces the plague of dust. I have seen flies so thick in an out-back hash-foundry (eating-house) that there was not room enough to place a threepenny-bit on the unadorned wall.

As far as actual life is concerned, it does not materially differ from that in an English provincial town. Out back, occasionally, some fair shooting may be obtained; wallaby, kangaroo, emu, wild turkey, and wild duck are met with when it rains. The average rainfall is 5 in. a year, and not infrequently years pass with practically none. Here, as elsewhere, the grocer and dry-goods stores poach on the pharmacist's preserves. In Kalgoorlie the competition is unusually keen, and, I should think, the place over-pharmacised.

There are 152 pharmacists on the West Australian register, or a little less than one per 1,000 inhabitants. Those on the spot are pushing and energetic, as the following extract from the *Coolgardie Miner's* description of the Millwarrie rush will show:—"Here—a little over 100 miles west of Coolgardie—the town-site has been rushed and the speculative builder is in evidence. In amongst the trees you will note the establishments of two chemists, a cycle agent, a tin-dog merchant, and that benefactor of the back blocks—a newsagent."

The amount of dispensing done is small, but the charges are correspondingly high. A friend of mine was charged 10s. for this eye-lotion for sandy blight:—

Acidi boracici		ʒiss.
Aq. destillat.	ad	℥viii.

and I was charged 12s. 6d. for the following prickly-heat mixture:—

Ac. nitrohydrochlor. dil.		ʒii.
Tr. nuc. vomic		ʒi.
Spt. chloroformi		ʒiss.
Mag. sulph.		ʒiii.
Aq.	ad	℥vi.

All serious cases, such as typhoid, which is not uncommon, are treated at the hospital. Going northward from the metropolis of the goldfields, we come to the essentially "one mine" towns. These villages, though they are generally municipalities—fancy a municipality with less than 300 inhabitants—mostly depend for their existence on the stability of one big mine, and occasionally a few outside shows employing only a few hands.

Here the chemist is not so well off. Most big mines out back engage a medical man with accompanying surgery, paid for out of a percentage of the men's wages. Everyone on the mine, from the manager to the rivetter's boy, and any wives or family of the hands, receive medical attendance and physic free. Hence outside scope is limited. The sale of toilet requisites and general sundries is small, and, to a great extent, catered for by the linendraper. The mine hand, who has to make two gallons of water a day suffice for all his needs, contents himself with a bar of yellow soap and an occasional pot of vaseline for the sores produced by working in salt water, or "barcoo rot," a skin eruption caused by the lack of fresh vegetables. I was in Leonora (160 miles north of Kalgoorlie) before the railway came.

From the head of the line, two days' coaching for humans, and several days by the picturesque camel or more practical donkey-team, for goods, was the order of the day for transit. This want of facility of transport enormously increases the price of all goods, and, naturally, reacts on the scale of wages. Even in that village municipality, consisting of a few dozen shops, private dwellings, and seven public-houses—I think I mentioned that it was a drought-stricken country—a properly-equipped pharmacy flourishes. The railway to Leonora, however, is now an accomplished fact, but the prices to the consumer remain the same.

One gets a grim general notion of the country by rail, an intensified conception by coach, but to thoroughly grasp the unutterable desolation and the true inwardness of the term desert one must journey with a mule-team on foot. For a hundred miles north of Leonora the stunted vegetation rises no higher than 18 in.; there are long stretches of arid plains, strewn with small black-purple lumps of ironstone, and here and there a glittering bit of quartz; the shallow wells are far apart, the water scanty of supply, and slightly brackish. On the Black Range, about seventy miles east of Lawlers, at the present time of writing water is half-a-crown a gallon. Lawlens is the last town on the fringe of civilisation which boasts of a chemist's shop faithful to our traditions, with a bottle of coloured water in strong evidence. A day's stage further back, at Mount Sir Samuel (where this is written), we depend for our medicine entirely on patents and a few packed goods obtained from an emporium which supplies the district (a small "one-mine" show) with groceries, mercery, boots, hard and soft ware—in fact, everything except bread, beer, and butcher's meat. We exist on mutton. We have no church, but support two "hotels"; where a twopenny loaf, a small glass of muddy beer or alleged whisky cost a shilling, and the freight from the end of the line comes to £5 or more a ton by team, or sixpence a pound by coach.

I think in Western Australia one can safely say that where the chemist's shop ceases there civilisation ends.

All affairs relating to pharmacy are regulated by the Pharmaceutical Society of Western Australia, situated in the capital, Perth. Permission to exercise the craft is granted to all those who possess diplomas of the Minor Examination of Great Britain or the Major of the other Australian states. Examinations are periodically held. Every person before he can become an apprentice must pass a preliminary examination in the following three subjects:—Latin, English grammar and composition, arithmetic, or produce a certificate showing that he has passed in corresponding subjects at a "matriculation examination of any British or Australasian university." The scope of the qualifying examination may be gathered from the list of the text-books prescribed by the Council, which include "Attfield," "Bentley," and the B.P.

There is no special school of pharmacy, but courses adapted to pharmacists have been arranged at the Perth Technical School embracing both practical and theoretical subjects included in the official syllabus. Registration under the Pharmacy and Poisons Act is synonymous with membership of the Pharmaceutical Society.

The prices obtained and the salary of assistants look high, but it is not the amount one obtains but what one can get for it. That must be considered. The village schoolmaster was "passing rich on £40 a-year"; that would not keep him in "tucker" on "The Fields."

If the soul of the pharmacist yearns for heat, dust, and discomfort, let him by all means make for "The Fields," though the supply is fully equal to the demand.

Comfort, in the English sense of the word, is non-existent. Let the intending colonist wipe his mind clean of the glamour of the Golden West and the Romance of Gold. Modern gold-getting is a prosaic, dirty, noisy, unhealthy, and strenuous employment. A man brought up in the gentler professions has no possible chance in a new colony out of his own special line; the only general market for employment is for the navvy, carpenter, or fitter class, used to rough life and muscular labour. "We don't want B.A.'s, but bullockers," said a distinguished local statesman. The only imaginative part of modern mining is found in the company prospectus and the monthly mine reports. A Cornish miner who was my neighbour for many weeks in the hospital informed me that he was going back to the "old country," as there he and his three sons earned conjointly £5 a week (£1 5s. each), and were infinitely better off than here, where they would individually earn at least £3 10s. to £4.

THE SKIN DISEASES OF ANIMALS.

BY "CENTAUR."

Red Mange (Eczema).

A very intractable form of eczema in dogs has previously been alluded to. It has long been erroneously called red mange, but there is yet some doubt whether it may not arise in the first instance from irritation caused by scabies. Where no such infection has been possible we meet with it, and, whatever the exciting cause, it is correctly described as eczema, and is the ***bête noir*** of dog-owners and their dog-doctors. It commences with a hyperæmia of the skin, a supercial reddening, quickly followed by a serous exudation. At this stage it is sometimes arrested by treatment, but in the large majority of cases it goes on to the formation of innumerable red nodules, which are extremely irritable, and soon surrounded by swollen areas of skin, with cellular infiltration of the papillæ connected with the cutaneous follicles. By continual increase of the serous exudation within the papule the horny layer is elevated, and what is known as a vesicle characteristic of eczema is formed. Retrogression immediately before this stage is reached happens sometimes, then the nodule becomes flattened or depressed, scabs form, and presently, falling off, leave a surface pink and delicate, but soon regaining the normal appearance of healthy skin. The different degrees of density of the horny layer of the skin is remarkable in individuals, and in some it is so resistant that the contents of the vesicles, in lieu of breaking and forming serous scabs outside, become first milky and then pustular, by reason of colourless blood cells having gained entrance into the tissues, this form of eczema being distinguished as eczema pustulosum, or by the old writers as impetiginodes.

More often the vesicles are prematurely broken by the patients scratching, biting, and rubbing the skin. With this continual and repeated violence the whole horny layer of the skin is after a time removed, the tumefaction is great, and ridges with lanes are formed, in the latter of which excoriating discharges are to be seen—and smelt, for dogs in an advanced stage of so-called red mange have a most penetrating and obxnoxious odour.

Treatment.—There is no specific for eczema. If the name of red "mange" were not a misnomer we could point to one, as will be seen when true mange comes under consideration. In some kennels we may be able to trace the cause, and, having removed it, expect recovery by simple means. In the majority we shall not be consulted until home-made nostrums have been tried and the case has become chronic. It has been the fashion to use coal tar derivatives, and a fair measure of success has been attained; but now that our veterinary pathology and therapeutics, like everything else, are made in Germany, we had best quote Müller as to remedies. We should do all that we may in relieving mechanical irritation, by collars and straw bedding, substituting woollens for the latter, and, having instructed the attendant as to foods, try some of the following:—

℞ Zinci oxid.	20·0
Lycopodium	80·0

S.—Dust on the parts several times a day.

℞ Plumbi carbonas	10·0
Amyli pulv.	20·0
Talc. Venet. pulv.	40·0

S.—Dust on the parts once a day.

Müller also recommends compresses of lead water or thymol (1 per cent.), but remarks—as does everyone else with experience of the malady—that not every skin is benefited by liquid applications. As an ointment for chronic eczema the above authority recommends:—

℞ Hydrarg. bichlor.	1·0
Alcohol,	
Glycerin, aa	5·0
Adeps	90·0

Hebra's potash soap is a favourite remedy among the disciples of Müller and Glass, of Friedberger and Frohner, and other Continental authorities.

℞ Saponis kalin, venal	200·0
Alcohol	100·0

It facilitates the removal of the painful incrustations if poured over them and lightly rubbed in; as next day they will come away readily. Upon these denuded surfaces a dusting powder is advised, which may contain one or two per cent. of perchloride of mercury or nitrate of silver, but the bulk to consist of bismuth and oxide of zinc or of calamine. Tar and ichthyol preparations are favoured still, especially when the newer therapeutic agents have failed. The writer has known the old zinc ointment with ten minims to the ounce of carbolic acid succeed when all else has been tried. Liq. Carbonis Detergens, 5 per cent. (Wright), with 15 per cent. of glycerin and camphor water is also a useful lotion. Some of the coal tar derivatives, as creolin, which might be deemed dangerous in a comparatively healthy skin, would appear to be safe when applied to red mange far advanced; the likelihood of absorption is much diminished. The uncertainty of remedies and the prolonged and often unsuccessful results of any and every kind of treatment, should make us careful to entertain nothing in the way of a contract; on the other hand, we should, on diagnosing the true nature of the case, make it clear to the owner that much time and some expense will be entailed, if we are to be allowed an opportunity of doing what we can for the subject of so-called red mange.

Acariasis, Mange, Scab, Itch.

Under the above names, a skin irritation, varying in intensity, is recognised in all parts of the world, either in horses, cattle, dogs, cats, pigs, or sheep, and by the last—itch—in man. Its history is as ancient as the first recorded wars where cavalry were employed. Its first mention in the Bible is as a disease of man (Lev. xxii. 22), and by the law of Moses mangy animals were not accepted as sacrifices. By the Greeks it was called Ψώρα (from Ψαῶ, I rub); and the Latin term scabies, by which it is scientifically designated to-day, is derived from the verb *scabere*, to scratch.

There is reason to suppose that the ancients suffered very terribly, both in purse and person, by epidemics of scabies. Polybius describes an epidemic and endemic as afflicting the whole of the human and equine population of Cisalpine Gaul, and Hannibal, in common with most early observers, attributed the malady to hardships and privations. Greek and Roman agriculturists recognised its contagious nature among their flocks, but from their application of the same word to practically all skin diseases of animals, we may conclude that they were not aware of its parasitic origin. Arab physicians were probably the first to recognise mange as associated with a parasite, but being wedded to a theory of "humours" as accounting for everything, the true significance of the sarcoptic acari escaped them.

Avenzoar (1072-1161) is perhaps the first writer to mention the minute creature as *soab*, and although he employs the word pediculi in connection with it, the general trend of his remarks leads us to assume that he saw the sarcoptic acarus: "Oriuntur aliqui in corpore sub cuti exterius pediculi parvunculi qui, cum excoriatur cutis, exeunt animalia viva tam parvuncula quod vix possunt videri." On this author's statement the world was content to rest for something like a couple of centuries; without microscopes to settle the point, or a specific for its cure. One of the first uses to which the microscope was "consecrated" (Neumann) was to the examination of the acarus, from which a very imperfect drawing was made by Hauptman. A veterinary writer at Frankfort seems to have discovered it about the same time, but the great Gerlach was apparently unwilling to allow him so much credit, and declared that the author had confused epidermic scales with the parasite.

It is to the co-optive labours of a pharmacist and physician in 1687 we are indebted for the first clear account of the acarus and its method of propagation. Diacinto Cestoni, of Livorna, it was who enabled Cosimo Bonomo to give an exact description of both the human itch "insect" and the acarus of animals. They asserted that it alone was the cause of mange; that it was not engendered by perverted humours, and that the infection was carried from one individual to another by the transference of these living creatures; and that internal remedies were of no avail, while those which would destroy the parasite would cure the disease, on the principle of "remove the cause and the effect ceases." There were no pharmaceutical journals to spread the light, and it was a very long time before the general body of medical practitioners knew it, and so late as 1734 the great Linnæus believed it to belong to the same species as the cheese mite. Until the beginning of the last century there were many persons of considerable pretensions to scientific knowledge who refused to believe in the parasite of itch and mange, because they sought it in the pustule instead of in the furrow caused by it, where it had been demonstrated centuries before by Moufet and others. Nor was the old belief yet dead that mange and lice and other pests were born of dust, and creations *de novo*, arising out of certain favourable conditions, as we now know for their spread and propagation, but not creation.

Every fur-bearing animal has its own mange mite or mites, for there are several affecting our domesticated animals.

The sarcoptes are responsible for what we commonly call mange, the symbiotes are commonly localised and, spreading very slowly, seldom cause such serious mischief. They more particularly affect the horse and ox, and would seem to live out their little lives and disappear often without medical interference. Like other mange mites, they have a preference for ill-thriving and hide-bound animals, a fact so early observed in connection with mange that it was deemed the cause before the parasitic nature of the malady was demonstrated.

The variety of symbiot which gives modern veterinarians the most trouble is the *Symbiotes auricularum* of dogs and cats; the cause of "canker" so called, in something like 80 per cent. of cases. This was the last of the tribe to be identified, and until quite recent years the treatment was directed to allay the inflammatory results rather than destroy the cause, the latter being but an accidental result of empirical remedies. The presence of these parasites in the ears of kittens at certain times excite the hosts in such a manner as to induce behaviour which is mistaken for "fits." The host rushes wildly about, hiding under furniture, and apparently under the influence of some overmastering fear of an unseen enemy. These seizures may be attributed to dentition fits in the young of dogs and cats, but it should never be assumed that teething troubles are the cause, without a careful examination of the ear, which is unduly sensitive when manipulated, and if the ceruminous matter is examined under a moderate magnifying glass, the parasite will be found.

Treatment.—Cats being specially susceptible to carbolic acid, we are debarred from its use; but dogs may be syringed with a one in twenty warm aqueous lotion, to which two parts of glycerin has been added. Professor Glass, translator of Müller's great work on 'Diseases of the Dog,' recommends first cleaning out the ear with wood alcohol and then dressing with Sewell's mixture of:—

Ung. hyd. nit.	4·0
Ol. amygd.	32·0

Nocard recommends naphthol, 1 part; ether sulph., 3 parts; and olive oil, 10 parts. To be injected into the external meatus daily.

SOME PRACTICAL NOTES.

BY A PRACTICAL MAN.

It is not claimed that there is anything original in any of the following notes. All of them will be familiar to practised dispensers as a body, but it is quite probable that no one dispenser will be familiar with all of them. In any case, I hope that at least one out of the number will be new to two readers of the Journal. Some old dispensing hand may feel inclined to smile at the apparently trivial nature of some of the hints here given; in fact, I can imagine some of them saying, "Why not have a paragraph headed 'How to Suck Eggs'? It would be just as useful as a lesson on 'How to Take Castor Oil!'"

But such must surely have come across apprentices—and even assistants, for that matter—who actually did not know how to serve a dose of castor oil in a proper and cleanly manner. Many of these hints appear so simple that it seems strange they are not put into practice. Everyone knows that a solution of iron and ammonium citrate generally fixes glass stoppers and causes a cork to crumble; yet I have been in dozens of pharmacies, I might almost say, where the simple remedy of wrapping a piece of linen round the cork has never been applied. These few simple notes, then, are just jotted down for the benefit of beginners rather than for the amusement of old stagers like myself, and I hope the former may find them useful, and that even the latter may not find them uninteresting.

To Give General Hints to Salesmen is rather a difficult task, and, moreover, I should not presume to do so. All depends on the personality of the man at the counter, and it is not practicable to lay down any hard-and-fast rules. Personally, however, I believe the whole secret in being a smart salesman is the power to "take the measure" of your customer as soon as he enters at the door. Time after time I have seen what would have been good customers spoilt by the first sentence uttered by the man behind the counter.

Soft but Gritty Ointments can be made smooth by pressing through muslin with a spatula on to a slab. This seems simple enough, but how many apprentices and even assistants have I seen who have thought the only way was to rub the ointment up in fractions of about half a drachm and cover the counter with grease?

In Filtering Liquids time may be saved by taking advantage of the following simple plan:—When filtering quantities of a pint or more, it facilitates the flow to support the filter-paper with two stirring rods, while a cone of blotting-paper may also be placed at the bottom of the filter paper.

To Warm a Mortar Quickly when there is no hot water handy, it is a good plan to pour in a little rectified spirit and light. It goes without saying that this plan is more suitable for metal mortars. It is sometimes convenient, when dealing with a hard pill mass, to roll it on a warm marble slab. The slab can be warmed in the same manner as the mortar—that is, by pouring on a little spirit and lighting; it may also be safer to use a slab than a Wedgwood mortar in this case, as it is quite conceivable that the latter might crack.

To Fill a Collapsible Tube with ointment without the aid of a special machine or any other elaborate contrivance, the following is a good plan:—Roll the ointment up in a piece of paper, insert the package in the tube with an end of spare paper projecting; close the end of the tube lightly, and draw out the paper, leaving the ointment behind in the tube. This method has simplicity to recommend it; it is, moreover, much simpler and quicker than filling with a spatula.

A Difficulty in Cleaning Measures which have been used in dispensing certain drugs is occasionally met with. Sometimes the liquid leaves behind a persistent odour, and sometimes it leaves a deposit difficult to get rid of by ordinary washing. Cod-liver oil is a good illustration of a liquid leaving behind a persistent odour. To remove this, a very effective and simple method is to rub the measure round with turpentine, which, in turn, is easily removed by soap and water. After measuring collodion and similar fluids, the best plan is to fill up the measure at once with water, and in a few minutes the film may be lifted out entire.

To Give a Dose of Castor Oil seems a very simple matter indeed, but the apprentice generally makes a bit of a mess of it at first. The best plan is to polish the dose-glass, then fill with water so as to wet the entire inner surface; throw the water away, half-fill the glass with aromatic water, and pour on the oil, which will not then adhere to the glass. To administer the oil without water, thinly coat the interior and edge of the glass with mucilage.

In Order to Measure Glycerin, glycerin of tannic acid, and thick liquids of a similar nature conveniently, it is the custom in many pharmacies to keep the glycerin, etc., diluted with equal parts of distilled water. Another plan is to measure a small quantity of water into the measure, and then to add the required amount of the thicker preparation.

When Varnishing Pills, the common method—which, by-the-way, is a very good one—is to smear the slab slightly with oil in order to prevent the pills from sticking. But I have found it preferable, especially when dealing with a larger number of pills, to use a piece of waxed paper as a substitute for the slab. The paper, turned up at the edges, forms a sort of tray, and by this means one prevents the pills from rolling off on to the counter or the floor.

Labels Stuck on to Lacquer Tins don't stay there long—that is, under ordinary circumstances. To make the label adhere some scrape the tins, and others wet the place where the label is to go with solution of potash. Both these methods are very well in their way, but a better one is to use syrup to damp the gummed label. The disadvantage in using solution of potash, it is hardly necessary to say, is that it removes the lacquer from the tins.

To Keep a Mortar Steady when manipulating a rather stiff pill mass or triturating an emulsion, I have found it very useful to place a thin sheet of indiarubber between the mortar and the counter. It is surprising with what ease one can keep the mortar steady by this means. This is much more convenient and much less cumbersome than the method which I have seen in use of screwing two pieces of wood on to the counter at right angles.

When Filling Cachets with such powders as salol, trional, salicin, etc., it is well to rub a little French chalk on the thimble before each pressure, in order to avoid the trouble caused by the adherence of the powder to the thimble. Talking of cachets reminds me that in damping cachets a piece of damped paper answers much better than the wet roller. By the former method one gets a more uniform amount of moisture on the surface.

A Pill like Pil. Hyd. c. Pil. Rhei Co. is one in the making of which a difficulty very often occurs, for the mass has a nasty habit of crumbling, which is apt to irritate the dispenser. In order to avoid this I have found it best to mass the compound rhubarb pill first, and then to work in the mercury pill, and to roll off quickly.

Silvered Pills often turn out Dull and refuse to brighten up, however much you polish them in the ordinary way. Pills containing valerianate of zinc and soft pills generally come in this category. The best way to overcome this difficulty—at least, the best as far as I know—is to moisten the pills slightly with spirit of wine, shake in silver leaf, and polish with a piece of white demy.

A TALK WITH A TRAVELLER.

A Conversation with Mr. Hickey, in which that Gentleman does most of the Talking.

As I entered a West End pharmacy the other day (writes our representative), Mr. Hickey was just persuading the proprietor as to the superiority of some preparation or other; I don't remember what it was, but, in any case, I fear the sale was spoilt, for the conversation was interrupted just at the psychological moment, when the chemist was about to say, "Put me down for a couple of dozen." The sample was put back in the bag, and, on the invitation of the pharmacist, the three of us adjourned to the back room.

"You've been on the road a good many years now, Mr. Hickey?" began the Journal representative.

"Let me see, it must be nearly a quarter of a century ago," returned the person addressed. "But at first I was not on the road altogether, I used to travel three days a week only, and I had a single line to push in those days; that was Freeman's Chlorodyne. It was quite sufficient to give me a liking for the work."

"The position of the traveller has changed considerably since those days, I should imagine?"

"Changed? I should imagine it has. The drug traveller of to-day is on an entirely different footing to what he was twenty-five years ago. In those days the traveller was the representative of his firm; now he has to be both traveller and salesman. In those times his clients used to look forward to his coming almost as a family friend. They used to get the silver teapot polished up, and the children would have clean pinafores on the day Mr. Smith from London came down. The customer used to go through his stocks weeks beforehand, so that his sheet should be as large as possible; he would have his order written out, and the cheque all ready for his friend the traveller. But to-day it is quite changed."

"I suppose, as a matter of fact, that was because there were less of you in those days?" suggested the chemist.

"Well, that had a lot to do with it, no doubt. Nowadays a man has to carry a bag with him, introducing new lines; his visits are more frequent, and above all he must sell the stuff. His firm looks upon him as an advertising investment, which they expect to show a profit."

"But all this is only natural. It seems to me from what you have said that the traveller had rather an easy time of it in the good old days."

"Just so; but the traveller of to-day is making up for the easy time his predecessors used to have. He has by no means an easy time nowadays, I can tell you. Of course, the change is mainly due to competition; but low railway freights, cheap telegraph system, telephones, and parcels post have had a lot to do with it. Instead of the orders being saved for the traveller, they are sent by post to the house, sometimes as often as every night."

MR. HARRY HICKEY.

The conversation then drifted into another direction, and Mr. Hickey gave some of the impressions gained during his visit to America. Through the generosity of his firm, he went on to explain, he had paid a visit to the United States and Canada. There he came across a good number of travelling men, and his opinion of them is interesting.

"I found them a very smart, shrewd lot of men, quite up to date, and they were masters of their business. I always maintain that to be a good traveller you must have a thorough knowledge of your calling; in fact, you must be a master of the art and a salesman. Every man knows whether he is a salesman or not; he should get this knowledge during his apprenticeship. Another thing I found on the other side: representatives are always well dressed, and wear smart, clean linen. The firms are very particular with their men in this respect; so much so, that on the first expense sheet that was handed to me I noticed there was a margin left to charge up your laundry bill."

"I gather from what you say that you have had actual experience as a retail chemist?" put in the pharmacist.

"I should say I had. I served a six years' apprenticeship with Mr. W. H. Rastrick at Portsmouth, and besides that I managed a retail pharmacy at Southsea for ten years. I joined Mr. F. M. Fisk, our European manager, twelve years ago, and, in fact, I was the first English travelling representative Messrs. Parke, Davis and Co. had. Men must possess a commercial training; without that a traveller is not much use. One often meets professional men most anxious to become commercial travellers; they try it, and as a rule hopelessly fail."

"What sort of people do you find chemists as a rule?" someone queried.

"I have heard many travellers say, and no doubt my colleagues have heard the same, that chemists as a rule are not the best of men to call upon. There never was a greater mistake, to my mind; it is simply the case of bad workmen complaining of the tools the firm has put in their hands. I have travelled all over England and Scotland, down to the Channel Islands, calling on the drug trade, and therefore am in the position to speak on the subject, and I can say that I have always found them gentlemanly and willing to listen to what I had to say. They were ready to look at any new lines I wished to show to them, with very few exceptions, and possibly then it has been my own fault."

"My advice to travellers," remarked the chemist, who evidently knew something about it, "is—Never bore your man; don't display your goods all over his counter until you think it desirable."

"Just so," returned Mr. Hickey. "Men must bear in mind that chemists' shops are not kept open to receive travellers at any time they choose to call. Great tact is required in this direction. As I said before, with regard to being a salesman and knowing his business, he should also be able to study the character of the man he is calling on. When a traveller calls on a client, and he finds another one in front of him, the rule of the road is to retire, wait outside, or call another day. Now, I think that really applies also as far as your client is concerned. When you see him busy with a customer, don't wait in the shop; you only irritate him, and possibly all you will get for your trouble will be a shake of the head, and 'Nothing to-day, Mr. Smith.'"

"DRESSINGS," BIRMINGHAM.

A Visit to Messrs. Cuxson, Gerrard and Co.'s Works.

Perhaps no more suitable title can be found for this brief article than the telegraphic address of the firm herein concerned. It is many years since the question of cotton—that is to say raw cotton—has been so prominently before the public. What with the shortage of the American crop and the bewildering speculations of heartless capitalists, the attention of whole nations has been centred on the cotton markets. The chemist and druggist is by no means the person the least interested in this crisis. For American cotton is the staple from which the bulk of surgical dressings are made. It is therefore a particularly opportune moment to speak of the manufacture of these products. It is not intended to deal minutely with the various details of bandage making and the processes employed in the manufacture of antiseptic dressings, but simply to take a rapid glance at the premises occupied by the firm whose name is mentioned in the title.

The head offices and showrooms are situated in Corporation Street, Birmingham. These consist of a handsome corner block of imposing appearance, and the various departments are admirably adapted to the requirements of the business. The situation is central, and there is every accommodation for transacting a large business. The works, which, after all, are always more interesting than showrooms, even if less picturesque, are situated in dirty, foggy Oldbury, some few miles from Birmingham. With Mr. A. W. Gerrard as guide, a representative of the *Pharmaceutical Journal* recently paid a visit to these works, and learnt some of the details of the surgical dressing industry. There is no necessity to introduce Mr Gerrard to readers of the Journal. At the present time he is President of the Midland Pharmaceutical Association. He is one of the most expert practical pharmacists living, and has been an examiner of the Pharmaceutical Society. All these facts combined to make the visit more interesting.

A great many complaints have been heard, more especially during the past few months, concerning German competition in the "dressings" trade. In spite of this, the first thing that met the eye on entering the building was a large pile of bandages already packed and waiting to be forwarded to Germany. So that even if German competitors send dressings to us, it is quite evident we send some to them. Perhaps the most interesting departments are those in which by means of ingenious contrivances rolls of cloth are cut into different widths of definite length. With the aid of these useful machines a tremendous amount of bandages can be turned out in a remarkably short space of time. Another part of the works which especially attracts the eye of the visitor is that in which dressings are rendered antiseptic, some by means of solution of boric acid, some by solution of corrosive sublimate, and so on. The dressings are passed through vats containing these solutions, and then partially dried in a wonderful centrifugal machine of tremendous power, which beats the material against the sides, and so presses out the moisture. The dressings are finally dried by suspending in a warm room.

Dressings are rendered aseptic in a most effective manner. Before being placed in the sterilising chamber and heated with super-heated steam, the parcel of material, whether it consists of wool, or lint, bandage, or gauze, is enveloped in a sheet of cotton wool. On removal from the chamber the parcel, with the wrapping, is placed in an air-tight dust-proof case, as an extra precaution, and the dressing is not removed from the wool cover until actually required for use. It is generally admitted that this is the best method of excluding bacteria, and it is, in fact, on the same principle as the one employed by bacteriologists for keeping culture media aseptic.

It will not be necessary to describe here the plaster-spreading department. Mr. Gerrard himself gave a very lucid account of how plasters are spread on a large scale at a recent meeting of the Midland Pharmaceutical Association, a report of which appears in this issue. At the time of our representative's visit the plaster makers were at work drawing long rolls of cloth through the machine, and hanging them on rolls to dry in the manner explained by the lecturer.

Space does not permit to give particulars of the other departments visited, but it will suffice to say that the effects of capital organisation and modern business methods are visible everywhere in the Oldbury works.

PRACTICAL NOTES AND FORMULÆ.

Brun's Airol Paste.

Airol, 5; mucilage of acacia, 10; glycerin, 10; white bole, *q.s.* to make a soft paste. This paste may be kept for a long time in a suitable condition for use if preserved in stoppered or corked bottles, but care must be taken that it does not come in contact with metal.—*Therap. Monats.*, **17**, 269.

Lightning Powders for Instantaneous Photography.

(1) Potassium chlorate, 48·5 parts; magnesium dust, 46·7 parts. (2) Red phosphorus, 10·4 parts; strontium nitrate, 60·8; magnesium dust, 28·8. (3) Red phosphorus, 9·7; aluminium powder, 5·5; strontium nitrate, 72; magnesium powder, 12·8.—*Pharm. Post*, **36**, 557.

REVIEWS AND NOTICES OF BOOKS.

'P.J.F.—The Pharmaceutical Journal Formulary.' A Register of Formulæ for Medicinal Preparations sold by Chemists and Druggists, and regarded by the Board of Inland Revenue as "known, admitted, and approved" remedies; together with Collections of Useful Recipes for Galenical Preparations, Veterinary Medicines, Photographic Solutions, Dental Preparations, Perfumes, Toilet Requisites, and various other Preparations in every-day use. Edited by John Humphrey. Pp. i.-xxxvi., 1 to 812. Price, 21s. net. London: *Pharmaceutical Journal* Office, 17, Bloomsbury Square. 1904.

This is undoubtedly one of the most remarkable books ever published for the use of chemists and druggists, and the Editor is to be congratulated upon having been able to produce such a marvellously useful compilation in the short space of time available—only five months having elapsed since the work was commenced. As pointed out in the preface, the book is primarily to be regarded as a register of recipes for compounded medicines sold by chemists and druggists, under names which are now held by the Board of Inland Revenue to incur liability to Medicine Stamp Duty, unless the composition of the medicines is disclosed on the label or in a recognised work of reference. Such disclosure may now be effected by stating upon the label for a given medicine that the formula appears in the 'Pharmaceutical Journal Formulary'—*e.g.*, "Cough Mixture. P.J.F. 4920."—and the chemist and druggist who has served a regular apprenticeship is then free to sell the remedy without affixing a duty stamp, though any unqualified person or limited company must pay duty before selling the same medicine.

But though the bulk of the volume—some 530 pages—is devoted to the registration of chemists' and druggists' private recipes, the chief value of the book to pharmacists generally will probably be found to reside in the remaining nineteen sections of the book. The first section is a supplement to the British Pharmacopœia, and contains several hundred formulæ for non-official galenical preparations in frequent demand, but which have not previously been brought together in one volume. There are numerous formulæ from pharmacopœias which are no longer official, hospital pharmacopœias, and various other works, while not a few have never yet been published in works of reference. The Editor asks for suggestions of useful modifications to any of the formulæ given, or the addition of other formulæ which, by their inclusion in a compendium of medicines, may tend to make such a collection of increased practical benefit. It is to be hoped that advantage will be taken of this invitation by many practical pharmacists, as an opportunity is thus afforded of producing a chemists' pharmacopœia which may worthily supplement the official medicine book.

The second section of the book is devoted to the preparation of compressed tablets, and constitutes the most complete treatise on the subject yet published. Following this come the chemists' and druggists' recipes, already referred to, this section being prefaced by a concise explanation of the conditions under which medicines became liable to stamp duty. It is noteworthy that, in his anxiety to protect the interests of chemists and druggists, the Editor has included all the recipes submitted to him for registration before the first week in January. As a result, while the great majority of the recipes are conveniently classified, it has been found necessary to include three supplementary lists of chemists' recipes arranged simply in alphabetical order, because they were received too late for classification. At the end of this section, as of others, space is left for inserting further recipes, and a special page is arranged for an index of the chemist's own recipes.

Section four contains a selection of recipes for remedies for common ailments, the object being to encourage commonsense prescribing by medical practitioners. To that end pharmacists are invited by the Editor to direct the attention of prescribers to the recipes in this section. Next come recipes for dental preparations, such as mouth washes, fillings, cements, varnishes, etc., of proved utility. The formulæ for veterinary medicines are of an equally practical character, and chemists in country districts should find this section particularly useful. Perfumes and toilet preparations occupy nearly forty pages, and are followed by a shorter, but equally valuable, section, containing miscellaneous recipes such as every retail chemist needs to refer to at times.

The ninth section is an excellent compilation of all the more important histological and bacteriological stains and reagents, and is followed by a similar collection of reagents and tests used in urine analysis. Then comes a descriptive list of all the chief chemicals used in photography, that being supplemented by a well-arranged collection of photographic formulæ—for developers, intensifiers, toning baths, mounting pastes, etc. The twelfth section contains legal hints for chemists and druggists, and constitutes a handy guide to the Acts of Parliament, which are printed, with comments, in the next section—the summaries of the Pharmacy Acts and Medicine Stamp Duty Acts being particularly worthy of attention. The remaining seven sections comprise a list of poisons and antidotes, a series of official and suggested standards for medicines, a trade directory and buyers' guide, postal information, dietary tables and other information for nurses and dispensers, tables of metric measures and profit assessment, and a list of British schools and colleges of pharmacy.

In conclusion, it is sufficient to say that the book must prove indispensable to every chemist in business, and that, as the issue is limited, no time should be lost in ordering copies. The highest praise is due to the Editor and staff of compilers for the admirable way in which they have completed a most difficult task, and the greatest compliment that can be paid to them is to express the honest conviction that the book will be out of print and copies at a premium before many months are past.

'Serum Therapy.' By R. T. Hewlett, M.D., Professor of Bacteriology, King's College, London. Pp. viii.+262. London: J. and A. Churchill. 1903.

The achievements of the youthful and brilliant science of serum therapy represent but a fraction of the prospects of its further advance towards the relief of human suffering, and in summarising in a handy volume the results already attained and the difficulties yet unsurmounted, Professor Hewlett is indeed opportune. He provides the reader with authoritative descriptions of all the best-known serum and vaccine treatments introduced up to the present time, preceded by an able account of the modern theories of immunity, and by chapters on the general principles of the manufacture and administration of sera and vaccines. The descriptions are clear, the comments impartial, and the text scholarly, while the copious references to original literature have enabled the author to remain both brief and sufficient. It is by reviewing the progress of bacteriology through the medium of monographs such as this that the astounding results of that science may be realised. Thus we find that Professor Hewlett and his fellow scientists possess the secret of a poison, one teaspoonful of which will suffice to destroy not less than one thousand million rabbits. The author has no "pet fad" to propound, no strenuous defence of this or that theory to put forward, but presents a calm and judicial survey of proved facts; and for this reason anyone who is sufficiently conversant with bacteriological terminology may be assured of finding pleasure from his pages, while as a handy reference work for the medical profession it may be even more strongly recommended.

'Dispensing Made Easy.' By William G. Sutherland, M.B. (Aberd.). Pp. 102. Price 3s. 6d. net. Bristol: J. Wright and Co. 1904.

Those medical men who are engaged in making an attempt to prohibit dispensing by members of their profession owe a deep debt of gratitude to Dr. William G. Sutherland. His book contains such unblushing recommendations to economise at the expense of the public health, such frank approval of the strange methods of some "dispensing doctors," that it is difficult to avoid the impression that the real object of the author is the suppression of the very practice which, as he professes, it is his desire to encourage. Dr. Sutherland tells his tale plainly and, to all appearance, with conviction. But for the credit of the medical profession, we should prefer to believe that the author had exercised the same powers of imagination with regard to the conditions of "club practice" that he shows when he gravely enunciates as a "point worth remembering" the theory that "subnitrate of bismuth in mixture with bicarbonate of sodium generates carbon monoxide in sufficient quantity sometimes to burst the bottle." A similarly remarkable discovery is that bromides with acids decompose, and bromine is set free. "Manslaughter made easy" might well have been the title of this book. Take, for example, the directions for fitting up a dispensary. For the more potent preparations a poison cupboard is considered extremely useful. But "liq. strych., liq. morph., and liq. arsenicalis are commonly kept on the shelves, and not in the poison cupboard. There is no advantage in keeping all poisons together in a cupboard, as the possibility of mistaking one for the other is greater than if they are dotted here and there over the shelves." Not a word about distinctive poison bottles. In sending out poisonous substances to nervous patients, the author recommends medical men to use a label "For external use only" rather than a "Poison" label. The habits and customs of the typical dispensing medical man are, we suppose, fairly described by the author in his remarks on infusions. "All the bitter infusions have practically the same properties, and hence the medical man in large club practice uses generally but two—quassia and gentian. . . . Fresh infusions (with the possible exception of digitalis) are never used by the medical man who dispenses his own medicines, and it is only in a few chemists' shops that the strict letter of the B.P. is carried out." After describing a method for preparing "infusions" from so-called liquid extracts, the author remarks, with more truth than sense of humour, that "the dispensing chemist would hardly be justified in adopting it unless specially sanctioned by the prescriber." Dr. Sutherland, in a naïve preface, refers to "pill-rolling, pill-coating, the making of emulsions, capsules, etc., subjects in which he (the dispensing medical practitioner) is not interested at all."

Pharmacists who are anxious to learn just how dispensing should not be practised may find that Dr. Sutherland's philanthropic hints will prove useful. For that reason no apology is offered for quoting somewhat liberally from his rich store of good advice for the extravagant. "In order to cut down the drug bill without any sacrifice in therapeutical efficiency some general rules suggest themselves:—(1) As far as possible never use a spirituous preparation when another will answer just as well. Use aqueous tinctures, or, better still, liquid extracts. . . . (2) Remember in prescribing that flavouring agents, aromatic concentrated waters, spirits, syrups, and aromatic tinctures, as ginger, cardamoms, etc., are largely spirituous. . . . Avoid a multiplicity of drugs or of preparations of the same drug; you are thus enabled to buy in larger quantities, and consequently at a cheaper rate, preparations you do use." For spirit of nitrous ether, Dr. Sutherland recommends the use of a concentrated liquor, 1 in 4 or 1 in 8. But as far as we have been able to discover, no method is given for the preparation of the latter concoction. Perhaps it is one of those "galenicals" in which "the menstruum is, whenever possible, non-alcoholic, cheap glycerin (which chemically is propenyl alcohol) being substituted for expensive spirit (ethyl alcohol)." It will be noticed that the author's chemistry is hardly one of his strong points. One of the most rational sentences in the book is the following:—"Concentrated mixtures . . . by saving time enable the practitioner to devote more attention to the physical examination of his patients than he might otherwise be able to do." But even this remark is not followed to its logical and inevitable conclusion, which surely is that the medical man who makes no attempt to dispense has still more time to devote to physical examination and diagnosis. We would not have the reader think that this is one of the books which ought never to have been written. On the contrary, the literature of British customs in the early part of the twentieth century would have been incomplete without it. Moreover, in these days of depression, the man who adds as much as Dr. Sutherland has now added to the gaiety of his fellows deserves a hearty word of commendation.

'The Englishwoman's Year-Book.' Edited by Emily Janes. Pp. 352. Price 2s. 6d. net. London: A. and C. Black. 1904.

The first page in this book to which the pharmacist turns is naturally that on which pharmacy as an occupation for women is described. The author of the monograph is a lady pharmaceutical chemist and tutor, who begins by giving her readers a timely warning that "only girls of good general education and good physique, and who can afford the necessary expenditure of time and money, should enter the profession of pharmacy." It is particularly gratifying to note that the "backdoor" through which some ladies pass in order to become dispensers is not mentioned. A very fair summary is given, however, of the conditions under which a lady may obtain a qualification as a chemist and druggist. The book contains much that is useful to chemists, including a long list of the convalescent homes in the country and the names of "medical women" in practice. The 'Englishwoman's Year-Book' may also prove profitable to the harassed man who is wondering "what to do with his girls."

'Who's Who, 1904.' Pp. 1,700. Price 7s. 6d. net. London: A. and C. Black, Soho Square.

Seventeen hundred pages of biographies in the most condensed form furnish the reviewer with a task which is at once easy and difficult. There is so much in the book that there is nothing to criticise, unless it be the absence therefrom of the names of nearly all the great men of pharmacy. Some pharmacists, however, are fortunate enough to supply medicine to members of the "upper twenty thousand," which we gather to be, roughly speaking, the number of those deemed worthy of a place in this book. If such a pharmacist takes sufficient interest in his customers to desire to know something of the greatness to which they were born, which has been thrust on them, or which they have achieved, he will find no better work than 'Who's Who,' a publication which is already to be seen in many a pharmacy, and might profitably be found on the shelves of many more.

'Who's Who Year-Book for 1904.' Pp. 112. Price 1s. net. London: A. and C. Black, Soho Square.

The 'Who's Who Year-Book' is made up of the tables which were formerly such a popular feature in 'Who's Who' itself. Art, diplomacy, the church, the law, politics, learned societies—including the Pharmaceutical Society—steamship lines, universities and their professorial chairs, and many more national institutions—of all these the more prominent representatives are named for the information of the curious. As the publishers ask for suggestions we may doff our native modesty and remark that the *Pharmaceutical Journal* is at least as important an organ as many of those of which details are given, under the general heading of "The Press." Perhaps the omission is due to our own retiring disposition!

'A Guide to Urine Testing.' By Mark Robinson, L.R.C.P., L.R.C.S. Pp. 56. Price 1s. Second edition. Bristol: John Wright and Co. 1904.

For nurses and others who do not require a book which shall take them deeply into the mysteries of the chemical analysis of urine, Mr. Mark Robinson's booklet has doubtless proved extremely serviceable. A good feature is the inclusion of "fallacies" at the end of most of the monographs in which directions are given for the application of tests. If brevity and conciseness in this kind of work are to be counted as virtues, Mr. Robinson's book should certainly receive the highest praise.

'Up-to-Date Tables of Imperial, Metric, Indian, and Colonial Weights and Measures.' By Alfred J. Martin. Pp. 255. Price 2s. 6d. London: T. Fisher Unwin, 11, Paternoster Buildings, E.C. 1904.

Not every unsophisticated person would have thought it possible to compile a book of two hundred and fifty pages on weights and measures. But the author is a strong advocate of the compulsory metric system and decimal coinage, and, in addition to innumerable valuable tables, space is found for suggestions for reform, and arguments to support the suggestions. We notice a quotation from the evidence given by Mr. Michael Carteighe before the Select Committee on Weights and Measures, which sat in 1895, and much else that will interest pharmacists. Mr. Martin suggests, among other radical, but not, perhaps, impracticable, reforms, "the abolition of the old apothecaries' weight, and, after two years, the discontinuance of avoirdupois denominations in the British Pharmacopœia," the abolition of apothecaries' fluid measures, and the issue of metric weights to doctors and chemists. The author thinks that many British advocates of the metric system have courted failure in the past by trying to make foreign nomenclature compulsory. He prefers that the old names or nicknames of many of our present denominations should be retained, even if not officially recognised. A large and important part of the present book is devoted to suggestions for adjusting imperial weights and measures to metric weights and measures, while retaining familiar names. How that seemingly difficult task is to be accomplished must be discovered by direct reference to Mr. Martin's excellent and comprehensive book.

'A Manual of Botany.' By J. Reynolds Green, ScD., F.R.S., F.L.S. Vol. 1, Morphology and Anatomy. Pp. 395. Price 7s. 6d. Third edition. London: J. and A. Churchill, 7, Great Marlborough Street. 1904.

If morphological botany is a subject which stands to-day in the place where it stood seven years ago, that is not due to want of energy on the part of the younger botanists. Rather must it be ascribed to the exhaustive efforts of their predecessors in the nineteenth century. It, therefore, detracts not at all from the value of Professor Green's 'Manual of Botany,' that no material changes have been made in the third edition. The use of a smaller type for the less important matter will doubtless prove useful to the type of student who, anxious to "skip" something, knows not what to skip. As that is the only change introduced into a book which is everywhere recognised as one of the best, an extended review is unnecessary. We would, however, heartily commend the 'Manual of Botany' to any students of pharmacy who have not yet made its acquaintance, as it is eminently suitable as a text-book with which to prepare for pharmaceutical examinations, no less than as a general guide to an entrancing branch of study.

'Telephoto Work.' By G. H. Deller, M.A., M.B., with chapters on the "Adon" lens, by H. Wild, and on a home-made telephoto lens, by H. M. Haines. Pp. 64. Price 1s. net. Cloth 2s. net. London: Dawbarn and Ward, Limited, 6, Farringdon Avenue, E.C. 1904.

The text of this book deals with the choice and selection of the telephoto lens, particularly as applied in everyday landscape and architectural photography, as well as in portraiture, and for short exposure work of moving objects from a considerable distance. The book is illustrated by plates from negatives taken by the author and others, and forms a valuable addition to the photographer's library.

'The British Journal Photographic Almanac, 1904.' Edited by Thomas Bedding, F.R.P.S. Pp. 1,604. Price 1s. net. London: Henry Greenwood and Co., 24, Wellington Street, Strand W.C.

'The British Journal Photographic Almanac for 1904' has been lying on the editorial table since the beginning of the year awaiting a favourable opportunity for directing attention to its voluminous pages. This week's issue of the *Pharmaceutical Journal* goes to all chemists on the Register, and as many of the chemists in business are interested in photography and photographic goods, no better opportunity can be had than the present.

The principal contents of this, the forty-third yearly issue of the almanac, include an article entitled "Some By-Paths of Photographic Printing," by the editor; about fifty contributions on practical subjects by prominent photographers, an "Epitome of Progress during 1903," giving a *résumé* of the latest important discoveries and advances; miscellaneous information, many illustrations, and what appears to be the completest collection of photographic formulæ and recipes ever gathered together in one volume. In its 600 pages of text matter will be found a mass of useful information for all photographers, professional and amateur.

'The Wonderful Century: The Age of New Ideas in Science and Invention.' By Alfred Russel Wallace. New edition, revised and largely re-written. Pp. 526, with 107 illustrations. Price 7s. 6d. net. London: Swan, Sonnenschein, and Co., Limited, Paternoster Square, E.C. 1903.

This edition is substantially a new work, much new matter being included and some old matter deleted, while all the chapters have been carefully revised, and additions made, to bring the whole work thoroughly up to date. The chapter on chemistry has been considerably extended, and a new one on electricity added, and to that dealing with photography has been added a popular account of the methods by which artistic illustrations are produced. Four new chapters are devoted to astronomy, and altogether the work is very readable, interesting, and instructive. To the scientific student desirous of reviewing the general advance in the arts and sciences, as well as socially and politically, during the nineteenth century, a copy of 'The Wonderful Century' will be invaluable.

THE STUDENTS' COLUMNS.

PRIZE COMPETITION (2).

Conditions.

The following examination-paper is based on the articles which have been appearing each week in the Students' Columns since December 12, 1903. One or more prizes of books, according to the merits of the answers received, will be awarded, at the discretion of the Editor, to those student-associates of the Pharmaceutical Society whose replies to the questions shall be adjudged to be the best. Prizes will not be awarded to any of the competitors who were successful in the previous competition, though they may enter for the present one. Student-associates of the Society, and registered apprentices who apply before March 21 to be elected as such, will alone be eligible to compete. As the competition is intended primarily for apprentices, those who have sat for the Minor Examination will be deemed ineligible. Any books may be used in answering the questions, but each competitor will be required to write and sign a declaration that no assistance has been given him by any person whatever, either by way of answering the questions or of recommending books to be consulted, and that the competitor has never sat for the Minor Examination. Replies must be addressed to the Editor of the *Pharmaceutical Journal*, 17, Bloomsbury Square, London, and will be received up to Monday, March 21. Candidates should answer questions as concisely as possible, confining themselves to the information asked for. Pseudonyms or initials may be adopted, but the full name and address of the competitor must in every case be sent, together with the signed declaration already referred to. The names of competitors who succeed in gaining prizes will be published in the *Pharmaceutical Journal*, but the names of unsuccessful candidates will not appear.

EXAMINATION PAPER.

1. Mix some Liquor Plumbi Subacet. Fort. with five times its volume of Liquor Calcis Chlor., and boil for a few minutes. Let the precipitate subside, pour off the clear liquid, fill up with distilled water, pour off, and repeat the process; then boil the precipitate with a little concentrated hydrochloric acid and cool. Describe carefully everything you observe.

2. What would be the approximate atomic weight of a metal whose specific heat is 0·102? 1 C.c. of hydrogen weighs 0·0000896 and the atomic weight of chlorine is 35·5. If one atom of the metal combine with two atoms of chlorine, what volume of chlorine will combine with 1 Gm. of the metal?

3. Give the quantities in the metric system for making 1 litre of the following mixture. Show your working in full:—

Magnesium sulphate	1 ounce
Magnesium carbonate	120 grains
Compound tincture of cardamoms	4 fl. drachms.
Aromatic spirit of ammonia, 3 fl. drachms	12 minims
Water ....to	8 fl. ounces

4. Translate into unabbreviated Latin:—

Take of

Solution of atropine sulphate............	3 minims
Liquid extract of cascara sagrada........	6 drachms
Aromatic syrup..........................	1½ ounces
Water, sufficient to make................	6 ounces

Make a mixture. One tablespoonful to be taken at bedtime for a dose.

5. What is your opinion of the following formulæ?—

(1)

℞ Liq. strych.	ʒi.
Tinct. iodi............................	♏30
Aq. ....ad	℥i.

(2)

℞ Mag. sulph.	120 grains
Sp. ammon. aromat..................	ʒi.
Aq. cinnam. ....ad	℥iss.

(3).

℞ Tinct. ferri perchlor.	♏10
Tinct. card. co.	♏10
Infus. cinchonæ acid ....ad	℥ss.

6. How should the following prescriptions be dispensed?—

(1)

℞ Boracis..............................	60 grains.
Acid. hydrochlor. dil.	ʒii.
Aq. .... ad	℥ss.

(2)

Tinct. cannab. ind.	ʒii.
Tinct. aurantii	ʒi.
Aq. cinnam. .... ad	℥i.

7. Explain the official directions for making syrup of senna. Why is infusion of calumba made with cold water? What effect has this mode of preparation on its keeping properties? Can you suggest a method for producing a preparation that will keep better?

8. Describe in your own language buchu leaves and calumba root.

9. Lay (1) some rape, mustard, or cress seeds, and (2) some wheat, oats, maize, or "canary seed," on some moist sawdust, cover with a glass jar, and keep in a warm room. Describe the process of germination in each case. After a week pull the seedlings up, and describe and sketch their appearance; then lay them flat on the sawdust and describe their further growth.

10. If a leaf from a green plant be taken at the end of a bright sunny day and treated with tincture of iodine it will be stained blue; if a leaf of the same plant be taken at sunrise the following morning it will not be stained blue by iodine. How do you account for this?

VETERINARY NOTES AND RECIPES.

Anthrax.

An almost invariably fatal blood disease, caused by a specific bacillus. Cattle, sheep, and horses are liable to it in the order above stated. It is probable that the bacilli, as well as the spores, are taken up in the food and water, or they may be deposited upon the respiratory membranes. The refuse of foreign hides, carried into the country in manure, has been proved to cause anthrax, and the dust from factories in which infected materials are dealt with has conveyed it to animals in the neighbourhood, probably upon the nasal membranes. It can be readily communicated by inoculation from one animal to another; from animals to man, and *vice versâ*. It is comparatively infrequent in these islands, while a permanent danger in many parts of Europe, and in most parts of the world where cattle are grazed to any extent. Many quack remedies have been placed before the public, but none is of the least avail, and any attempt at treatment is dangerous to the attendants. Pharmacists should advise disinfection of premises, the withdrawal of animals from infected areas, the deep burial in quicklime, or cremation of carcases, and warn farmers especially against feeding dogs or swine with any portion of the cadaver which may seem (to the uninformed) good for such purposes.

Anuria, Dysuria, or Retention of Urine.

Nearly every horse-keeper and groom has accepted the stable tradition that retention of urine—"wrong in his water"—is the cause of gripes and other forms of abdominal pain. This will be referred to more particularly under the heading of colic or gripes, but for our present purpose it is necessary to consider genuine cases of retention of urine, which does occur in all species of animals occasionally. In horses and dogs the cause is frequently a calculus, which has descended from the bladder into the urethral canal. It may sometimes be felt or seen from the outside, especially in geldings. The too common practice of giving a diuretic is absolutely wrong and harmful. Calculi are not always too hard to be broken up, or to permit of the passage past them of a catheter—an operation which should be left to the veterinary surgeon, if one is available. There is no special skill required in passing a catheter in a gelding or stallion, but the fold of membrane over the orifice in the mare is not readily found by a tyro. As first aid, the pharmacist may give valuable assistance by providing an application of belladonna, which is peculiarly soothing in urino-genital troubles, as ext. belladonnæ, 1 part; glycerin, 1 part. Mix and rub gently over the inflamed region, and introduce as far up the canal as circumstances will permit. Spasm may be the cause, without any solid obstruction, and in such case the application of warm fomentations and a liniment of lin. belladonnæ, 1 part; lin. camph., 2 parts, M. ft. lin., as an external remedy will probably relieve. The injection subcutaneously of a 10 per cent. solution of cocaine will also relax spasm. "Horsey" men will not object to introducing an oiled hand into the rectum, and exerting a gentle pressure upon the bladder. This very generally succeeds, as the force to be overcome is slight, save in cases of complete occlusion by a calculus or other foreign body.

Dogs may be put in a warm bath, or sat in one over the middle of the body. There is a bone in the penis which makes it necessary to use very fine catheters, if such remedy has to be resorted to, but there is no insuperable difficulty in passing it, if the penis is drawn out and held by a second person. Bulls and steers get an accumulation of sabulous matter close to the opening in the sheath. This should be removed with the fingers, and the following ointment supplied, with directions for daily use:—

Ext. hamamelidis	1 part
Acid. boracic	1 part
Adeps benz.	8 parts

M. ft. ung.

The penis of bovine and ovine animals takes a curve resembling the letter S, and catheterisation is impracticable.

Aphtha or Thrush.

This malady, so familiar to pharmacists as the first and last trouble of human beings, is of frequent occurrence among animals, and its second name must not be confused with a disease of the foot in horses. Lambs, calves, and foals have vesicles form in the mouth, as a result of, or at least in connection with, the epiphyte, *Oidum albicans*. It is often traceable to a particular pasture, and follows upon long road journeys in dusty weather, when the travellers have browsed upon dust and grit-laden grasses. Treatment is much the same as for the human subject, but the less agreeable remedy of alum is more active than those commonly chosen for infants and aged persons.

The following is a useful application:—

Alumen	1 part
Glycerin	1 part
Sodii bibor.	1 part
Mel	2 parts

Misce.

The mouth to be forced open, and the electuary freely applied with a brush. A saturated solution of alum by itself is most effective, but its application presupposes a proper cleaning away of the ropey saliva which accumulates in the mouth, and this is not likely to be carried out by the rude hands of shepherd or cattleman. Gastric disturbances undoubtedly give rise to aphtha and thrush, apart from the parasite above referred to, and it may be that this fungus only finds a home in a suitable environment, without being the actual cause. The febrile condition should be combated by saline aperients and ant-acids. A foal may have 2 oz. of mag. sulph., and for two or three days afterwards a tablespoonful of liquor. magnes. bicarb. Calves and lambs, not too thriving, may have a dose of the following mixture night and morning:—

Sodii bicarb.	2 drachms
Inf. calumbæ conc.	1 oz.
Mag. sulph.	6 drachms
Aqua ad	6 oz.

M. ft. mist.

Dose for full-sized calf, 1 oz.; for a young lamb, a teaspoonful, increasing to two teaspoonfuls for autumn lambs. Easily nauseated subjects, which dribble and refuse food, may be treated locally with glycerin-acid tannic, or with oxymel.

Epizootic Aphtha.

Foot and Mouth Disease is of the same nature as the last-named, but we are seldom called upon to treat it under the present regulations, which require slaughter or segregation and a sanitary cordon under police regulations, and the superintendence of a veterinary inspector.

Apoplexy.

Cerebral apoplexy is not of frequent occurrence among animals, unless we persist in regarding the coma of so-called milk fever as apoplexy. The true nature of so-called parturient apoplexy will be referred to under another head. Old dogs are sometimes the victims of cerebral apoplexy, and the remedy commonly prescribed is acid hydrocyanic dil., 1 drachm, per oram or rectum, as may be most convenient.

Apoplexy (Parturient) or Milk Fever.

This is one of the most serious, because frequently fatal, diseases with which dairy farmers have to contend. It retains the old name given above, although it is pretty clearly demonstrated to be due to the development of a toxic substance in the udder. Paddling of the hind feet, staggering, and lying or falling down, followed by unconsciousness, stertorous breathing, and more or less complete paralysis, are the characteristics of the disease. It usually follows close upon parturition, and has been attributed to all sorts of things, and a variety of "cures" have been suggested, from cutting open of the tail and binding it up in salt and pepper, to drenching with whole bottles of brandy. The modern treatment, which is justified by the great measure of success attending it, is based on the assumption that a self-produced toxic agent is responsible for the train of symptoms which follow its elimination. The chemist who could isolate this substance and tell us what it is would immortalise himself. The country pharmacist would find that milk fever outfits, selling at five shillings, would prove better stock than some of the other rubber goods one finds perishing in his shop. They are essential to the new treatment, and might be profitably put up with the articles hereafter mentioned.

The principle consists in injecting into the udder a substance which shall neutralise the toxic material. It is but a blind shot at the mark, but, like many other successful forms of medication, the practice comes before the scientific explanation. A German veterinary surgeon (Schmidt) first employed ½ oz. or ¾ oz. doses of pot. iodid., dividing the quantity equally between the four quarters which make up the udder. The teats are first cleansed, and the implements employed sterilised. The iodide is dissolved in a quart of water, and half a pint is injected up the teat of each quarter, at about the natural temperature (102°).

The convenience of cow-keepers may be met by putting up, with the apparatus, the following:—

Potassii iodidi	6 drachms
Liq. cocci, *q.s.*	
Aq. dest.	20 oz.

M. ft. injectio.

with directions to add an equal quantity of boiling water prior to dividing the mixture between the four teats or quarters. It has been found (by accident) that the substitution of 2 drachms of chinosol for the iodide answers the purpose quite as well, and with certain advantages over it. It is a powerful antiseptic for the syringe through which it passes, and reduces the risk of subsequent abscess in the udder—a sequel not rare in the iodide treatment. There is no callapse with chinosol, to be treated by subcutaneous injection of caffeine, as is the case sometimes with iodide when repeated. An interval of about eight hours is usually allowed before a second injection is given. For the use of stock-owners one would prefer to send out the chinosol as safer, or else a bottle of each with instructions to use them alternately, or, as the writer of these notes does—one drug for two quarters, and the other for the remaining two. This is done from ignorance as to the compatibility or otherwise of chinosol and iodide of potassium, and answers well in practice. It is, of course, understood by readers that each quarter is a self-contained gland, separate from its neighbours. Will some up-to-date chemist kindly tell us what change, if any, would result if we tried to give pot. iod. and chinosol in one bottle? There is no apparent decomposition, and it would be convenient to divide the honours of the cure by mixing the remedies. Instructions should accompany the outfit to the effect that the milk should be drawn off before injecting the remedy; that the animal should be bolstered up so that the head is not lover than the body; that plenty of dry bedding should be given, and the cow turned over, night and morning, and rubbed with a stimulating liniment along the course of the spine and the limbs, if disposed to grow cold. Surface warmth from rugs is desirable. Good results have been obtained in the treatment of this malady by the administration of ½ oz. of chloral and, a few hours later, 1 oz. of bromide; but Schmidt's treatment in Germany, and chinosol in this country, as previously sketched out, have proved far and away better than all others, and have practically superseded them.

The most popular liniment should not be used more than once, as many cows are blistered by its injudicious employment, and it is better to prescribe something like the following, which may be used twice or more in a day:—

Lin. aconiti	1 oz.
Ol. tereb.	1 oz.
Lin. camph.	ad 10 oz.

Apoplexy (Pulmonary) or Congestion of the Lungs.

This is most met with in horses, and is frequently fatal. The first name, pulmonary apoplexy, more correctly describes the disease, although the second (congestion) is that in common use. It is a very misleading term to any but veterinary surgeons, who use it in a special sense. In human practice our readers are familiar with the expression congestion of the lungs, as indicating something a little short of pneumonia or inflammation of those organs. Something quite different is meant when speaking of horses. In their case it is stagnation of venous blood in the pulmonary vessels, failure of the heart to pump hard enough to send it through, and it comes on in a few minutes as a result of over-exertion while unfit. It is a stagnation so rapid as to be best described as apoplexy. The unconditioned hunter, brought up fat and not trained—that is to say, by gradual and increasing exercise—into a state of muscular and circulatory vigour, comes out on a hunting morning in perfect health, but during a fast run begins to "blow," and, if not stopped and his head turned to the wind, soon becomes the victim of pulmonary congestion or apoplexy. If ridden by a judicious man, and immediately drenched with the flask of whisky he meant to have had with his own lunch, the heart may derive just enough impetus to go on with the work, and with a quiet walk to the nearest stable the danger is over, and next day the horse may be quite well. The rider who fails to act in such emergency, but rides his animal to a standstill, will find him the subject of such congestion or apoplexy as will more than likely prove fatal. This, the reader will agree, is not the sort of thing that is meant by congestion in the human subject. Nor is it always from the exact cause above stated. The above is but typical. Any fat or otherwise out-of-condition horse may get this disease while working in harness or in any way over-exerting himself without previous preparation.

Treatment should be directed to the restoration of the heart's power, and with this object we may give a drachm of digitalis for a dose, with other heart and diffusible stimulants. The following draught is suitable for the majority of cases:—

℞	Tinct. digitalis	1 drachm
	Spt. ammon. co.	6 drachms
	Spt. ether. nit.	8 drachms
	Mist. camph.	ad 10 oz.

M. ft. Haust Tertia quaque hora.

The sides of the chest should be stimulated with a brisk liniment, as lin. camph. co., 8 oz., rubbing in half the amount on each side. The extremities should be briskly rubbed and bandaged, the ears pulled, and a hood placed over the head. Cool and pure air is of the utmost importance, clothing being made to take the place of warm air, no matter what the weather. Digitalis is not a drug to be given often, and æther. rect., in 4 drachm doses, may be substituted with advantage.

ROYAL INSTITUTION.

EVENING MEETING.

Friday, February 19, 1904, at Albemarle Street, London, W., the DUKE OF NORTHUMBERLAND in the chair.

Mr. C. T. R. WILSON, of the Cavendish Laboratory, Cambridge, gave a lecture on

Condensation Nuclei.

Dealing with the subject of nuclei in condensation, Mr. Wilson showed experimentally how cloud and mist, as ordinarily met with, required in the first place the presence of dust in the atmosphere. Given this condition and a saturation of water vapour, any slight decrease in the pressure was sufficient to cause condensation with formation of the minute drops of water that formed the basis of all fogs. But it was now evident that nuclei other than dust were forthcoming. If the pressure of moist air were reduced under the influence of X-rays or of radium condensation took place in precisely the same way. The nuclei in this case were the ions set free by the action of the radiation. This belief was confirmed by an experiment which showed that the movement of the water particles corresponded entirely with that of streams of positively and negatively charged particles, such as produced by these rays. So great was the delicacy of the appearance that the formation of mist could well be used as a means for detecting radio-activity. At the same time there was reason to believe that any form of electrical disturbance was sufficient to bring about condensation through the formation of charged ions in the atmosphere.

SCHOOL OF PHARMACY STUDENTS' ASSOCIATION.

ORDINARY MEETING.

Friday, February 19, 1904, at 17, Bloomsbury Square, London, Mr. J. Stuart Hills in the chair.

Mr. F. G. C. Walker read a paper on

The Expression of the Emotions in Man and Animals.

Having first treated of the principles underlying expression, Mr. Walker, with the aid of numerous excellent lantern slides, described various special expressions, both in animals and in the human race, explaining how many particular points had arisen, and also what service they were to the subject. At the close of the paper questions were asked by Miss Bedell, Messrs. Naylor, Tarnell, Harrison, and Treneer, which were satisfactorily answered.

Mr. J. T. Cart then proposed a vote of thanks to Mr. Walker. This having been seconded by Miss Piquet, was carried with great applause.

The Chairman then declared the meeting adjourned until March 4, when a paper on "Glucosides" would be read by Miss Nora Renouf.

SOCIETY OF CHEMICAL INDUSTRY: LONDON SECTION.

EXTRA MEETING.

Monday, February 22, 1904, at Burlington House, Piccadilly, W., Mr. Walter F. Reid in the chair. There was a large and representative assembly, including Government officials, chemical maufacturers, and distillers.

Mr. Thomas Tyrer, F.I.C., F.C.S., read a paper on the

Need of Duty-Free Alcohol for Industrial Purposes.

In this paper the author gave further consideration to a subject which he had dealt with at a similar meeting of the London Section about a year ago (*P.J.* [4], **16**, 347). The treatise was of a most important and comprehensive character, and space will only permit of a very brief abstract. The paper will appear *in extenso* in a future number of the *Journal of the Society of Chemical Industry.*

Mr. Tyrer introduced his subject by alluding to the almost unpredecented attention which at the present time is being directed to the relation of the State to industry. The question before the meeting had become not the least pressing. It might broadly be stated that no progress could be made in the production of a large class of bodies employed freely in medicine and the arts in this country, and for exportation to our colonies and dependencies, unless large facilities were given by the State. At the outset, and as a check on too large expectation, Mr. Tyrer pointed out that duty-free spirit is not likely to be conceded for the manufacture of internal medicinal preparations in which any portion of potable spirit remains in the finished product, or in a form in which it can be extracted by distillation or liberated by any cheap chemical process. This could hardly be expected, and to ask for it would be to jeopardise the whole question. It was but fair to be again reminded that quite recently in Germany, where so much is conceded, prohibition as regards medicinal preparations had taken the place of freedom in pharmacies.

The question might arise: "What is a manufacturing pharmacist?" As a tincture or spirituous preparation maker he had to-day all he could desire on exportation. Did he want internal excise control and supervision in bond, and duty payable on exit from bond? Then he would, as regards the class of preparations referred to, be worse off, particularly when he remembered that an agreed and acceptable allowance for waste of spirit in the liquid class of spirituous preparations was now made. Logically, the same benefit would be extended to the manufacturers of medicinal and other chemical products if made in bond or under supervision, namely, that whatever the concession as to duty it must extend to the inevitable waste in process of production.

With regard to the statement that alcohol in quantity, if at all, is not made in this country, the speaker explained that it cannot be made except under the licence of a compounder and rectifier, and under the working conditions of such licence as laid down in the Act of Parliament of 1880. Why could not one of the British licensed rectifiers make alcohol?

Of late methylation had received wider application. Consideration had been given to the possibility of manufacturing, not any or one special substance, but the large series of medicinal, pharmaceutical, and photographic products now chiefly made abroad.

The magnitude and importance of industrial enterprise in colouring matters and artificial dyestuffs on the one hand, and fine chemicals and therapeutic agents on the other, was such as to give the consideration of their economic production public interest for national trade. Conditions of unpotability, supervision, and guarantee of good faith, would be readily acquiesced by individual capitalists where the industry is large enough, or by syndicates or companies where co-operation is desirable. The authorities need have no fears on these points. On the Continent the supervision and control were effective, and, given guarantees by respectable people and necessary oversight, for which a large single industry or a composite one could probably afford to pay, the question of difference in values in spirit on the Continent should not be raised as almost the one and only answer.

The Movement in America—

where the trouble with regard to fine and pharmaceutical chemicals is the same as in this country—for duty-free alcohol had gained in force. There they were asking for a drawback on exportation, so that they might have an outlet for their ever-expanding production, and as an offset against their comparatively high internal duty. The Americans were crying out for opportunities for export trade and a bigger share in the world's commerce, and the chances were they would get facilities in cheap spirit and drawback on products exported sooner than this country. The oddest thing about the matter as affecting the States was that the opposition is a "women's prohibitionist" affair, and probably the influence of this body of "enthusiasts" had been very great. "A consideration of profound importance arises," proceeded Mr. Tyrer. "If, now, Germany competes under conditions such as we ask for, and America obtains them in the near future—and both are protected countries, with facilities for drawback on exportation—where do we come in?"

Reference was then made to the provisions of the

Customs Consolidation Act, 1876,

and the two following interesting clauses were quoted:—

Goods not prohibited to be imported into or used in Great Britain and Ireland, composed of any article liable to duty as a part or ingredient thereof, shall be chargeable with the full duty payable on such article, or if composed of more than one article liable to duty, then with the full duty payable on the article charged with the highest rate of duty.

Upon the importation into Great Britain and Ireland of any articles in the manufacture of which spirit has been used, there shall be charged in respect of such quantity of spirit as shall appear to the satisfaction of the Treasury to be used in the manufacture of such articles, a duty equivalent to that which would be chargeable on the like quantity of spirit on its importation into the United Kingdom.

There was a clause to a similiar effect in the Finance Act, 1902. The principle of *pro rata* was no new one. As regards obvious spirituous preparations, there could be no doubt. In 1902, 156,987 samples of wine, spirits, and compounded spirits were examined, besides innumerable other things—tea, chicory, sugar, tobacco, etc. So examination was not a novelty. The Customs Consolidation Act, 1876, was not at present put in force as regards a large selection of articles alcoholic in themselves, or containing ethyl or methyl radicles, or in which these alcohols have been employed in their production. The list now is not extensive, and is given here:—

—	1902.	1903.	Increase.	Decrease.
	£	£	£	£
Chloral hydrate	1,393	1,204	—	189
Chloroform	35	14	—	21
Collodion	3	5	2	—
Ether acetic	211	319	108	—
Ether butyric	394	509	115	—
Ether sulphuric	281	127	—	154
Ethyl bromide	5	6	1	—
Ethyl chloride	291	379	88	—
Soap, transparent	104	122	18	154

It was clear that in view of existing and increasing and possible competition from other quarters a further selection might have to be made. This would involve no departure from principles already acted on, only their extension—internally on the one hand and externally on the other.

Referring to the special concessions made under the Finance Act, 1902, and at the instance of a British Association Committee for the use of duty-free alcohol (the differential duty excepted) in approved laboratories, university, or college, a letter had been sent to the responsible authority at various universities and colleges asking how the regulations work. In each case the reply was satisfactory, and expressed appreciation of the concession.

Mr. Tyrer concluded as follows:—"One must repeat the deep conviction that the pecuniary results to the Exchequer in other ways will far outweigh any loss of revenue by concessions in the direction of new or seriously hampered existing but struggling industries. This, the time of the nation's industrial stock-taking, is scarcely that at which our able public servants, with sons of their own and inheritors of the nation's glories, shall hesitate to meet imperative and vital industrial conditions, and to assist in restoring some which had birth in our land, and developing and maturing those whose inception is but now a matter of circumstance and opportunity. Let all put a hand to the wheel of industrial progress, the professor and his students, the business man, the manufacturer, the chemist, and last, but not least, our State."

Discussion.

In the course of the discussion which followed Mr. Tyrer's *résumé* of his paper, the following were among the speakers:—Mr. **Charles Umney**, Mr. **David Howard**, Dr. **Squire**, Mr. **Helm**, Dr. **Silberad**, and Mr. **Nicholson**. Mr. **Umney** referred to the manufacture of perfumery in bond; he had been told that the makers and the excise people worked together without friction. If this were the case with perfumes manufactured for export, why should the same conditions not apply to other industries? Mr. **Howard** blamed Parliament for not meeting the manufacturers in the matter. It was the fault of those whom the mysterious ways of Providence destined should rule over us. He was referring to no particular party, but the curse of the whole thing was that they had to deal with a parcel of politicians who cared nothing for industries, but whose whole object it was to catch votes. If the chemical manufacturers could make themselves unpleasant enough at the polls they would get anything they wanted. They ought to go to Parliament and say, "In the name of common honesty, are you going to ruin the industries of the country? Are you going to wreck honest manufactures?" "We tax ourselves," concluded Mr. Howard, "because we dare. But we daren't tax the foreigners." Dr. **Squire** made the significant statement that the distillers were unaware of the movement which Mr. Tyrer was conducting; he did not think that opposition need be expected from that quarter. Mr. **Helm** spoke of the danger of abuse if the concessions asked for were granted. He advised the manufacturers to go in a body to the Chancellor of the Exchequer. Mr. **Nicholson** said the manufacturers could count on the assistance of distillers—at any rate, of the London distillers.

Mr. **Tyrer** having briefly replied, the proceedings terminated.

FEDERATION OF LOCAL PHARMACEUTICAL ASSOCIATIONS.

LETTERS TO MEMBERS OF PARLIAMENT.

The following letter, with enclosures, has been received by the Editor of the *Pharmaceutical Journal* from the Secretary of the Federation for publication:—

Dear Sir,—I enclose herewith copies of a letter and communications that I have sent to every member of Parliament regarding the new Pharmacy Bill, and as a counter to the very delusive letter that those members received from the Chairman alluded to.

May I ask you if you have space to print the same in your next issue, and, if possible, to call the whole body of chemists' attention to the same, as, by drawing their attention to it, they may feel inclined to communicate with their parliamentary representative, and thus individually ask them to give their earnest consideration to the Bill?—Yours faithfully,

W. Watson-Will, Hon. Treas. and Sec.

February 19, 1904.

[Enclosure 1.]

Sir,—At the request of the Executive of this Federation, I have the honour to enclose you a communication having a direct bearing on the new Pharmacy Bill, which, if possible, is to be introduced into Parliament this session.

As this Federation represents thousands of chemists, they trust you will give this Bill your very serious consideration, especially seeing that the statements contained in the letter referred to in the accompanying communication can be proved to be contrary to fact.

In order to verify this, you have only to look on the Bill, when you will find it supported and backed by the same members who did so on a previous occasion, thus discounting the statement made, that these members were "deliberately misled."—I am, Sir, yours faithfully,

W. Watson-Will.

London, S.E., February 23, 1904.

[Enclosure 2.]

Re New Pharmacy Bill.

Sir,—A letter has recently been addressed to you by the Chairman of the Drug Companies' Association, Limited, in respect to the Pharmacy Acts Amendment Bill, which was before the House of Commons last session, and is proposed to be introduced again during the coming session.

The writer of the letter conveys the impression that the legislation has been initiated by the Pharmaceutical Society for the purpose of creating a monopoly for registered chemists.

I desire to bring before you certain facts in this connection which show the origin of the amendment of the Pharmacy Acts, which is designed to include limited companies in their purview.

In 1895 a Departmental Committee of the Board of Trade heard evidence in regard to the amendment of the Acts relating to joint-stock companies, and in the course of their report suggested that the Pharmacy and Medical Acts should be amended so that the practice of pharmacy and medicine by limited companies should be controlled.

A Bill to amend the Pharmacy Act was introduced into the House of Lords on behalf of the Pharmaceutical Society in 1898, and as it did not deal with this company question the Lord Chancellor (the Earl of Halsbury) introduced an amending clause dealing with the matter; this clause was subsequently dropped, as the Bill was one dealing solely with the internal affairs of the Pharmaceutical Society. The clause which his Lordship proposed to introduce was one which he had previously embodied in a short measure for the amendment of the Pharmacy Act, 1868, which he laid before the House of Lords in March, 1898.

The clause was again introduced into the Companies Bill of 1899, but at the last moment was withdrawn by the Lord Chancellor, a copy of whose speech on that occasion, as reported by Hansard, I enclose herewith.

In the session following, the Companies Bill was, by the House of Lords, passed, with the clause dealing with Pharmacy Act as approved.

Mr. C. T. Ritchie, who had charge of the Bill in the House of Commons, suggested to the Standing Committee at the last moment that the clause, and one dealing with the Medical Acts, should be removed from the Bill. Mr. Ritchie then said that he considered the clauses were "good on the whole," but thought they were out of place in a Companies Machinery Bill. It is since these efforts on the part of the Legislature itself that the Pharmaceutical Society has undertaken the amendment of the Pharmacy Act with the view to remedying the defect that seven individuals as a company may do what any one of them cannot do under the terms of the Act—namely, carry on business as chemists and druggists and deal in poisons. Notwithstanding that the object of the Pharmacy Act, 1868, was declared to be "that it is expedient for the safety of the public that persons keeping open shop for the retailing, dispensing, and compounding of poisons, and persons known as chemists and druggists should possess a competent practical knowledge of their business." That provision is entirely absent in the case of companies, and the proposal of the Pharmaceutical Society is a perfectly just one—viz., that if companies are to keep open shop for these purposes they shall at least ensure to the public a measure of qualified supervision, akin to that of the individual chemist, by appointing chemists and druggists as directors of the company. I may inform you that hundreds of companies have now been registered for the express purpose of evading the Pharmacy Act in the aforesaid manner. I trust, therefore, that you will keep an open mind on the question, and when the Pharmacy Bill comes before the House of Commons you will give effect to the obvious intention of the Legislature by securing some measure of control of limited companies under this Act.—Yours faithfully,

W. Watson-Will.

[Enclosure 3.]

The Lord Chancellor (the Earl of Halsbury): My Lords, there are one or two observations which I think it is desirable I should make to your Lordships. There were some clauses introduced in the Bill in committee having relation to questions which I think are very interesting to medical men and pharmaceutical chemists. I have received a very large number of communications upon the subject, and I am fully alive to the necessity of guarding very carefully the language by which the intentions of the measure, as manifested by the amended form of the Bill, should be carried out. I am still very strongly convinced that a company ought not to be permitted to do what a private person is prohibited from doing, and that the public must be protected from practices of that sort. It is impossible to resist the propriety of subjecting those companies who are at present carrying on businesses as chemists and druggists to restrictions such as are proposed in the Bill. I daresay your Lordships will remember that cases have decided—and, in my opinion, rightly decided—that the language which calls upon a person to qualify in any of the professions does not in turn apply to companies, and that the word "person" in the Acts which form the code upon the subject must be constructed as meaning a natural person and not a company. The ideal of an ideal personage, such as a company, practising and undergoing an examination is absurd, and cannot cohere with the language of the Statute. In my view the learned judges who came to the conclusion that that was the true construction of the Statute were perfectly right, and that decision left the law that a company could be formed to do the very thing which an individual is not permitted to do without examination as to qualifications.

I think I may say that the committee to whom this matter was referred were unanimously of opinion that the formation of companies to practise any profession, and which intended really to take advantage of company machinery to do that which an individual without qualification may not do, should be stopped. As I have said, I have received a large bulk of correspondence on the subject, and in some of the communications which have been sent to me it is suggested that this is an effort to prevent proper enterprise, and so forth. As a matter of fact, I think the writers were not familiar with the state of the law.

It is true to say that, although a company cannot be prosecuted for doing it—and a company cannot undergo an examination to enable them to do it—yet if an individual dispenses without qualification you can catch him and prosecute. And it was in view of the state of the law on the subject that the committee to which this matter was referred came to their conclusion. I must say that I quite agree that if this matter is to come forward, as it probably will in another session, it is desirable that we should guard very carefully the language used, so as not to interfere with any proper vested interest; but, on the other hand, we should not allow the public generally to be exposed to the dangers of the practising of unqualified persons as dispensers. What I said on a former occasion, that the committee were practically unanimous, appears to have given rise to controversy. I say so still. It is true there were certain divisions on matters of detail during the investigations, which lasted three years—some members of the committee went one way and some the other—but they were not important questions. What I said before, and what I adhere to now, was that on the main lines of the Bill—the important matters under the Bill—the measure, as now presented, represents the practically unanimous decision of the committee.

I think, my Lords, that it is a subject of congratulation that on such a subject practical unanimity has been attained.

At this period of the session I think it is perhaps not worth while that I should go through the whole clauses of the Bill.

I have said all that is necessary on the report of amendments to the Bill.

I can only add that I believe the Bill will be a very great improvement on the state of the law as it exists at present, and that it will in a great measure check the creation of fraudulent companies, which I think is the proper thing to do, and not enact a penal code against persons engaged in the conduct of such enterprises.

CARLISLE CHEMISTS' ASSOCIATION.

FIRST ANNUAL MEETING.

Thursday, February 18, 1904, at the Viaduct Hotel, Carlisle, Mr. J. Hallaway in the chair.

The Hon. Secretary submitted his report, which showed a balance in favour of the Society of 15s. 6d. The report was unanimously adopted.

Election of Officers.

Mr. J. Hallaway was re-elected President for the ensuing year; Mr. J. Robson, Vice-President; and Mr. J. J. Robinson, Hon. Secretary and Treasurer.

Mr. T. Ridley and Mr. P. Simpson were appointed delegates to represent the Society on the Executive Committee of the Cumberland and Westmoreland Chemists' Association.

CHELTENHAM AND DISTRICT CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Friday, February 19, 1904, at the Imperial Temperance Hotel, Cheltenham, Mr. Wm. Barron, President, in the chair.

About twenty gentlemen were proposed and seconded for membership.

Mr. J. A. Thomas read a paper upon the

Present Position and Future Prospects of Pharmacy.

In the course of his remarks he said:—I think that in the past the Council has been wanting in endeavours to protect the general interest of the trade, and the gentlemen who are always foremost to blame them in this respect are those who, as non-subscribers, cannot assist in the election of the Council. They are therefore the cause of its weakness and inability to perform its functions. The Pharmaceutical Society is like an ill-fed horse—it requires more generous nourishment and then a healthy application of the whip. I think that, with an increased membership—say 80 per cent. of all qualified chemists—the annual subscription could be reduced, and the financial position of the Society still maintained. Or, what I should prefer to see was that local associations should receive support from the parent Society. They should be the minor wheels, kept in motion by the mainspring of the Pharmaceutical Society, and that the whole of the machinery should be oiled from the same can. Mr. Thomas then read extracts from speeches by Mr. Michael Carteighe (May, 1896), Mr. David Storrar (October, 1896), Mr. Ward (December, 1903), Mr. Thomas Maben (June, 1895), and Mr. Birkbeck (February 11, 1904), all calling attention to the necessity for union and organisation amongst chemists. Also he called attention to an editorial article in the *Pharmaceutical Journal* of January 2, 1904, treating on the Society and its Journal in 1903.

Mr. Stewart, in proposing a vote of thanks to Mr. Thomas, asked what qualification was required for dispensers in public institutions? (See the Pharmaceutical Society's 'Calendar' for 1904.)

The President seconded the vote of thanks, which was carried unanimously.

Mr. F. T. Palmer thought that subscriptions should not be lowered, because if all chemists would join the Society there would be a better financial basis, and they would be able to give sums of money to the Benevolent Fund. When the Society was first formed the annual subscription was two guineas, and for the first few years a sum of £500 was handed to the Benevolent Fund. No such sums had been handed over since 1876, and, although the Fund was largely subscribed to, it was not supported to the extent it should be.

Mr. Thomas agreed that lowering charges was a serious step, but thought that anything which would tend to increase the number of members should be put forward and discussed.

Mr. Freshfield Reynolds said that he remembered Jacob Bell trying to get into Parliament to push forward the interests of the Pharmaceutical Society. He thought, however, the only outlook for improvement was in their own hands. Parliament would not have much to do with vested interests. If it did anything, it would be for the safety of the public.

LEICESTER AND LEICESTERSHIRE CHEMISTS' ASSOCIATION.

ANNUAL DINNER.

Thursday, February 18, 1904, at the Grand Hotel, Leicester, the President, Mr. G. J. B. Woolley, in the chair.

The following members of the Association were present:—Messrs. Young, Butler, Hearnshaw, Goodess, Rowe, Marfitt, Harrison, Clear, Thirlby, Kirk, Austin, Brownloe, Camomile, Knight, Wolloff, Palmer, Ward, Hinde, Shellon, Wilby, Billings, McCreath, Shuttleworth, Jelly, Sturgess, Todd, Davidson, Boys, Good, Robinson, Dennis, and Ware.

There were also present the following guests and representatives of wholesale houses:—Mr. G. T. W. Newsholme, Drs. Franklin, Williams, and Crosby, Messrs. Marcus Roberts, Wyley, Selfe, Royle, Sarson, Hampton, Aldwinckle, Marsh, McBride, Wells, Matthew, Ward, York, Gibson, Widdowson, Crofts, Rodhouse, Murray, and Cann.

The loyal toast, given from the chair, having been duly honoured,

Mr. G. J. B. Woolley proposed the toast of

The Pharmaceutical Society

in an interesting and racy speech. He referred to the useful work done by the Society, more especially during recent years, and, in a manner which ought to have been sufficient to convince every non-member present that it was his duty no longer to stay without the fold, he urged the importance of every registered chemist and druggist supporting the Society. After this brief introduction, Mr. Woolley went on to speak of pharmaceutical education. The advancement which had been made in this direction was marvellous, and, indeed, it was necessary that this should be the case, in view of the increased stringency of the examinations. It was of the utmost importance that men should be well prepared for the examination before presenting themselves at Bloomsbury Square. It was a mistake for fellows to make what they called "pot-shots"; it was almost certain that if they were not really ready for examination candidates would surely be ploughed; and this was an unfortunate experience, for it knocked the spirit out of the men. He himself had known several good, sound, honest men, as far as the practical requirements of a pharmacy were concerned, who had been disheartened in this way because they were not properly prepared for the examination. The speaker raised a laugh by a good-humoured reference to the grumblers. "Some people seem to imagine," he said, "that the Society is a rock to throw broken bottles on." In coupling with the toast the name of Mr. G. T. W. Newsholme, Mr. Woolley referred to the three years during which he had so ably filled the presidential chair, and to the valuable work the Society had done during that period.

Mr. Newsholme, to whom, on rising to reply, a hearty reception was accorded, commenced his speech by a brief reference to the remarks made from the chair on the education question. He deplored the large number of failures at the qualifying examination, and described the results as lamentable. The fault could undoubtedly be attributed to the deficient training of many of the candidates. The examinations were conducted fairly, but it was a duty the Society owed to the State to see that registered chemists were properly qualified to carry on the business of pharmacy. After this brief introduction Mr. Newsholme passed on to the question of

Territorial Representation.

He described the paper which Mr. Tocher had read at the annual meeting of the Federation at Bristol as a clever one. Recently, however, he (Mr. Newsholme) had expressed his opinions as to the merits of the scheme, and Mr. Tocher had taken an early opportunity of replying to his criticisms. Mr. Tocher had contorted his arguments, misapplied his dicta, and divorced from their context essential portions of his speech. "I have had my say," continued Mr. Newsholme, "he has had his, and nothing Mr. Tocher has uttered has changed my views in the smallest degree; in fact, I can deliberately repeat that, as the result of careful consideration, there is, in my humble judgment, no practical utility in any of the schemes of territorial representation that have been enunciated up to the present." Further, the speaker went on to say that he was in entire agreement with the views of Mr. James Reid, of Dumfries, who had recently written as follows:—"We have not enough energy left to waste on any serious effort to obtain territorial representation, even if it were desirable, and I do not think it is; indeed, I am inclined to think it would be a disaster to pharmacy." Such a sample of Scotch opinion on a Scotch scheme was surely valuable, and it seemed to suggest, remarked the speaker, that Mr. Newsholme is not altogether so wrong-headed as their friends in Aberdeenshire would have them suppose. It would surely be far more profitable to concentrate their efforts at the present moment upon Parliamentary matters. Never before had the Pharmacy Bill had better prospects than it has this session, and yet only a few of the trade had put their backs to it. What possibilities there would be if the majority of registered men of Great Britain could show (or allow the Council to show) that they were in dead earnest about the measure! What progress, too, could be made if chemists would

Abandon the Elaborate Paltriness

which characterised a pretty large minority of them in their relations with the institution which is their statutory representative. To illustrate what he meant, Mr. Newsholme gave a few typical excuses given as reasons for not becoming members of the Pharmaceutical Society. Some made the excuse that they could not see that they would get anything for their money; some said they could not afford 21s. a-year, which worked out at 5d. a week; another (a branch manager) said he did not subscribe because his chief subscribed; one strongly objected to something the Council did years ago, and would not join now; another refused to join again because he had let his subscription lapse, and the Bye-laws (which he himself helped to make) required him to pay a restoration fee of 1s. This person had been told that there is now no such fee, but prefers that his pet grievance shall not be taken from him. Someone else desired the destruction of the Society because his son had been unfortunate in the examination-room. Another threw over the Society forever because he caused his unqualified assistant to break the law, and the assistant was punished for it; in other words, he would not join because the Registrar had done his statutory duties. The moral was pretty obvious, the speaker went on to say. If members of the calling did not strive to overcome the prejudices and silly antipathies that had hitherto been allowed to stand in the way of unity, no amount of activity on the part of the Council could have the slightest permanent effect. After an eloquent appeal on behalf of the Benevolent Fund, Mr. Newsholme concluded as follows:—"And now let us look at

The Other Side of the Picture.

Let me refer to the good work in the way of consolidation which has been done at Leicester. It is a particular pleasure to me to be here this evening to see such abundant evidence of so much energy and so much goodwill towards the Society; for although I am a stranger (in the flesh) to you all, yet I know, by reading the pharmaceutical papers, and from what I have gathered in my close association with Bloomsbury Square during the past few years, what keen interest and great energy many of your officers have infused into the affairs of the trade; and I should like here to acknowledge fully the splendid service the Divisional Secretary, Mr. Goodess, has rendered. He has made himself acquainted with every registered man on his list, exhorting the indifferent, encouraging the despondent, and stimulating the willing ones. Mr. President, I thank you for the kind manner in which you proposed this toast, and, gentlemen, I thank you for the hearty reception you have accorded it."

Mr. McBride, with few brief and suitable remarks, proposed

The Leicester and Leicestershire Chemists' Association

and kindred associations, and

Mr. Young replied in a good-humoured and witty speech. He had, he said, brought up a quarter of a dozen M.P.S.'s, he had taught his three sons that it was their duty to support the parent Society. "We can't do without the Pharmaceutical Society," said Mr. Young. "We may have done without it in the past, but we can't do it in the future."

In response to the toast, proposed by Mr. Butler, of

The Visitors,

Dr. Franklin made an eloquent reply, and the health of the Chairman having been proposed and acknowledged, a most successful evening was brought to a close.

During the evening Mr. Goddard, a popular and capable local entertainer, supplied a very excellent musical programme.

MIDLAND PHARMACEUTICAL ASSOCIATION.

ORDINARY MEETING.

Thursday, February 18, 1904, at the Birmingham University, Mr. F. H. Alcock in the chair.

The President, Mr. A. W. Gerrard, F.C.S., read the paper on

Plasters and Plaster Spreading,

which is printed at page 255.

In proposing a vote of thanks to the President, Mr. Perry expressed agreement with what had been said as to the danger of losing the art of pharmacy, and said he feared the pharmacist was becoming a mere machine, doling out the products of other people instead of his own. He asked for information as to how plasters could best be stored so as to prevent a hard and powdery surface, and, as to spreading, recalled the fact that many years ago he had seen in use a V-shaped trough for spreading large quantities.

The vote was seconded by Mr. A. W. Southall.

Mr. C. Thompson referred to a small pharmacopœia dated 1682 in which he said formulæ was recorded for forty-seven plasters quaintly named and for the most part fearfully and wonderfully constructed.

Mr. Mann put a question as to the rubber basis used for plasters in ordinary trade, and referred to the irritating effects some belladonna plasters had upon the skin.

Mr. Alcock commended the President's work on the subject of plasters, and referred to a paper read by Mr. Gerrard on Emp. Ammoniaci about thirty years ago. He urged that there was great need for the overhauling of official plasters, and said he supposed the reason why some of these formulæ was set at the Minor Examination was because of the extreme difficulty there was in making them in a really elegant style. Mr. Alcock made special mention of Emp. Hydrargyri and Emp. Ammoniaci cum Hydrargyro, and incidentally referred to the antiquity of Emp. Plumbi in the making of which Scheele was said to have discovered glycerin.

The President, in replying, said the wide range of temperature—from 30° to 80° F.—to which plasters were submitted during the year was responsible for much of the trouble experienced with them. A useful plan was to put a small piece of cotton-wool imbued with turpentine and then a wad at the bottom of the tin box in which the plaster was kept. When cracking was evident a judicious application of warmth was a good thing. As to the trouble with belladonna, he looked with suspicion upon a plaster which did not produce such an effect, the quantity of alkaloid present being so large. He had made many experiments in the direction indicated by Mr. Mann, but at present had not reached his own ideal rubber plaster base. As to the remarks of Mr. Alcock, his own opinion was that a candidate's failure to produce a satisfactory plaster would not of itself end in his rejection at the Minor. As an old examiner, he was able to say that sympathy generally lay with the examinee.

BOURNEMOUTH PHARMACEUTICAL ASSOCIATION.

MONTHLY MEETING.

Thursday, February 18, 1904, at the Albert Restaurant, Bournemouth, Mr. Worth, President, in the chair.

Mr. C. F. Pars read a paper on

Co-operative Buying.

Mr. Pars said he must first apologise to those gentlemen who might be of an ultra-scientific turn of mind for the introduction of a subject so sordid and utterly commercial; but, after all, their business is essentially a mixture of the professional and the commercial, and each side demanded their consideration. Proprietary articles, whether they liked them or not, bulked largely in their monthly invoices, and they had to contend with the competition of the big limited companies buying on a more extensive scale. Associations like theirs in various parts of the country were now awaking to the fact that the remedy lay in co-operative buying. Some associations had established a central depôt, from which the goods were distributed. Under this plan each member took some £10 worth; but other associations adopted a simpler plan, which he proposed as suitable for their adoption—namely, that a "buying section" be formed, which all members should be eligible to join. Each member joining should have allotted to him one (or more) articles, of which he agreed always to keep a good stock, bought at best terms for cash. The Secretary would then intimate to members what articles were to be obtained from each "co-operator," and the price, the conditions of purchase—not less than one dozen (or an agreed quantity), to be sent for at a time, and cash to accompany order—to be strictly adhered to. For the present, he suggested the scheme might be made to apply to proprietary articles only, but the principle might afterwards be extended to buying drugs, and even to making soda water.

After discussion of the paper, Mr. Worth proposed: "That the Committee of the Association be asked to arrange details and carry out a scheme as suggested." This was seconded by Mr. Morris, and carried *nem. con.*

COUNCIL OF LEGAL EDUCATION.

THE MEDICO-LEGAL ASPECT OF POISONING.

Thursday, February 18, 1904, at Lincoln's Inn Old Hall, London, Sir Alfred Marten, K.C., in the chair.

Dr. F. J. Waldo, Coroner for the City of London, described some of the features of some

Celebrated Poisoning Cases.

Referring first to the famous Rugeley poisoning case in which a surgeon named Palmer was convicted of the murder of a friend by strychnine poisoning, the lecturer referred to the rapidity with which strychnine usually took effect. In this case, however, the effect was delayed for nearly two hours, possibly because pills were liable to disintegrate very slowly. If the pills were massed with resin, which, he believed, was often used, disintegration would be slow. In another poisoning case at Glasgow a woman died from strychnine, but the alkaloid was not detected at the post-mortem examination. Now the methods of analysis had, he thought, improved so much that detection of strychnine in the body was certain. Referring to the "Lamson" case, in which aconitine was the poison used, Dr. Waldo remarked that it could not be detected in the body by chemical analysis. The only tests were those of taste and physiological action. Dr. Stevenson had told him that 1/2,000 of a grain of English aconitine was recognisable by the palate. English aconitine was, said Dr. Waldo, stronger than German or French. After referring to the Klosowski and Maybrick poisoning cases, the lecturer said that the symptoms of arsenical poisoning probably presented more anomalies than did those of any other form of irritant poisoning. Experience showed that medical men when making a post-mortem examination frequently overlooked arsenic until something aroused suspicion.

BURNLEY AND DISTRICT CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Thursday, February 18, 1904, at the Empress Hotel, Burnley, Mr. Walker in the chair.

Corporation Trading.

The Secretary reported that he had forwarded to the Burnley Town Clerk the resolution passed at the last meeting with respect to trading by the Corporation in soaps, disinfectants, etc. He had received the following reply:—"Your letter protesting, on behalf of the Burnley and District Chemists' Association, against municipal trading being carried on by certain departments of the Corporation, more especially against the sale by the Health Committee of disinfecting powder and soap, has been considered by my Council. I am directed to inform you that no trading is done save such as is necessary in the interests of public health."

Mr. Brown said he had been informed since the last meeting that two other large manufacturing firms in Burnley continuously bought their disinfecting powder from the Corporation at less than chemists could afford to sell it. If it was a case of supplying those things to the deserving poor it would be another matter, but as ratepayers they ought to protest against the Corporation giving disinfectants to wealthy mill-owners.

After discussion it was decided to adjourn the matter till the next meeting, and meanwhile to make full inquiries as to the extent of the trading by the Corporation, and bring the subject before members of the Council.

The Sale of Poisons.

The Secretary reported that the Town Clerk (Mr. Sheldon) had forwarded to him the following extract from the proceedings of the Watch Committee:—"Councillor E. F. P. Emmett suggested that the chemists of the town be requested to consider the practicability of labelling each packet of poison sold by them with what antidote should be taken in case of accidental poisoning."

The Chairman said it would be a difficult thing to comply with such a request. What might be approved by one medical man might not meet with the approval of another. Moreover it might lull purchasers of poison into a feeling of false security.

Several members considered the suggestion of the Watch Committee impracticable. It was pointed out that the general practice among chemists in this district was to recommend people who had taken poison to send for the nearest medical man at once. It was also remarked by Mr. N. Tomlinson that the administering of certain antidotes, except by skilled hands, would be highly dangerous.

Mr. **Dodsley** suggested that if the Watch Committee considered the publication of a list of antidotes would be of any service, it was a matter which ought to be done by the medical officer of health, who was paid for his work.

Mr. **Lawton** did not think it would be wise to give the public any instruction in the use of poisons, or to put something in their hands which they would not really know how to use when they had been advised to do so.

Eventually the Secretary was directed to write to the Watch Committee pointing out the impracticable nature of their recommendation, and also reminding the Committee that in the sale of poisons the chemists of the district took special precautions at the time of sale.

Annual Dinner.

The **Secretary** was instructed to send printed reply postcards to the chemists of the district inviting them to the annual dinner of the Association, proposed to be held shortly. The President, Treasurer, and Secretary were appointed a Sub-Committee to carry out the arrangements.

The P.A.T.A.

Mr. **Barlow** expressed the hope that all the members were adhering faithfully to the P.A.T.A. list. Sometimes people came into his shop and said they could get what they wanted at such and such a price at some other place.

The **Chairman** said they all had the same experience, but, on inquiry, it was found that the people could not buy the articles at the price they alleged. It was simply a dodge on the customer's part.

READING AND DISTRICT CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Thursday, February 18, 1904, at Table Dainties Restaurant, Reading, the **President**, Mr. E. Cardwell, in the chair.

Price Protection.

The **Secretary** reported that a letter had been sent from the Association to the owners of six of the leading non-protected proprietaries, copies of the same being forwarded to forty of the local chemists' associations, asking them to co-operate with the Reading Association by sending a letter on the same lines at about the same time. The letter suggested the desirability of the articles being placed on the list of the P.A.T.A. by the proprietors. Fifteen of the associations had replied. Their letters were read by the Secretary, and showed on the whole a feeling very favourable to the scheme. Of the six manufacturers, two had replied, Messrs. Blairs to say that their pills had just been added to the P.A.T.A., and Messrs. Kays that the matter would be placed before the directors. Some correspondence with Messrs. Mellin and Co. regarding the price of their food was also laid before the meeting. An interesting discussion took place as to steps which might be taken to boycott these goods, the proprietors of which refused to protect them. It was, however, deemed expedient to wait a little longer till more definite replies had been received, before resorting to heroic measures.

CHEMISTS' ASSISTANTS' ASSOCIATION.

ORDINARY MEETING.

Thursday, February 18, 1904, at 73, Newman Street, London, Mr. A. B. **Britton**, President, in the chair. The programme announced for this meeting "Short Papers" by members, but no short papers having been submitted,

Mr. R. E. **Lownsbrough** stepped into the breach with a lantern exhibition entitled

O'er Moor and Countryside.

This exhibition comprised some 150 slides prepared from photographs taken by Mr. Lownsbrough and others on the moors and in the woods in the neighbourhood of Scarborough and Whitby. In addition to characteristic views of the district, Mr. Lownsbrough exhibited slides showing the methods adopted by naturalists of capturing caterpillars, moths, and other insects, also showing the different varieties. Another interesting series of slides showed birds' nests and eggs, and altogether a most enjoyable evening was spent.

The thanks of those present having been accorded to Mr. Lownsbrough, the meeting adjourned.

PROPRIETARY ARTICLES TRADE ASSOCIATION.

MEETING OF COUNCIL.

Wednesday, February 17, 1904, at Temple Chambers, London, Mr. G. R. **Barclay** in the chair.

Arising out of the minutes, the **Secretary** reported that the instructions received at the last Council meeting authorising the necessary steps to be taken to deal with cutting of P.A.T.A. articles in Liverpool had been carried out, with the result that the cutting had now ceased. The Committee reported that the 'Year-Book,' which contained the protected list, had been compiled, and was now in the press.

The **Secretary** reported the receipt of 724 more retail subscriptions during 1903 than in 1902, and that the number of five guinea subscriptions had been increased by thirty-seven.

The meeting then proceeded to elect officers. The **Chairman** proposed the election of Mr. C. J. G. Bunker. This was seconded, and unanimously adopted and carried. Mr. F. W. Powell (Messrs. Thos. Powell, Limited), as representing the manufacturers' section, Mr. G. Barclay, as representing the wholesale section, and Mr. J. W. Sutherland, of Glasgow, as representing the retail section, were elected vice-presidents; and Mr. A. Tebbutt (Messrs. W. Sutton and Co.) was re-elected Treasurer.

The **Secretary** reported that he had received complaints in regard to the dealing in P.A.T.A. articles by members of buying committees connected with local associations, and that he had been requested to bring it before the Council. As a rule, one member of such a committee bought a bottom quantity of a P.A.T.A. article from the manufacturer and distributed it to the other members of the committee at less than the P.A.T.A. minimum wholesale price.

The **Chairman** moved "that the Council of the P.A.T.A. having had its attention drawn to the purchase by chemists of P.A.T.A. articles for re-sale to other chemists at less than the P.A.T.A. minimum wholesale prices, desires to call the attention of the trade to the fact that such arrangement constituted a breach of the P.A.T.A. regulations."

The resolution was unanimously carried, and the Secretary was directed to communicate with the local associations throughout the country calling their attention to the matter.

SCHOOL OF PHARMACY.

ANNUAL DINNER.

Tuesday, February 23, 1904, at the Holborn Restaurant, London, Professor Greenish, F.L.S., Dean of the School, in the chair. Among others present were Mr. C. B. Allen, Vice-President of the Pharmaceutical Society; Mr. Walter Hills, Treasurer; Mr. Michael Carteighe, School Visitor; Mr. T. H. W. Idris, Dr. Attfield, Professor Wynne, and a large number of past and present students.

The toast of "The King" having been given from the chair, a quartette was rendered by Messrs. V. C. Hewlett, C. H. Welton, J. P. Thomson, and B. Fillingham. The whole of the music throughout the evening was performed by present students of the School.

Mr. J. M. Treneer, Senior Bell Scholar, proposed the toast of

The Pharmaceutical Society.

Never before, he said, had the Society been in such close touch with pharmacists throughout the country. Having referred to the Pharmacy Bill, Mr. Treneer spoke of the Society from the point of view of a student. In the life of the student-associate there came a time when the Society exacted certain requirements before it would admit him to membership. But it also provided him, in their *Alma Mater*, the School of Pharmacy, with the best possible aid to the fulfilment of those requirements. He felt that in such an institution, through which had passed so many distinguished men, it was an honour to be educated. Among other institutions of the Pharmaceutical Society was the Benevolent Fund. What Fund could possibly be more worthy of support? The "official organ," too, and particularly the useful Students' Columns, should appeal to all students. If they asked what was the foremost factor in ensuring the position of the pharmacist, the only answer was "the Pharmaceutical Society." And what was the obvious deduction? Surely that they should support the Society. He coupled with the toast the name of Mr. C. B. Allen, Vice-President, whose geniality and hard work were known to most of them.

Mr. C. B. Allen began his reply by referring to the success of Mr. Treneer, a Cornishman like himself, in gaining a Jacob Bell Scholarship. Proceeding, the Vice-President said that though the Council of the Pharmaceutical Society was the object of much criticism, he thought that there was no great difference of opinion as to the way in which it dealt with the School of Pharmacy. From the very beginning until now the School had been fortunate in having most able professors. And in the work of the School there was no standing still, which would mean going back, but there was continual improvement. In a few months a well-equipped steam laboratory would be in working order. That would be of great advantage to the senior students, who would gain a valuable acquaintance with steam appliances for the manufacture of galenicals. One might deplore the necessity for so much instruction at the School in practical pharmacy. Whether that necessity was due to the period of apprenticeship being too short—he was inclined to think it might be so—or to other causes, the young students of to-day did not appear to have been so well trained during apprenticeship as those of an earlier generation. As chairman of the Benevolent Fund Committee, he could confirm what Mr. Treneer had said about the Fund. He would much like to see more subscriptions. Most young men could afford to subscribe half-a-crown, and it was generally found that those who began by subscribing half-a-crown when young were those who afterwards reached a position in which they were able to give guineas. It was very inspiriting to those who carried on the work of the Society to find that this toast had been received with such cordiality. There was no time when the Society was more efficient than now. They had a Bill before Parliament, and the Council was resolved to do all it possibly could for the good and well-being of the qualified individual. The Vice-President concluded by expressing regret at the absence of the President, who was recovering from a painful illness.

Mr. John C. Umney proposed the toast of the

School of Pharmacy.

He felt it a great honour to propose that toast. Among the old students whom he saw present were Dr. Attfield, Dr. Luff, Mr. Carteighe—who had occupied the chair of the Pharmaceutical Society longer than anyone else would ever dare to occupy it—and many other illustrious pharmacists. The School was certainly the leading school; its students were turned out well equipped for their work, and if they took a little longer in passing their examinations—which after all were only milestones on the way—it was perhaps a little better for them in the end. He himself had attended lectures at the "Square" under Bentley, Redwood, and Attfield. He was struck with the difference in the teaching now. The study of botany was now principally the study of morphology and physiology, and the whole of the materia medica had been changed owing to the advances in histology under the direction of Professor Greenish. Mr. Umney spoke of the lasting friendships made at the "Square"; he still received letters from fellow-students who were now in Japan, Mauritius, and other distant parts. He was proud to be connected with the School. He coupled with the toast the name of Professor Greenish, who was not only the leading man in the science of histology, but also a good lecturer.

Professor Greenish, in reply, said if they judged the efficiency of the staff by the pass-lists at the Minor and Major Examinations, they had every reason to believe that the School was in an efficient state. Last year they had passed 70 per cent. of those who presented themselves—not of those whom the staff recommended to present themselves. At no time since he had been engaged in teaching had the work of the School been so smoothly conducted. That was due to the fact that the Council maintained the School at the highest pitch of perfection. The Council never hesitated to provide what was wanted. Until ten or twelve years ago no dispensing instruction had been considered necessary. Still later, practical pharmacy had been added to the list of subjects taught. It was due to the Council that the proper facilities had been provided for that. Now another development was necessary. He was now devoting much time and thought to the new apparatus for the steam laboratory which was to be established. The personal comforts of the students were equally well looked after. Soon the staff hoped that facilities might be obtained which would more readily enable their students to proceed to university degrees in science. He was glad to see so many past students present. He hoped they, and all the present students, would preserve that *esprit de corps* of which Mr. Umney had spoken. He (Professor Greenish) often had the pleasure of receiving cards at Christmas from his old students in all parts of the world.

Professor Wynne, from whom a speech was demanded, endorsed the Dean's remarks. He had never had to deal with a class of students who were more keen on their work than those of the School of Pharmacy. Last year they had a good pass-list, and this year, with a larger "Minor" class, he expected still better results.

Mr. F. G. C. Walker gave the toast of the

Past Students.

There were so many old students of the School who had risen to eminence in pharmacy, and also in other professions, that he felt he could hardly do justice to the toast. The names of the authors of articles in the *Pharmaceutical Journal* were an indication that the instruction given in the School was not wasted. He would couple with the toast the name of Mr. Walter Hills, a past student whose services to pharmacy had been invaluable.

Mr. **Walter Hills** began his response by congratulating Mr. Treneer and Mr. Walker on their admirable speeches. Proceeding, he said that probably more than 2,000 students had passed through the School of Pharmacy. Some had left pharmacy for other callings, but all who were still living looked back with pleasure, he thought, on the days they had spent in Bloomsbury Square, on the friendships there formed, and the knowledge there gained. The state of pharmacy was not so satisfactory as they would like. He thought that physicians to-day had not so much confidence in drugs as had the physicians of the past. He was inclined to think that medical men were taking the wrong line. If they did not order drugs, the public would take drugs without a prescription. But he thought there were signs that medical men would prescribe drugs more freely. On the subject of education, he believed in organised curricula, and was also of opinion that apprenticeship was a necessity of the pharmaceutical calling. Other professions might be able to dispense with apprenticeship, but pharmacy could not. There had lately been a discussion as to the order in which apprenticeship and scientific instruction should be taken. He thought that if youths were apprenticed in large centres where they could attend classes in technical schools they might come to the School better prepared than was often the case now. In that case, too, the teaching could have a more technical bearing. Mr. Hills referred to the want of a common-room for the male students at the "Square." He had got into "hot water" owing to the publication of some remarks which he made at a meeting of Council on this subject. Those remarks should not have been published—[? stated in public.—Ed. *P.J.*]—and he regretted to say it was the official organ which had reported them. When the laughter and cries of "Shame" had subsided, Mr. Hills said that Dr. Luff had suggested that future dinners of the School of Pharmacy should be advertised as dinners of the "past and present students." The past students should be encouraged to come in still larger numbers.

Other Toasts.

The remaining toasts were "The Committee and Hon. Secretaries," given from the chair, and responded to by Mr. A. **Wade**; and "The Chairman," proposed by Dr. **Attfield**.

Special mention must be made of the really excellent singing of Mr. J. **Stuart Hills**, and of the efforts of the quartette of vocalists already mentioned. The cover of the programme, designed by Mr. Fred Reynolds, is reproduced in the 'Inset' of this week's issue.

NORTH KENT AND DISTRICT CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Wednesday, February 24, 1904, at the Clarendon Hotel, Gravesend, Mr. A. **Stooke** (New Brompton), President, in the chair.

The **President** introduced the subject of the

Pharmacy Bill,

several draft copies of which, by the kindness of the Secretary of the Pharmaceutical Society, were on the table. He pointed out the value of Clause 7, and strongly urged that the Association should give its individual support to the efforts now being made by the Pharmaceutical Society to secure the passage of the Bill, as it stands, through the House of Commons.

Upon the invitation of the President, Mr. **Watson-Will** addressed the meeting, and gave a very clear and concise exposition of the objects of the Bill, together with the work which the Federation of Local Pharmaceutical Associations was doing to assist the Pharmaceutical Society, and quite carried the meeting with him in boldly stating that at the present position of pharmaceutical politics it was morally incumbent upon all registered chemists to unite with the Society by becoming members, to maintain by the aid of this Bill their legal and just rights.

After an interesting and animated discussion, Mr. R. **Feaver Clarke** (Gravesend) moved—

> That this meeting of Registered Chemists of the North Kent District supports the principle of the Pharmacy Acts Amendment Bill, now before Parliament, and believes that, in the interests of the public, as well as of those who hold the statutory qualification, the Bill should pass into law in its present form. This meeting further pledges itself to assist the Council of the Pharmaceutical Society in its efforts to advance the Bill.

Mr. W. **Towers** (Chatham) seconded, and upon being put to the meeting, the motion was carried unanimously.

A cordial vote of thanks was given to Mr. Watson-Will for attending the meeting.

The first annual meeting of the Association was fixed for Wednesday, April 20, at the Clarendon Hotel, Gravesend.

GLASGOW AND WEST OF SCOTLAND PHARMACEUTICAL ASSOCIATION.

ORDINARY MEETING.

Thursday, February 18, 1904, in the rooms of the Association, West Regent Street, Glasgow, Mr. J. **Murchie**, Vice-President, in the chair.

Mr. R. **Tocher** read a paper on the

Pharmacist as an Optologist.

An optologist, he said, was a person having a thorough knowledge of general optics and a special knowledge of visual optics. An optician might also be an optologist, and *vice versâ*, but not necessarily so. He took it that the pharmacist did not wish to become a general optician; he only wished to become an optologist. After tracing the history of the optician Mr. Tocher remarked that it was less than twenty years since they were first able to make anything like a satisfactory correction of the more complicated errors of refraction. The lecturer had it from the best authorities that the pharmacist made the best student of optics. He held that spectacle-selling should be absolutely prohibited except where the glasses were made according to the prescription of an optologist. He would urge all pharmacists who stocked and sold ready glazed spectacles to discontinue to do so. There were only about 1,200 competent optologists to correct properly the defects of over 42,000,000 people. But they had at least 28,800 spectacle sellers in this country who, not knowing the elementary principles of refraction, imposed upon the public by making them believe they could test sight, which they attempt by some obsolete and useless optometer, or by trying on different pairs of glasses. Of the 2,000 pharmacists dealing in spectacles, only eighty-two were qualified by the examinations of the British Optical Association. There were only forty-three jewellers so qualified out of 13,000. Of the 363 persons who had by examination qualified for the Fellowship of the Spectaclemakers' Company, 114 were pharmacists. There were among the 30,000 spectacle-sellers only 563 persons who had proved themselves competent by examination, and of those 196 were pharmacists. The first thing to do to become a competent optologist was to get into communication with a teacher of optics for the B.O.A. or Spectaclemakers' Company, and he would advise them what to do or what to study for any particular examination. Pharmacists who were studying optics should join forces here and there throughout the country, and get up classes. A class of twenty was, he understood, sufficient to command the services of an optical teacher anywhere.

DISCUSSION.

Mr. GILMOUR said he himself had passed through the embryonic stages sketched in the paper. In his primitive innocence he had accepted a wholesale spectacle-seller's assurance that the whole science and art of optometry could be learnt in half-an-hour by committing to memory the golden rules set forth on a small card. Needless to say, he had already outgrown that illusion. With reference to the attitude of certain medical men to sight-testing, etc., by pharmacists, where it did not arise from sheer prejudice it was due to misapprehension. The medical profession gave every encouragement to surgical and medical first-aid, and sight-testing was just a special case of first-aid. Mr. Tocher had suggested that the Pharmaceutical Society would give something to possess such a list of noblemen and distinguished men of science as that which comprised the Governors of the Worshipful Spectaclemakers' Company. But Mr. Tocher must have forgotten for the moment that there were many illustrious men among the honorary members of the Pharmaceutical Society. And if the earls were conspicuous by their absence, it was they, and not the Society, who were the poorer in honour and dignity.

Mr. W. L. CURRIE expressed his agreement with Mr. Gilmour's views. Many years ago he had tried spectacle-selling on the old lines, but found it unsatisfactory. Now, with improved methods and higher education, it was a most appropriate side-line for a chemist. Recently he had occasion to get his eyes examined by the lecturer, and the thoroughness of the modern system came as a revelation to him.

Mr. R. BRODIE having spoken,

Mr. DALEMAN, of the Glasgow Optical Society, conveyed the thanks of the members of that body for the invitation given to them to be present.

Mr. TOCHER briefly replied, and on the motion of the CHAIRMAN a vote of thanks was awarded to Mr. Tocher and to those who had contributed to the display of ophthalmological apparatus, which was examined with much interest.

Demonstrations of the various instruments were given by Messrs. R. Baird and W. J. Dixon.

PUBLIC DISPENSERS' ASSOCIATION.

ORDINARY MEETING.

Wednesday, February 24, 1904, at St. Bride's Institute, E.C., Mr. F. NOAD CLARKE in the chair.

Increase of Subscription.

After a great deal of discussion it was agreed that the subscription should be raised to 5s. for town and suburban members and 2s. 6d. for country members.

Smoking Concert.

It was agreed to hold a smoking concert on Wednesday, April 6, at the Albion Hotel. The members had guaranteed 102 tickets, and this, it was thought, would cover all expenses.

Exhibition.

The CHAIRMAN announced that an exhibition would be held on March 30. Many well-known wholesale firms had expressed their willingness to exhibit, and he trusted all members would endeavour to be present on this occasion.

A letter was read from Mr. T. H. W. Idris, stating that he could not refuse their request to become their President for the ensuing year, although he was already overburdened with engagements.

An impromptu discussion was then held on various subjects.

The CHAIRMAN regretted that no member had come forward with a paper for this meting.

DEWSBURY AND DISTRICT CHEMISTS' ASSOCIATION.

ANNUAL DINNER.

Thursday, February 18, 1904, at the Royal Hotel, Dewsbury, Mr. R. GLEDHILL, President, in the chair. There were delegates present from the Leeds, Halifax, Huddersfield, Bradford, Wakefield, and Barnsley associations. During the dinner selections were rendered by a band.

The PRESIDENT proposed the toast of the "King and Royal Family," and then Mr. R. BROADHEAD submitted the toast of the

Pharmaceutical Society of Great Britain.

They had a great deal to thank the Society for—for raising the standard of education, for the recognition of chemists as an intelligent body of men, for the Royal Charter, for two Acts of Parliament, and for another on the stocks. There was also the Benevolent Fund, which was a noble institution in itself. There was a great deal of talk now about territorial representation. He would like to see an alteration, so that the middle-class chemists, who were the backbone of the Society, could be represented. Sixty or seventy per cent. of chemists belonged to the unrepresented class. They paid the piper but others called the tune. The Society was not to blame for that. They did not produce men from their own ranks who were capable of representing them, or if they did he was afraid there was enough snobbery left amongst them to make them prefer men who were connected with larger interests. If they had territorial representation most districts would probably elect men from outside their own areas. Perhaps Yorkshire would select a Scotsman. Any candidate who advocated an alteration of the Widow's Clause would lose votes, although a change would be beneficial. The last election also showed that members were satisfied with the Council as it was. He was not opposed to territorial representation, but he wanted to know how they were going to benefit. If territorial representation would lead chemists to see the dangers ahead, and realise the loss they were suffering through the interests of a clique being looked after, then he was a territorial representer, a passive resister, or, if they liked, a whole hogger.

Mr. G. N. GUTTERIDGE, Mr. J. RHODES, and Mr. A. B. BARKER, Divisional Secretaries of the Dewsbury, Morley, and Spen Valley divisions, responded. They all commented upon the fact that more interest was being taken in the affairs of the Society than in the past.

Mr. F. PILKINGTON SARGEANT also responded. He admitted that retailers were the backbone of the Society, but said that until recently they had not had much influence. They could make the Society just what they liked, whether it was to be vigorous or dormant would depend upon the vitality of local associations. He did not agree with Mr. Broadhead that if they had territorial representation the districts would prefer outsiders. There might be snobbery amongst them, but not enough to lead them to send a man who would represent other interests and not theirs. They ought to have a preponderance of retailers on the Council. Then, with reference to the titles question a great deal could be done. The matter should be taken to the House of Lords, and if the decision was against them they should agitate for new legislation.

The toast of the

Dewsbury and District Chemists' Association

was proposed by Alderman **Dunn**, who said he desired to convey to the meeting the fraternal greetings of the Bradford Association. He went on to speak of the growth of local associations, and said that in spite of Mr. Broadhead's despondent views, a great advance had been made in the pharmaceutical world in recent years. This was due largely to the local associations. A few years ago not more than three members of the Council had ever been seen by the majority of chemists. But, by means of local associations, they were getting into touch with members of the Council. If they wanted legislation they must become united. It would not be any use the Society attempting to promote legislation unless they had the chemists of the country behind them.

The **President** briefly responded, observing that he believed the object of local associations was to benefit all engaged in the craft. At any rate, that was the spirit which animated the members of the Dewsbury Association, especially in connection with the formation of the West Riding Federation. The meetings of the Dewsbury Association had been very well attended during the present session. Their meeting together fostered a feeling of good fellowship, and they desired the same spirit to prevail among the associations connected with the West Riding Federation.

Mr. **S. N. Pickard** also replied, and then Mr. **W. Stead** submitted the toast of "Kindred Associations." This was responded to by Mr. **Hebden** (Halifax), Mr. **Pollitt** (Leeds), Mr. **Sykes** (Huddersfield), Mr. **Norwood** (Barnsley), and Mr. **Whaley** (Wakefield).

The health of the President, the Secretary (Mr. G. Walker), and the visitors was also drunk.

A collection was made for the Benevolent Fund, the amount taken being 25s.

SHEFFIELD PHARMACEUTICAL AND CHEMICAL SOCIETY.

ORDINARY MEETING.

Wednesday, February 24, 1904, at the Montgomery Hall, Sheffield, Mr. J. Austen in the chair.

Mr. **George Squire** read a paper on

Advertised Quackery: The Pharmacist's Attitude.

He divided proprietary medicines into three classes—(1) those which are looked on with favour by pharmacists and largely prescribed by medical men, such as Dr. James' Powder, Dover's Powder, and Parrish's Food—medicines which were proprietary in name only; (2) medicines honestly compounded by the proprietors and advertised to the public as specifics for certain ailments; (3) quack remedies of no medicinal value at all. The second class were not looked upon with pleasure by pharmacists. The prescribing of factory-made articles had caused the professional side of the chemist's calling to suffer considerably during the last decade. No pharmacist worthy of the name would countenance or practise substitution, but they had their own ideas as to the means of checking the supply of those which they found themselves obliged to stock. The sale of the third class of preparations, from which he derived his title "Advertised Quackery," had, he was sorry to say, been fostered by the attitude of many chemists. The bare-faced effrontery with which the proprietors boomed such "specifics" to the public was really appalling. Mr. Squire then read extracts from the advertisements of certain nostrums, which were supposed to cure all manner of dangerous diseases. The commercial value of all the articles in this class was very small indeed. It was unpardonable for titled ladies to lend their names to puffs of articles which came within this class of preparations. What did the medical profession think of it? He was surprised that the Medical Council had not taken the matter up. Some of the advertisements were so palpably dishonest and libellous towards the profession that there ought to be some means of bringing the proprietors to task. But so long as a grasping Government, for the sake of revenue, allowed any person to say whatever he liked about a remedy in return for stamp duty, so long must they put up with this injustice. The Government, by the stamp duty, was really countenancing a system of obtaining money by false pretences. What was the pharmacist's attitude towards this "advertised quackery"? In stocking these articles chemists were encouraging the proprietors, and in every way a party to swindling the public, because, naturally, people thought that if chemists kept them there must be some good in them. If all the chemists in the country would refuse to stock these remedies as they are launched they would not get the hold of the public, and the advertising would soon be stopped. He was a Free Trader, but on this subject of quack medicines he would strongly support an exclusive tariff. Mr. Squire continued: "There is not another government in Europe that allows the people under its control to be drugged and gulled like the people of the British Isles. Other governments think more about the health of the people, and are proud of their medical men and pharmacists, knowing that what is necessary to the well-being of the people as regards medicine is safe in their hands. Consequently, if one wants to launch an article in Italy, Switzerland, or Norway, they must divulge the formula, which, as a rule, in these things is so simple there would be no hope, so there are very few, if any, proprietaries in those countries; in others a prohibitive duty is charged. Is it not time the House of Commons did and thought likewise? Are we not as capable of upholding the dignity of pharmacy equally as well as our Continental brothers? It would be folly to look to Parliament for any help to the public, medical profession, or pharmacist in that direction. I think it is a subject that the Pharmaceutical Council might take up with dignity, and also confer with the Medical Council as to ways and means of stopping this useless traffic in drugs. It would enhance the increasing popularity of the Society, as it concerns more or less every pharmacist in the country. Without the aid of Parliament these two bodies could in a few years make a considerable difference in the supply and demand for quack medicines. Those of the doubtful order—cure-alls—could be analysed, and the formula published under their authority, and advertised to the public, with comments on the advertisements. This would be taken up by the chemists all over the country, and the public would benefit both in pocket and in health." In the meantime they as pharmacists could do their part, and a very great one, by refusing to handle such things.

Discussion.

The **Chairman**, in opening the discussion, wondered how many newspapers they would have but for the advertisements of quack medicines. Would they have their halfpenny paper in the morning? Medical men were countenancing and giving testimonials to various quack remedies, and also ordinary proprietary medicines that were sold by wholesale dealers. The Medical Council were severely bringing to book those men who lent their names and titles to such firms.

Mr. P. Carr thought that the Medical Council should cleanse their own stables first. The medical journals were full of nostrums which the doctors ordered as prescriptions. Rarely a week passed but chemists had prescriptions sent containing these medicines. He believed the chief offenders were the medical men, because, naturally, the public looked to the medical men before they looked to the chemists in recommending these things. If the Medical Council intimated to members that they should not recommend these nostrums it would go a great way towards putting them down.

Mr. F. A. Upsher-Smith (Chesterfield) quoted from an article in the current week's *Truth* on the methods of a man who advertised very largely in all the sixpenny monthlies. He stigmatised the widespread advertising of quack remedies as a conspiracy between the men who put them on the market and the newspaper proprietors to gull the public.

Mr. G. Ellinor said he refused to sell quack medicines or to have anything to do with them. He had not taken out a stamp licence.

Mr. J. Gilbert Jackson proposed a vote of thanks to Mr. Squire for his paper. While in favour of putting down the sale of quack medicines, he was afraid the time was not yet ripe for it.

Mr. G. Ellinor, in seconding, said the time to start was the present.

The resolution was carried with heartiness.

Mr. Squire, replying to Mr. Carr, said he did not think such things as he had described in Class 3 were prescribed by medical men. Like Mr. Jackson, he did not expect to see quack medicines put down at present. But they could make a beginning. New remedies were frequently coming out, and if pharmacists refused to stock them their chance of getting on the market would be considerably reduced.

BRADFORD CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Tuesday, February 23, 1904, at the Royal Hotel, Bradford, the President, Alderman Dunn, in the chair.

A paper was read by Mr. Pilkington Sargeant, of Leeds, on

Post-graduate Curricula.

Mr. Sargeant said: The subject of post-graduate study has received a great deal of attention ever since it was recognised that the calling of the pharmacist demanded a more or less specialised education. Instead of considering the Minor as embodying the minimum requirements, the chemist appears to consider that it covers the sole information necessary for the thorough qualification of the chemist. If, when he enters business, he finds that pharmacy pure and simple is hardly profitable, he casts about for various side-lines, and, perforce, begins to stock aërated waters, photographic goods, or phonographs. In my humble opinion he is a wise man; nor can I think that petty ideas concerning professional status should stand in the way of his commercial prosperity. If the student, after qualification, devoted a portion of his spare time during, say, three years to the study of one or more scientific subjects, he would perhaps be able to develop his business on more scientific and even more profitable lines than if he had to depend entirely upon business acumen and the policy of hustle. In any case, it must be admitted that scientific knowledge is a useful adjunct to business enterprise. Not long ago Mr. Glyn-Jones proposed that the Pharmaceutical Society should take steps towards initiating "post-graduate lectures." There are, however, several reasons why such classes might not be successful. First, excluding London, the number of young qualified men in any area is not large; second, the time such men have at liberty is short; third, the chemist in business would not care to associate himself in classes with junior qualified men. These objections only refer to the holding of classes—that is, to attendance at lectures, but not to the acquirement of knowledge. The chemist in many cases has ample time during the day for study, and the same applies to assistants. Would it not, therefore, be advisable for assistants after qualification to devote their attention to some scientific subject?

Mr. Sargeant then outlined courses of post-graduate study in agricultural science, bacteriology, and optics. Further particulars of the scheme will be published next week.

In a short discussion which followed the reading of the paper, the Chairman, Mr. Arthur Hanson, Mr. Beecock (Leeds), Mr. Penty, and others took part, and a very hearty vote of thanks was awarded to Mr. Pilkington-Sargeant.

JUNIOR PHARMACY BALL.

Wednesday, February 24, 1904, at the Portman Rooms, Baker Street, London. There was a record attendance, some 380 persons being present. Mr. Charles W. Martin and Mr. Ralph Cassie acted as M.C.'s. The latter gentleman also took the chair at supper and proposed "Success to the Junior Pharmacy Ball," to which Mr. Percival Trick, Hon. Secretary, responded. All the arrangements were admirable, and the sitting-out compartments in the refreshment-room, which were commonly referred to by the guests as "bathing-tents," from their resemblance to those luxuries, were a welcome innovation.

LEGAL INTELLIGENCE.

Pharmacy Act, 1868.

Proceedings at Croydon Under Section 17.

On Saturday, February 20, 1904, at Croydon Police Court, Frederick Wimble, of 19, High Street, Mitcham, described as a chemist, but not on the Register of Chemists and Druggists, 1904, was summoned, at the instance of the Chief Commissioner of Police for selling hydrocyanic acid in a bottle without distinctly labelling the same with the name of the article sold and the word "Poison," together with his name and address as required by the Pharmacy Act of 1868. He was also summoned for not making an entry in a book kept for the purpose in the form set forth in the Schedule, the date of the sale, the name and address of the purchaser, the name of the article sold, and the purpose for which it was stated by the purchaser to be required, and the signature of the purchaser. Two bottles of prussic acid had been supplied, one a plain white phial with the word "Poison" on a label, but nothing else. The other was a blue bottle, labelled "Acid Hydrocyanic (Scheele), Poison," without the name and address of the seller.

Osborn Tichner, a youth of nineteen, living in Baron Grove, Mitcham, who was recently charged with attempting to commit suicide after reading the report of the Whitaker Wright inquest, stated that on Thursday fortnight he went to

Wimble's shop and asked for some "stuff" to poison a dog with, but the defendant said he did not keep that sort of thing. After consideration, however, he said he would send a boy down to witness's house. Witness returned in an hour, and saw the defendant, who said a boy was waiting to accompany him with some poison. They went down the road, and just before getting to the house witness asked the boy for the bottle, and gave him some coppers. There were two bottles in a tin box. The boy said he could kill the dog, but gave witness the poison and he put it in his pocket. Witness then went indoors, went to bed, and took the poison.

Mr. Newnham, on this evidence, submitted that, inasmuch as there was no sale, he had no case to answer.

The Bench agreed, and dismissed the summonses.

Sale of Food and Drugs Acts.

Sweet Spirit of Nitre.

On Friday, February 19, 1904, at Halifax Police Court, Wm. B. Woodrow, herbalist, 38, Hanson Lane, Halifax, was summoned at the instance of the municipal authorities for selling sweet spirit of nitre "not of the quality required, and to the prejudice of the purchaser."

Mr. H. Ashling, assistant town clerk, appeared for the prosecution, and pointed out that the article sold was 80 per cent. below the standard of the British Pharmacopœia.

Cross-examined by Mr. W. Storey, who defended, the inspector who made the purchase admitted that in October last he purchased from defendant a quantity of sweet nitre for analysis; the defendant then expressed his anxiety to sell nothing but what was "up to quality," and said he would put the bottle aside, and sell no more of it until the inspector had communicated to him the results of that analysis. Witness did not give him those results, but went again on January 4 and purchased another quantity for analysis.

Mr. Storey said the most important feature in his defence was that it was a case in which the Bench should put a broad, honest construction as to what was meant by selling to the "prejudice of the purchaser."

The justices, after a long consultation in private, decided that "in view of the October incident, the justice of the case would be met by simply ordering the defendant to pay the costs—16s."

At the same Court, James Greenwood, 257, Queen's Road, was summoned for a like offence. Inspector Crawshaw said he bought the nitre at defendant's shop on January 4, divided it for analysis, and the certificate put in showed the sample to be 80 per cent. below the required standard.

Mr. H. E. Smith, for the defendant, admitted the facts adduced. His client bought the sweet nitre, which was guaranteed to be in perfect condition when supplied in 1902.

Dr. Neech, the Halifax Medical Officer of Health, in reply to the Bench, said he quite believed that the deficiency was due to evaporation; spirit of nitre, owing to its volatility, should be kept in small bottles with well-fitting glass stoppers; the stock bottle should be hermetically sealed.

A fine of 10s. and 16s. costs was imposed.

Cream of Tartar.

On Wednesday, February 17, 1904, at the Loughborough Petty Sessions, before Captain Heygate and other magistrates, James Dickson, grocer, Castle Donington, was summoned for selling cream of tartar not of the nature, substance, and quality demanded. Mr. G. Rowlatt prosecuted, and Mr. Wilfred Moss appeared for defendant, and pleaded guilty.

Mr. Rowlatt said the analyst's report on the sample of cream of tartar stated that it contained lead in the proportion of three-quarters of a grain to the pound. A number of samples of cream of tartar had been taken in the county, the object being to prevent the sale with lead in it, which it ought not to contain according to the British Pharmacopœia. If the defendant had taken the trouble to obtain a warranty from the persons from whom he purchased the article, that would have enabled the police to take proceedings against them.

Mr. Moss said defendant had not wilfully broken the law. The cream of tartar was sold just as he had purchased it, but unfortunately without a warranty, from a good firm of manufacturing chemists. It was made from the lees of wine by a chemical process, and until recently it had been prepared in leaden vessels. It was not appreciated by the chemical industry that the preparation in this way might cause adulteration, but now that had been realised steps were being taken to abolish the use of leaden vessels, and substitute earthenware in their place.

A fine of 40s., including costs, was inflicted, and defendant was advised to obtain a warranty in future.

Liverpool Assizes.

A Doctor's Action.

On Saturday, February 20, 1904, and following days, before Mr. Justice Jelf and a special jury, an action was heard in which Dr. Peter Stuart, Rodney Street, Liverpool, sought to obtain an injunction and damages for libel from Messrs. Crosfield and Sons, soap manufacturers, Warrington, in reference to the use of his name in connection with the sale of a skin soap manufactured by the defendants.

According to plaintiff's case, in 1892 a foreman in the employment of the predecessors of the defendant company, who was a patient of plaintiff's, brought samples of soap to the doctor, and a verbal arrangement was come to between them whereby plaintiff agreed to recommend the soap to his patients. The sample was tried by plaintiff, who was not satisfied with it. He did not know up to 1896 that defendants were dealing with the soap commercially. In 1898 the fact that plaintiff's name was being used in connection with the soap was brought to his notice by his brother, who then, without plaintiff's authority, suggested to defendants that they should pay a royalty. Plaintiff denied that he gave permission for his name to be used, and said he had been ostracised by the profession in connection with the affair.

For the defence it was submitted that the plaintiff authorised the use of his name; that the whole thing was a question of royalty; that the soap was good, and was, with the exception of some infinitesimal changes in manufacture, the same article as had been recommended by plaintiff.

On Wednesday, February 24, the jury found that plaintiff authorised the public use of his name in connection with the soap manufactured in 1884, that the soap now being sold was substantially the same as that manufactured in that year, that the soap was not so deleterious to the skin that no competent specialist would recommend it; that the words on the soap and boxes were not a libel on the plaintiff, and that the words were true. They found, however, that the leaflet which alleged that the soap was made from plaintiff's prescription was a libel, that it was not true, and they awarded plaintiff one farthing damages.

POISONING CASES AND INQUESTS.

The deaths by poisoning reported during the seven days ended Wednesday, February 24, 1904, numbered thirteen.

Poison.	Accident.	Suicide.
Alcohol	1	—
Ammonia	1	—
Carbolic Acid	—	1
Chloroform	—	1
Coal Gas	1	—
Hydrochloric Acid	1	—
Laudanum	—	2
Nitric Acid	—	1
Oxalic Acid		1
Potassium Cyanide	—	1
Ptomaine	2	
Total	6	7

Alcohol.—A Hanley man died from alcoholic poisoning, after a drinking bout.

Ammonia.—A woman at Sunderland took "about a teaspoonful" of liquid ammonia "to ease her head," and died "from misadventure."

Carbolic Acid.—A young woman at Ilkeston has committed suicide by taking carbolic acid.

Chloroform.—The housekeeper to a veterinary surgeon at Dewsbury took some chloroform from his surgery and drank the poison with fatal effects.

Coal Gas.—An escape of gas, in which 10 per cent. of water-gas was contained, caused the death of a nun in a Liverpool convent.

Hydrochloric Acid.—A child put a quantity of spirit of salt in a pot of tea. The liquid was drank by a woman and caused death.

Laudanum.—A Nottingham bricklayer poisoned himself by taking laudanum. A labourer at Elm died from a similar cause.

Nitric Acid.—A patent-leather dresser at Camberwell committed suicide by taking nitric acid.

Oxalic Acid.—A Cheltenham lady, who was under arrest for larceny, committed suicide by taking oxalic acid.

Potassium Cyanide.—An Islington jeweller, who had seen the reports of the death of Whitaker Wright, committed suicide by taking potassium cyanide.

Ptomaine.—Dr. Robert Smith, well known in the Rossendale Valley, has died from ptomaine poisoning caused by eating tinned tongue. The death of a child at Tonbridge was caused by unsound fish.

Attempted Suicides.—The cases of attempted suicides reported during the week are, without exception, unimportant.

PUBLICATIONS RECEIVED.

Second Stage Botany. By J. M. Lowson, M.A., B.Sc., F.L.S. Pp. viii. + 452. Price 3s. 6d. London: W. B. Clive, University Tutorial Press, Limited, 157, Drury Lane, W.C. From the Publishers.

The Infectivity of Enteric Fever. By Alexander Collie, M.D.(Aberd.). Pp. 46. Price 1s. 6d. net. Bristol: J. Wright and Co., Stone Bridge. 1904. From the Publishers.

The Calendar, 1903-1904. Pp. 164. Price 1s. Cambridge: University Tutorial Press, Burlington House. December, 1903. From the Publishers.

PERSONALITIES, BUSINESS CHANGES, ETC.

Mr. Arthur G. Harrington, student-associate of the Pharmaceutical Society, has passed the London Matriculation Examination.

Mr. G. Fenn, M.P.S., has taken over the business of Mr. H. H. Burgham, chemist and druggist, of 21, Tacket Street, Ipswich.

Mr. Lang, the representative of Messrs. Southall Brothers and Barclay, sails from Southampton for the Cape on February 27.

Mr. Councillor A. Sidney Campkin, J.P., was on Thursday last appointed by the Town Council one of the Bailiffs of the Borough of Cambridge.

Mr. J. R. Birkett, Mayor of Morecambe, has presented a fully-equipped flagstaff to the town, for the embellishment of the sea-front at the east end.

Mr. G. C. Druce, M.A., on Monday, the 22nd inst., gave a lecture on "Painting and Sculpture in the Catacombs of Rome," at the Women's Institute.

Mr. Arthur Hanson, chemist and druggist, of Queensbury, near Halifax, has resigned the position of sub-postmaster, which he has held for a long period.

Mr. Richard Hollick, chemist and druggist, of Fillongley, Wylde Green, Aston, has been elected unopposed a member of the Warwickshire County Council for the Villa Ward of Aston.

Mr. C. J. Park, member of the Council of the Pharmaceutical Society, was on February 22, at the Masonic Temple, Plymouth, installed M.W.S. of the Huyshe Chapter of Rose Croix Masonry.

Mr. R. C. Munro Ferguson, M.P., for Leith District, has promised his support to the Pharmacy Acts Amendment Bill, as have also Sir John Leng, M.P., and Mr. Edmund Robertson, K.C., M.P.

Mr. D. Leitch, chemist and druggist, Greenlaw, has been presented with a gold albert and shield, subscribed for by the members of the Greenlaw Curling Club, on his retirement from the post of secretary of the club, after twenty-six years' service in that capacity.

Mr. P. F. Rowsell, of Nutbrook, Withycombe Raleigh, principal of the firm of Holman, Ham and Co., manufacturing chemists, of Exeter and Exmouth, is a Progressive Candidate for the triennial election of a representative of Exmouth on the Devon County Council.

Mr. Arthur H. Spencer Palmer, son of Mr. J. Spencer Palmer, chemist and dental surgeon, Coronation House, Thornbury, has been successful in passing the Cambridge Senior Examination with third-class honours. He was a pupil at the Thornbury Grammar School, and the only senior candidate taking honours from the Bristol Centre.

Mr. T. H. Prosser, pharmaceutical chemist, has purchased two of the businesses of Messrs. Morris, Banks, and Co., Limited, at High Street and Hagley Road, Birmingham, and will carry them on in future under the style of F. H. Prosser and Co. Mr. Prosser was proprietor of the Spring Hill business before it was taken over by Morris, Banks, and Co., Limited.

Mr. J. A. Gibson, M.P.S., of Edinburgh, has contributed to the February number of the *Westminster Review* an article on "Cancer Treatment Theoretically Considered." Mr. Gibson is forced to the conclusion that no advance has been made in cancer treatment—no progress towards prevention or cure—but states that an advance has certainly been made in diagnosis

MISCELLANEOUS NEWS.

Divisional Secretaries and other Members of the Pharmaceutical Society are requested to assist the Editor by sending local newspapers containing items of interest to chemists and druggists.

A Bristol Presentation.—The members of the various departments of Messrs. Ferris and Co., wholesale druggists, of Union Street, Bristol, have presented a silver-plated Irish tea and coffee service to Mr. and Mrs. A. Waite on the occasion of their silver wedding.

Edinburgh Central School of Pharmacy.—The annual dinner of the Edinburgh Central School of Pharmacy will be held in the Balmoral Hotel, Princes Street, on Friday, March 4, at 8.30 p.m. Tickets may be had from Mr. J. Hutcheon, Hon. Secretary.

Royal Photographic Society of Great Britain.—The third of the series of practical demonstrations will be given at 66, Russell Square, on Tuesday, March 1, 1904, at 8 p.m., by Mr. E. T. Holding, the subject being platinotype printing. Synopsis: The negative—The varieties of paper, printing, developing; (*a*) cold bath, (*b*) hot bath; modifications in development for (*a*) under printing, (*b*) over printing, toning.

An Illicit Still.—At West Kittheir Police Court, on February 17, James Cock Hosking, of Breage, was prosecuted by the Board of Inland Revenue for being the owner of a still without having a licence. An Inland Revenue officer, on visiting defendant's premises, found four stills used for the purpose of distilling mint, used locally as a medicine. Defendant had removed the worm, but not the head-piece, which was considered to be the most important part of the still. Defendant was fined 21s.

Cash on Delivery.—On Monday, February 22, a public meeting of the traders of Halifax was held in the Mechanics' Institute of the town to protest against the proposed cash-on-delivery postal system. Mr. A. H. Waddington, of Bradford, and Mr. R. C. Walshaw, of Huddersfield, addressed the meeting, and Mr. C. Fielding, President of the Halifax and District Chemists' Association, was also present. A motion in opposition to the proposed innovation was carried by a large majority.

A Licence Refused.—At Reigate County Brewster Sessions, on Friday, Messrs. Little and Crawford, chemists and druggists, of Horley, applied for an "off" wine licence, and opposition was offered by a grocer in the vicinity holding an off-licence. For the applicants it was stated that they only desired to sell medicated wines, for which they were often asked. In opposition, it was pointed out that medicated wines were sold at the grocery establishment adjoining applicant's shop. The Bench declined to grant the licence.

Apologising for an Error.—Only six samples of drugs were submitted to the Birmingham City Analyst (Mr. J. F. Liversedge, F.I.C.) during last quarter, and they were all sodium bicarbonate. Four were genuine, but two were composed of pure borax. The vendors explained to the Health Committee that an error had been made in the cask from which the article was taken, and were let off with a caution on promising to advertise in the newspapers that a mistake had occurred, and to compensate anyone who had been served with the wrong article.

Fire at Leith.—An outbreak of fire occurred on Thursday morning at mills and warehouses in West Bowling Street, Leith, belonging to Messrs. J. and J. Cunningham, Limited, chemical manufacturers, and the damage to building, machinery, and manufacturing materials is, it is stated, roughly estimated at about £6,000, and is covered by insurance. The fire originated near the engine-house, and is supposed to have been caused by the upsetting of a lamp. The fire at one time assumed rather a serious aspect on account of the danger of its spreading to adjacent oil sheds, but the efforts of the firemen prevented this.

A Chemist's Shop Fittings.—At Halifax County Court, on February 17, Messrs. Smith and Co., chemists and druggists, of Hipperholme, were sued by A. Mills, shop-fitter, for £19 4s. 8d., due for show cupboards, etc., fitted up at their pharmacy at Wyke. Plaintiff said he was told to do the work as cheaply as he could. His bill came to £24 4s. 8d., and, as Mr. Smith grumbled at the delay, it was reduced to £20. Mr. Smith then said the sum was too much, and threatened to sue him for £5 for loss of trade. To avoid trouble, plaintiff offered to accept £18. Mr. Smith said that red canary wood was specified, but stained pine was used instead. Plaintiff said the substitution was at defendant's request in order to secure cheapness. Judgment was given for plaintiff for £18 12s. 6d., and costs.

The Chemist on the Stage.—A very excellent representation of what one would imagine the aged chemist of twenty-five years ago was like, is to be seen at Wyndham's Theatre. In fact, Mr. O'Reilly is not in many respects unlike an old pharmacist who used to practise quite recently within easy distance of Bloomsbury Square. Modern ways of business were not at all to his liking, and he absolutely declined to have anything to do with new fashioned remedies. This chemist of the West Central district scorned those modern pharmaceutical preparations of which the select physician of to-day is so fond; he persisted in pinning his faith to the simple remedies beloved by our grandmothers. Alas for these go-ahead-days, the old man is no longer there and a new man is in his place. The window, which looked as though it had not been dusted for half a century, has been taken out and refitted in modern style. There are many other points in "Little Mary" which will tickle the chemist's fancy, and no disciple of Galen who has the opportunity should fail to see the play.

Cost of Workhouse Drugs.—At the meeting of Rotherham Board of Guardians, on February 16, a long discussion ensued relative to the increased expenditure on drugs at the workhouse. A return showed that the cost of drugs during the five years 1894 to 1898 was £662 10s. 8½d., an average of £132 10s. 2d. per annum, while for the next five years the cost was £1,373 3s. 9d., or an average of £274 12s. 9d. a year. The Master explained that the extra cost of drugs was due to difference in treatment, and the using of more expensive material, which was charged to the drug account. For instance, the cost of all children's foods came under the heading of special treatment. Mellin's Food was charged to the drug account, and there were similar charges in connection with phthisical cases. The Master added that all the drugs were ordered by the doctor, whereupon Mr. Blackburn observed that if they were spending £320 a year in drugs they ought to have a contract. The Master replied that drugs were contracted for yearly, and also pointed out that previously children's foods and things ordered for phthisical cases were not charged for as drugs. The Board decided that the medical officer should attend the next meeting, and that the House Committee should thoroughly investigate the cost of drugs.

TRADE NOTES.

Angela's Pills.—This is a new remedy manufactured by the Angela Health Company, 4, Fenchurch Avenue, London, E.C. Of elegant appearance and undoubted efficacy, they are handsomely and attractively packed for sale. They are recommended for affections of the liver, stomach, and digestive organs. Particulars can be obtained from the company.

Vinode is a new and excellent article, which has recently been placed on the market by Mr. Vincent Wood, 4, Albion Place, Blackfriars, London, S.E. It is a medicated wool, especially prepared for application in cases of chronic bronchitis, asthma, and kindred ailments. It should be applied to the chest in the form of a chest-protector. It is very neatly packed in wide-mouth, tightly-sealed bottles, which are enclosed in handsome cardboard cases. Fuller particulars and terms can be had on application to the maker.

'The Art of Photographic Dodging' by "Two Artful Photographic Dodgers," is a useful little booklet now being issued by Mr. W. Tylar, 41, High Street, Aston, Birmingham, at the popular price of 3d. (or 4d. post free), and has already reached its eighth thousand. While much space is devoted to advertisements of Mr. Tylar's well-known photographic goods, many valuable hints are given to the novice in the art of photography. The beginner who invests 3d. in this publication, studies the information given and acts upon it, will probably save the price of the booklet many times over.

A List of Photographic Dealers is being compiled by Messrs. B. J. Edwards and Co., Limited, photographic dry-plate and film manufacturers, of Castlebar Works, Ealing Dean, London, W., which will be printed, when complete, at the end of the "handbook" issued by the firm. This handbook will be sent to amateur photographers all over the country, and those chemists who are also photographic dealers and would like to have their name and address included in the list should apply to the firm for further particulars. We may mention, however, that the inclusion of any dealer in the list is conditional on his handling a stock of Messrs. Edwards and Co.'s goods.

Benevolence and Perfume.—A somewhat novel departure is announced in the advertisement columns of this issue, in connection with Messrs. Atherton, Rudd and Co., manufacturing perfumers, Norwood Junction, S.E. With a view to making a substantial contribution to the Benevolent Fund this firm is prepared to hand over to the Registrar of the Pharmaceutical Society practically 12 per cent. on all sales of "Violet" perfume made between the date of this issue and the 12th day of next month. The price of the perfume is 8s. 6d. per lb., and every chemist who buys 8s. 6d. worth between the abovementioned dates will directly contribute 1s. to the Benevolent Fund. The perfume is of excellent quality, and of delicate fragrance, and readers would do well to give it a trial. It will be satisfactory to learn at the end of the fortnight that this combination of business and benevolence has proved successful.

New Photographic Apparatus.—Messrs. Geo. Houghton and Son, Limited, 88 and 89, High Holborn, W.C., have recently introduced several new things in the way of photographic apparatus. The "Ideal" Portrait Lamp is undoubtedly far in advance of anything of the kind which has so far been introduced, and with it results can be obtained equal to the very finest daylight work in any ordinary room, and this without any inconvenience whatever from smoke or dirt. The "Warwick-Brooks" Electro Flash Lamp has been specially designed for taking large groups, interiors, etc., and so far as convenience, portability and reliability are concerned is a great improvement on other lamps of its type on the market. Another interesting piece of apparatus is intended for producing stamp and midget portraits easily, accurately, cheaply and in less time than other methods in vogue. Write to Messrs. Houghton and Son for further particulars.

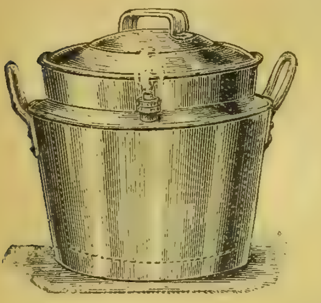
The "Carbine" Film Developing Dish is quite a new departure in film developing dishes, and should have a good sale during the forthcoming season. The illustration will indicate at a glance to all practical photographers that this dish is "just the thing" for roll films, and that it has important advantages over the ordinary variety. The dish is made in white enamelled porcelain, with two fixed porcelain bars having rounded edges on the under side, and takes all sizes of films up to 3½ in. wide. Messrs. W. Butcher and Sons, Camera House, Farringdon Avenue, E.C., will be pleased to forward particulars as to price, etc., to any photographic dealer on receipt of post-card.

"CARBINE" Developing Dish.

A New Dry Mounting Process.—Those chemists in business who have adopted as a side line the enlarging and mounting of photographs will be interested to know that a process has been devised for mounting photographs, engravings, drawings, etc., by means of a dry adhesive film. The method of using the adhesive is to fix a film on the back of the print, trim together, place in position on the mount, and press in a special mounting machine. This machine, which is heated to a regular temperature by means of gas or spirit, in addition to mounting the print, enables the user to platemark his own mounts to any required size. A Journal representative who recently visited the offices of the Adhesive Dry Mounting Company, Limited, at 27-28, Fetter Lane, E.C., was shown a variety of mounts, which would not be suitable for use in the ordinary way, but with the adhesive film photographs had been mounted on metal without deleterious effects, and on thin sheets of paper and silk without warping of the back. Further particulars will be supplied on application to the above address.

Vinolia Preparations.—Attention is drawn to the supplement in this week's Journal, in which particulars are given of some of the standard articles manufactured by the Vinolia Company, Limited, Stratford, and Malden Crescent. It is not necessary to pick out for especial mention any particular article mentioned in this list. For the most part they are universally known, while the newer preparations which have recently been introduced are likely to become just as popular as the older ones. The supplement should be carefully preserved for future reference. While speaking of this firm, it may be mentioned here that the Vinolia Co., Limited, have just added to their Stratford premises the entire extensive buildings and grounds of the Lea Valley Distillery, situated on either side of their works. They have added a large piece of vacant ground to be used for storage purposes. Not so very long ago the company added a good-sized piece of ground to their Kentish Town premises. They have trebled their soap-boiling plant in three years, and are laying down extra coppers, storage tanks, glycerin plant, and other machinery.

"Welbank's Boilerette."—This article, originally known as the "Duplex Boilerette," consists of one pan fixed within another, there being no escape for the steam, except by way of a small spring safety valve, which allows pressure of steam sufficient to raise the temperature of the water in the outer vessel to ensure the water boiling in the inner vessel. With this contrivance there is no need of replenishing the water in the outer vessel whilst cooking. The evaporation being so slight, very little water is required in the outer vessel, and as this will take several hours to boil away, the boilerette practically "looks after itself," while the cook may be absent, or attending to other duties. It is also claimed for "Welbank's Boilerette" that it is a source of great economy in fuel. These articles are made in sizes varying in capacity from one pint to six gallons. Fuller particulars of this ingenious saucepan can be obtained from Mr. Welbank, Duplex Works, North Newington, Banbury.



SCHOOL AND COLLEGE NEWS.

Leeds College of Pharmacy.—On Shrove Tuesday the students of this college had their annual excursion to East Keswick. Leaving the college at 10 a.m., the party walked to Collingham Bridge, where pancakes were served. The weather being unpropitious, a whist drive replaced the usual football match. After tea a smoking concert was organised, the radio-activity of the songs being well marked. A vote of thanks to the Principal and vocalists brought to a conclusion a most enjoyable day. On Monday, March 7, Mr. Maben will lecture at the college on "Serums." On March 10 the Principal, F. Pilkington Sargeant, F.C.S., will lecture on "Applied Bacteriology," at 6.45 p.m. This lecture will conclude in time for the Leeds "Benevolent Fund" Smoker, and anyone interested will be welcomed.

West of Scotland College of Pharmacy.—On Wednesday, the 17th inst., the fifth annual dinner of the past and present students of the West of Scotland College of Pharmacy was held in the Alexandra Hotel, Glasgow, the scene of the previous college gatherings. The Principal, Mr. T. S. Barrie, presided over a large and representative company of sixty, and a most enjoyable evening was spent. Letters of self-denial, but full of good wishes, were received from Messrs. J. R. Hill, C. T. Cockburn, W. L. Currie, etc. During the course of the evening the prizes and certificates gained during the past session were distributed by Mr. John Walker. The entertainers were numerous and talented. Mr. P. Irvine, Ph.C., an old student of the college, was extraordinarily successful in his recitations, and scored heavily. Other contributors were Messrs. Muir, Pierce, Johnston, and McQuilkin.

Inter-Pharmacy Football League.—Metropolitan College *v.* "Square."—This match was played on Wednesday, February 17, at Wormholt Farm, Shepherd's Bush, and, after a fast and interesting game, ended in a victory for the "Metros" by 6 goals to 2. Keen interest was shown in this match, which was a re-play (due to the referee having stopped the match on January 30), and a goodly number of supporters turned out to cheer their respective teams. The "Metros" had the valuable services of Sweetman, their late captain, who proved a tower of defence. The "Square" had slightly the better of the opening exchanges, when Prince, after half-an-hour's play, followed up a good run by scoring for the "Metros." Just afterwards the "Square" equalised, but Lester, with a splendid shot, gave the "Metros" the lead, and the teams crossed over with the scores 2 to 1. On the restart the "Metros" soon asserted themselves, and Lloyd, evading the opposing defence, scored No. 3. From a good centre by Lester, Bufton added another, which the "Square" replied to with a goal from a long shot. Still the "Metros" were playing the better football, and Lloyd put the issue beyond doubt by scoring No. 5 and Bufton No. 6. The "Square" made strenuous efforts to reduce the score, but could not break through, and the time arrived with the score as stated. ——Metropolitan College *v.* Westminster College.—This match was played at Acton, on Saturday last, and ended in a hollow victory for the "Metros." The game was remarkable for the heavy scoring of the "Metros" and weakness of the Westminsters, who, however, turned out with only ten men. Playing against the wind, and uphill, the "Metros" scored five times; in the second half they scored 10 more goals, and won by 15 to nil. Prince 9, Clark 4, Lloyd 1, Bingham 1, were the scorers.——"Square" *v.* "Muters."—On Saturday, February 20, 1904, in a very strong wind. The ground was very heavy, and prevented fast play. The visitors started with the wind, but in spite of this the ball was soon at their end of the field, and a goal was scored by the home team within ten minutes of the start; then the scoring alternated until half-time, when it stood at 2 all. On resumption of play each side again scored. After this "Muters" had several narrow escapes, and the "Square" once found the net, but this was disallowed by the referee, and the match ended in a draw, each side having 3 goals to their credit.

COMPANY INTELLIGENCE.

T. and H. Smith, Limited.—Letters of allotment and regret were posted on Thursday, February 25.

Henry Marks and Sons, Limited.—On 22nd inst. the extraordinary resolution was confirmed for the voluntary winding-up of Henry Marks and Sons, Limited, which is one of the businesses acquired by International Sponge Importers, Limited.

Wahoo Medicinal Company, Limited.—Capital, £1,000 in £1 shares. Object, to adopt an agreement with J. Taylor, of 5, Wendover Road, Harlesden, and to carry on the business of manufacturers of and dealers in patent medicines, chemicals, perfumes, etc.

Modern Curative Treatment, Limited.—Capital, £3,000 in £1 shares. Object, to apply any curative treatment; to manufacture and deal in all kinds of implements, machinery, drugs, and other articles capable of being used in connection therewith, and to adopt a certain agreement, the parties to which are not named.

The "Sanitas" Company, Limited.—The sixth ordinary general meeting of this company was held at Limehouse, E., on the 24th inst. The report (which was adopted) recommended the payment of a further dividend of 4½ per cent. and a bonus of ½ per cent., making, with the interim dividend already paid, a total distribution of 7½ per cent. for the year. This will absorb £9,060 16s. 8d., leaving a balance of £2,227 9s. 7d. to carry forward to 1904.

MARKET REPORT.

The quotations given below are the lowest prompt cash prices for bulk quantities, to which other charges have to be added. It is important that this should be borne in mind in making any comparison between the prices quoted and those of the wholesale drug trade.

General Markets.

LONDON, THURSDAY, FEBRUARY 25, 1904.

In spite of the upward tendency of many articles, business in drugs and chemicals still remains quiet. There has, perhaps, been rather a rush on Japanese articles. It goes without saying that the effects of the war are being felt on the markets, and the advance in several articles can be directly attributed to this cause. As far as can be learnt at present, the export trade to Eastern ports has not been interfered with by the outbreak of hostilities. Nor does this appear likely so long as Japan maintains the naval advantage. Camphor, of course, continues to get scarcer and dearer; the possibilities of much higher prices should be clear to everyone. Menthol likewise continues to advance. Quinine is firmer: this also can be attributed to the war. The sensation of the week has been the rise in Iodine and its preparations. A fluctuation in the other direction would not, perhaps, have come as such a surprise. It is reported that this is due to the possibilities of the Japanese supply, which has been offered below Convention prices, falling off. It is even hinted that the supplies from Japan may disappear; how far this is true remains to be seen. Chloral Hydrate has advanced; probably this may be the result of a tacit recognition among the makers that prices were unduly low. Hydrastine is higher in consequence of the advance in Golden Seal. As regards the position of American Peppermint Oil it might be mentioned that the offerings here (at low rates) are made by weak holders. This has the effect of preventing consumers coming on the market. Stocks in New York are small and strongly held. The price over the water is equivalent to 15s. to 15s. 3d.

ALUM.—Lump, £5 12s. 6d.; Ground, £6 2s. 6d.

ARROWROOT.—The demand was slow at the sales on Wednesday; and the transactions were unimportant.

BICARBONATE OF SODA.—£7 5s. per ton, landed.

BISMUTH.—Carbonate, 8s. 1d.; Subnitrate, 7s. 4d.

BLEACHING POWDER.—English, £4 15s. to £4 17s. 6d.

BORACIC ACID.—Powder, £1 4s. 6d.

BORAX.—In powder, 14s. 6d.; crystals, 13s. 6d

CAMPHOR—Still continues to advance in price. English refined is from 4s. to 4s. 6d. Good business has been done in Japan refined, the spot price of which is 3s. 6d.

CAMPHOR PREPARATIONS.—These are all dearer. Acid Camphoric is 18s. per lb.; Camphor Monobrom, 6s. 9d. per lb.

CARBOLIC ACID.—Crystals, 39° to 40°, 5d.; crude, 60°, 1s. 6½d.

CASCARA SAGRADA.—Sales of five years' old bark have been made at 100s., and advices from the United States speak of a larger demand, with probably higher prices. The price for last season's bark is 87s. 6d., and for three-year bark 95s.

CASTOR OIL.—Belgian 1sts, £20 2s. 6d.

CHLORAL—Is 3d. per lb. dearer; the price is now 3s., "duty paid."

CITRIC ACID.—1s. per lb.

CLOVES— Were not represented at the Spice Sales. In the private market Zanzibar are dearer, 8 3-16d. for March to May delivery.

COCAINE.—11s. 9d. to 12s. 3d. per oz. for the Hydrochloride, according to quantity.

COCOANUT OIL—Is firm. Cochin, £30 spot; Ceylon, spot, £26.

CODEINE.—8s. 11d. per oz. for the pure alkaloid.

CREAM OF TARTAR.—98 per cent. foreign powder, 87s.

ERGOT.—There is more inquiry. Hamburg is buying. Spanish is quoted 1s. 6d., c.i.f.

GINGER.—870 packages of Cochin were bought in at the Spice Auctions, at about late rates.

HYDRASTINE.—The preparations are up owing to the scarcity of Golden Seal. Hydrastine is now 22s. 6d. per oz. for smaller wholesale lots; Hydrastinine is from 3s. 6d. to 4s. per gramme.

HYDRASTIS CANADENSIS.—The price is 4s. 9d. c.i.f. The value on New York prices is 5s. per lb., but holders in Hamburg have been making cheaper offers to this market.

IODIDES—Are dearer. The prices are now said to be: Sodium Iodide, 11s. 10d.; Potassium Iodide, 10s. 3d.

IODINE and all its preparations are dearer. Resublimed is now 12s. per lb.

IODOFORM—Is dearer: 13s. 10d.

LINSEED—Is about 6d. lower, Calcutta, spot, being 36s.

LINSEED OIL.—London, spot, barrels, £18.

MENTHOL.—There are buyers of Kobayashi at 18s., and holders are asking 18s. 3d. to 18s. 6d. spot. Business in Suzuki has been done at 17s. c.i.f.

MERCURIALS.—Calomel, 2s. 8d.; Corrosive Sublimate, 2s 4d.; Red Precipitate, 2s. 11d.; White Precipitate, 2s. 11½d.; Mercuric Sulphate, 2s. 4d.

MORPHINE.—4s. 6d. per oz. for the Hydrochloride.

OPIUM—Is quiet and firm. Some business has been done in secondary shippings at 9s. 9d. to 10s.

OXALIC ACID.—2⅝d. delivered free London.

PEPPERMINT OIL.—H.G.H. is firm in New York, but the demand here is slack; it is being offered by speculators at rather low prices—namely, 13s. 9d., landed terms. For oil in tins 11s. 9d. to 12s. 9d., c.i.f., according to brand, are the prices called. Japanese Oil Kobayashi is 6s. 9d. "spot" and 6s. 6d. c.i.f. near at hand; other brands are 6s. to 6s. 3d., at which prices business has been done.

POTASSIUM BROMIDE.—1s. 11½d. per lb.

QUICKSILVER.—£8 5s.

QUININE.—All the German makers have now raised their prices to 1s. 0½d. In second hands the market is firm at about 1s. 0¼d.

SAFFRON—Maintains former rates, but little business is doing. For finest B.P. 36s. is asked.

SHELLAC.—The market on the spot is very firm, but quiet. Futures are dearer.

STAR ANISEED OIL—Is again dearer at 5s. 3d.

VERATRINE.—The reduced price is 4s. 9d. to 5s. 6d. per oz. for the pure, according to quantity, the lower figure being for 100-oz. lots. The price for the Sulphate is 5s. 2d. to 6s. 2d.

Tea Rose Bouquet.

Tincture of orris, 5 fl. oz.; spirit of neroli, 5 fl. oz.; spirit of sandal, 10 fl. oz.; spirit of geranium, 16 fl. oz.; spirit of rose, 16 fl. oz.; rose extract, 16 fl. oz.—*Spatula*, **9**, 547.

NOTES IN PARLIAMENT.

Sugared Products.

The President of the Board of Trade has been asked by Sir John Leng whether, having regard to the fact that the Permanent Commission established under the Brussels Sugar Convention has decided that the limitation of the surtax laid down in Article III. of the Convention does not apply to sugared products, any effort is being made by the Government to alter this decision or to make arrangements with the individual co-signatory Powers to secure a reduction of their tariffs in favour of British-made sugared products. Mr. G. Balfour announced that the question affecting the position of sugared products will be considered at the next meeting of the Permanent Commission in March. Pending the result of the discussion he thinks that it would be inexpedient to make any statement on the subject.

The Cash-on-Delivery Postal System.

The Postmaster-General was on Monday last asked by Mr. Hemphill whether his attention had been called to the dissatisfaction expressed in many quarters with the proposed introduction of the cash-on-delivery system by the postal authorities, and whether, having regard thereto, he would withhold his sanction from the system. Lord Stanley answered that representations have been made to him expressing dissatisfaction with the prospect of the introduction of a system of cash-on-delivery, and he has received other representations in support of such an arrangement. He has the question under consideration, and is collecting evidence as to the working of the system in the countries in which it is already established, and as to its probable effect if instituted in the United Kingdom. He has as yet come to no decision on the scheme, and he does not propose to sanction its introduction unless and until he is satisfied that such a course would be for the benefit of the community in general.

Exports of Confectionery and Preserves.

The Under-Secretary for Foreign Affairs was on Monday last asked by Mr. Lough whether, in view of the fact that the British representatives, at a meeting of the Commission appointed under the Brussels Sugar Convention, held during the parliamentary recess on behalf of the exporters of confectionery and preserves in this country, brought forward the claim that the limitations of the surtax should apply to their manufactures, he would state what decision was arrived at; and whether any report of the proceedings would be laid on the table of the House. In his reply Earl Percy says that at a meeting of the Commission in October last the majority of the Commissioners were of opinion that the limitation of surtax under Article III. of the Convention applied only to sugar itself, whether raw or refined, and not to sugar products. As however, the general hearing of the Convention upon the treatment of such products remained in doubt, his Majesty's Government are of opinion that the course most conducive to the public interest will be to defer the laying of any further papers on the subject until after the termination of the next Session of the Commission, which would open on March 10 next.

The Portsmouth Poisoning Cases.

The President of the Local Government Board has been asked by Mr. Remnant, the member for the Holborn Division, whether his attention had been directed to the recent deaths, by poisoning, of four inmates of the Portsmouth Lunatic Asylum, "and to the evidence given at the inquiry by the coroner, disclosing want of care in the dispensing arrangements in that public institution"; and whether, in view of the danger to life involved in leaving the important duty of compounding medicines to unqualified persons, steps would be taken by the Department to ensure that every dispensary under the control of a local authority should be in the charge of a person holding the qualification under the Pharmacy Acts. The Home Secretary replied and pointed out that the inquest in this case had not yet concluded. He added that the point to which the hon. member drew attention would be carefully considered.

Royal College of Science.

Sir. Wm. Anson, replying to Mr. Allhusen, has stated that no proposal is before the Board of Education to transfer the Royal College of Science or the Royal College of Art to the University of London.

The Metric System.

The Weights and Measures (Metric System) Bill was on Tuesday, on the motion of Lord Belhaven, read a second time in the House of Lords. It was afterwards agreed to refer the Bill to a Select Committee. The Bill provides for the compulsory adoption of the metric system on April 5, 1906, or at such later date as his Majesty might direct by Order in Council. In moving the second reading of the measure, Lord Belhaven said that consular reports showed that the adoption of the metric system would be of great advantage to our export trade. This was especially the case with the drug trade. It was given in evidence before the committee of 1895 that at the beginning of the nineteenth century the drug trade of the world was confined to London; at the end of the century London still retained 70 per cent. of this trade, but was fast losing the command, many of the drugs being sent to Amsterdam and Havre because people did not like to weigh and pay for them by English measures. The South American Republics now went to Paris for their drugs because the metric system was used there. In the course of the debate, Lord Lansdowne said:—"Not long ago a friend of mine was travelling on the Continent, and being indisposed he sent a prescription of his English doctor to be made up by a local practitioner. In due time a box of pills was delivered to him. My friend said they were of the size of small marbles, and he was so intimidated by their appearance that he decided not to adopt the remedy. Very soon the chemist appeared in a state of intense emotion, and stated that his assistant, who had made up the pills, did not know the difference between a grain and a gramme, and thought that the latter was the proper weight to be used, with the result that each of those torpedoes contained about 30 grains of calomel, which I am told is considerably more than a grown man's dose."

LETTERS TO THE EDITOR.

All Communications for the *Pharmaceutical Journal* must be addressed to the Editor, 17, Bloomsbury Square, London, W.C., and, if intended for publication in the current week's issue, should reach the Office not later than Wednesday, unless specially arranged for in advance. The matter should be written clearly and concisely on one side of the paper only and must be authenticated by the names and addresses of the writers, as no notice can be taken of anonymous letters.

The Pharmaceutical Journal Formulary.

I have had the opportunity of seeing a proof copy of the 'Pharmaceutical Journal Formulary,' and whilst I am far from disposed to attack the practice of supplying combinations of simple remedies in response to the public demand for such medicines, I would venture to suggest that there is a considerable responsibility incurred by the publication in a quasi-official form of some of the prescriptions included in your volume. Whether a member of the public is wise to accept medicinal treatment from a non-medical adviser, or a chemist is wise in undertaking to prescribe such treatment, are questions which must be settled by these individuals for themselves. But it will, I think, be generally allowed that the more powerful or actively poisonous remedies cannot be administered, apart from medical examination, without definite risk, and it would be well that you should remind your readers of the existence of this risk. Such a consideration applies with especial force in the case of young children, and I should hesitate to believe that the general body of pharmacists would approve of the proposal to distribute to the public remedies like tartar emetic, digitalis, and opium, under such alluring names as "Balsamic Cough Mixture," "Nursery Cough Mixture," or other similar titles. The printed page may well seem to suggest, unless a warning to the contrary is introduced, that prescriptions of this order are approved by the official voices of the pharmaceutical profession. There is a further danger against which a precaution is necessary. So long as such formulæ are confined to the hands of those who have a general knowledge of the properties, dangerous as well as beneficial, of drugs, there is a considerable measure of protection, and I have no doubt that the majority of chemists faithfully endeavour to afford such protection to their customers. But there is ever the chance that a book containing prescriptions may fall into the hands of a layman. Such books are, indeed, sometimes consulted in public libraries and elsewhere. Hence, unless prominent attention is drawn to the true nature and object of your volume, a layman may well be excused if he regards the formulæ it contains as enjoying the sanction and approval of your authority. I would, therefore, suggest that a distinct indication be given that those who use the formulæ must do so on their own responsibility; that the use of the more powerful remedies (apart from medical advice) is a proceeding not easily justified; and that, in all cases where the provisions of the Pharmacy Act apply, these must receive strict attention. That there is a public demand for medicinal combinations to relieve various symptoms generally regarded as free from serious anxiety is notorious. The pharmacist is in a special position to meet this demand, but in doing so he has to recognise that this position carries with it a proportionate measure of responsibility. It is desirable that this responsibility be emphasised rather than weakened, and I would, therefore, for the sake of the profession of pharmacy, not less than in the public welfare, urge that your publication be effectively safeguarded from the risk, both of misuse and misconstruction.

London, W., February 18, 1904. C. O. Hawthorne.

Acting on Dr. Hawthorne's suggestions, warnings on the lines indicated are given in the preface to the 'Pharmaceutical Journal Formulary,' and at page 242 of this week's issue.—[Ed. *P.J.*].

Pharmaceutical Education.

I am indebted to Mr. Wippell Gadd for having called attention to my previous letter bearing principally on the subject of clinical research work for pharmacists. From personal experience and observation I feel assured that there is an opening and a fair amount of work for one pharmacist in most towns containing a population of 40,000 or 50,000, representing about one chemist in every twenty or thirty. If, therefore, one out of every twenty or thirty qualified chemists had a favourable opportunity open to him for taking a post-graduate course and obtaining a diploma as clinical research chemist, such men would be still remaining within the ranks of pharmacy, and be a distinct gain to that profession. As to remuneration, it must not be supposed that stops short with the actual fee received; the benefit likely to arise from your increased facilities for acquaintanceship with medical practitioners is worth considering, as also are the great pleasures attending the pursuit of such work. I would, however, have it clearly understood that anyone whose prime aim in life is to amass wealth will be disappointed in this as in all other professional or scientific work. On the other hand, I am convinced that for those desirous of raising themselves and their calling to a higher status they cannot do so in a better or more justifiable manner.

Torquay, February 20, 1904. Ernest Quant.

Appropriated Medicine Stamps.

I am directed by the Board of Inland Revenue to inform you that they have arranged for the printing of appropriated medicine stamp labels in the size of the smaller unappropriated medicine labels, viz., $4\frac{1}{8}$ in. × $\frac{13}{16}$ in. The stamps on each sheet will be twenty-four instead of twenty as now on the larger sizes of labels. If any proprietors of medicines, to whom appropriated labels are supplied under the present arrangement, wish to avail themselves of the smaller sized stamps, they should transmit the sum of 32s. to Messrs. Thos. De La Rue and Co., Limited, of 110, Bunhill Row, London, E.C., for the necessary cost of engraving the additional name pieces required for printing in the smaller size. Other proprietors of "patent" medicines will be supplied with appropriated labels in the smaller size on payment of the sum of £9 12s. for the cost of engraving. This sum should be paid to Messrs. Thos. De La Rue and Co., Limited, to whom, as well as to this office, the words required to be printed on the stamps should be communicated. It must be understood that appropriated labels cannot be supplied to a less amount than £10 at any one time, and that they do not have the effect of any letters patent, the sole reason for their supply being the convenience of the manufacturer or owner of the medicine.

E. E. Stoodley,
Secretary, Inland Revenue.

Somerset House, London, February 18, 1904.

A Benevolent Fund Saturday.

May I be allowed to make a practical suggestion for placing the Benevolent Fund in a position to deal adequately with the continually increasing number of applications which experience leads us to expect as time goes on. It is simply and plainly that a "Benevolent Fund Saturday collection" should be organised through the Society's divisional officers, with the active co-operation of the pharmaceutical press and the retail and wholesale trade. The details do not appear to me to be difficult, and the resulting income would certainly be considerable. To carry into execution the foregoing plan it would certainly be necessary to issue collecting sheets to every chemist on the Register, together with an appeal urging them to obtain a contribution from every member of his staff, and this might very well be accomplished by utilising the Society's local organisation machinery, which, we are assured on the authority of the Secretary, is now in a particularly efficient condition. I would further suggest that local associations be invited to help in the necessarily heavy work of issuing and forwarding back the collecting sheets. The Commercial Travellers' Benevolent Fund sets aside one day annually for a special collection at the dinner table at every commercial hotel in the kingdom, and a very nice sum is always got together. If the plan commends itself to headquarters, I shall personally be quite willing to do my share of the detail work.

London, E.C., February 20, 1904. H. Hickey.

Pharmacy and Pharmacist.

If, in the opinion of "Mere M.P.S.," my letter was highly tinctured with spite and devoid of wisdom, I must say it was neither written spitefully nor in any way intended to infer that a Major man is a superior creature to a chemist and druggist. The fact that a man possesses the higher qualification does not imply that he rests on his laurels and expects the golden shekels to be showered upon him without further exertion on his part. He, by dint of industry, is rewarded in the same way as the humbler members of the craft. The candidate has already proved his ability when he passes the examination, and it is for this that an acknowledgment is asked. The acquired knowledge will be recognised according to the application thereof, and is a separate matter entirely. I therefore repeat that, until the Society (of which I am an ardent supporter) gives something more than at present, the small percentage taking the Major Examination will have to be deplored and the funds suffer accordingly.

February 23, 1904. "Pharmacist" (279/13).

Under the above heading, many, I think, would be surprised to read in your last issue the combined attack of "Chemist and Druggist" and "A Mere M.P.S." upon the rights of Major men and particularly upon "Pharmacist's" letter which appeared in your previous issue of the 13th inst. I quite agree with "Pharmacist" that it is unjust to Major men that a chemist only holding the Minor qualification should style his shop "pharmacy." "A Mere M.P.S." states that the suggestion of this idea "is more highly tinctured with spite than with wisdom." Not a bit of it. This is a question of right, and it is the duty of conscientious men to see that their rights are vindicated. In my own particular district I can cite the case of a Minor man who advertises his shop as "The —— Pharmacy." I bear this brother chemist no spite; on the contrary, I am on friendly terms with him. Yet I think he oversteps his legitimate privileges in making use of this title for his place of business. If Minor men will not take the requisite pains and trouble to pass the Major Examination, they should at least respect those who have "spent their brains" in achieving their diploma, and not usurp their legitimate rights. Surely the time has now arrived when these distinctions should be recognised by chemists and the medical profession, else how can we expect the public to appreciate the value of higher qualification?

February 24, 1904. "Another Pharmacist" (280/4).

Dispensing Query.

What is the order for producing a bright and clear mixture from the following prescription:—

Ferri am. cit.	gr. iii.
Liq. bis. et am. cit.	♏x.
Tr. gent. co.	♏v.
Sodii bicarb.	gr. vi.
Syr. simp.	♏xx.
Mag. sulph.	gr. vi.
Aq. menth. pip. ad	℥ss.

M. Ft. mist. Mitte ℥vi.

Minus the magnesium sulphate all is well, but so far I have failed to produce a clear, bright mixture including this ingredient.

"X. Y. Z." (107/19).

The Dispensing of Compound Powders.

My attention was to-day drawn to the fact that before dispensing Pulv. Doveri and other compound powders the ingredients of which are of different specific gravities, it is important that the bottle should be shaken, as the want of this knowledge might have led to a very serious accident in my own shop only a few weeks ago.

February 19, 1904. "Dispenser" (277/35).

MARRIAGE.

Davenport—Shelton.—On February 10, at St. Mary's Church, Laisterdyke, Bradford, by the Rev. J. W. Dunne, M.A., Vicar, Richard C. Davenport, to Sarah Jane, eldest daughter of Abel Shelton, Thornbury, Bradford.

DEATHS.

Edmonds.—On February 19, William Clarke Edmonds, Chemist and Druggist, Rawmarsh. Aged 74. Mr. Edmonds, who was a member of the Pharmaceutical Society, had been unwell for some time, but death occurred unexpectedly, and he was found dead in bed.

Kirkham.—On February 22, of heart failure, Thomas Kirkham, Pharmaceutical Chemist, Bury St. Edmunds. Aged 86. Mr. Kirkham was the oldest tradesman in Bury St. Edmunds, having started business as a chemist in 1847, and in the same year he became a member of the Pharmaceutical Society, and continued his membership till the time of his death.

Preston.—On February 19, at his residence, Carson House, Finchley, Joseph Thomas Preston, Chemist and Druggist, formerly of 81, Bishopsgate Street Without, E.C. Aged 85. Mr. Preston was one of the early members of the Pharmaceutical Society, having joined the Society in 1842, the year after its formation, and he continued his connection with the Society for many years. He was for a long time one of the partners in the firm of Hodgkinson, Prestons and King, manufacturing and wholesale chemists of Bishopsgate Street Without, retiring from active partnership some eight years ago. Mr. Preston was the father of the present senior partner of the firm, Mr. Joseph Classon Preston.

Prince.—On February 17, Arthur George Prince, Chemist and Druggist, Longton, Staffs. Aged 66. Mr. Prince, who was a native of Cotton, near Alton, carried on a successful chemist's business in Market Street, Longton, for many years, retiring some eight years ago, and since then the business has been conducted by his nephew, Mr. Roland Prince, pharmaceutical chemist. Mr. Prince was closely associated with the public life of the district, and was for twenty-five years a member of the Longton Town Council, being elected to the aldermanic bench in 1880, and the following year he became mayor of the borough. He was also a member of the County Council and of the Board of Guardians, and was prominently connected with educational work, as well as the work of the various sick and benevolent institutions of the town and district. Alderman Prince was a Justice of the Peace, a churchwarden, and held high rank in Freemasonry.

Turner.—On February 21, Edward Turner, Chemist and Druggist, Newcastle-under-Lyme. Aged 80. Mr. Turner carried on business up to his death, having maintained the oldest business in the town in which he lived all his life. He was known to practically everybody in Newcastle, and was universally respected. Although often asked to contest an election for a seat on the Town Council he declined the honour, and was equally steadfast in his determination not to qualify as a Justice of the Peace, neither would he accept the position of Mayor of the borough which desired to do him honour on more than one occasion. He did, however, render active service on the Board of Guardians; was a co-opted Governor of the Newcastle Endowed Schools, a Trustee of the Newcastle United Charities, and of the Newcastle Marsh Lands, and a member of the Free Library Committee. He had been a member of the Sutherland Lodge of Unity of Freemasons in the Staffordshire Province, and was presented with an illuminated tablet by the members of the lodge on completing fifty years of membership, a trophy which he allowed to remain to adorn the lodge room; he, however, never accepted any office in the lodge. The clock over the Municipal Buildings was his gift to celebrate the Jubilee of Queen Victoria. He also presented the clock which illumines the Parish Church tower at night and is a conspicuous object by day. The chimes were also repaired at his expense, and the bells of the tower rehung. Subsequently he reseated the Church and likewise presented the pulpit and reading desk now in use. He also gave £500 towards the restoration of the parish church, and presented a memorial stained glass window.

REPLIES TO CORRESPONDENTS.

Information required by readers will be published in this column as early as possible, but the Editor cannot undertake to reply by post, even though stamped addressed envelopes accompany the queries. Replies will, in all cases, be referred to the sender's initials, and the registered number added in each instance should be quoted in any subsequent communication on the same subject. When formulæ are given without definite weights and measures, it should be understood that the solids are to be weighed and liquids measured. Plants for recognition should be addressed to the "Curator, 17, Bloomsbury Square, London, W.C.," accompanied by a stamped, directed envelope for reply. No notice can be taken of anonymous communications.

Health Salt (R. J. G.—107/14).—You should dry all the salts thoroughly before mixing.

Powder (H. G. M.—107/18).—We cannot undertake analyses. Why not analyse the powder yourself?

Deposit in Mixture (D. C.—107/10).—Probably magnesium sulphate, thrown out of solution by the spirit present.

Deodorising Fats (F. C.—107/13).—Refer to Alder Wright's 'Oils, Fats, Waxes, etc.,' for details of suitable processes.

List of Names (C. E.—107/11).—You will find what you require in Kelly's 'Directory of Chemists and Druggists.'

Medical Dispensing (A. E.—278/16).—Thanks for your communication. We do not, however, see our way to resuscitate the controversy.

Sal Soda (W. R.—107/6).—Soda ash may be intended, but it would be as well if you were to procure a specimen and ascertain definitely what it is.

Naval Dispenserships (J. W. L.—107/24).—You will find full information on the subject in the 'Calendar of the Pharmaceutical Society' for this year.

Oils for Massage (F. D.—107/15).—Try the ordinary white oils, prepared with acetic acid, oil of turpentine, and eggs. You will find numerous formulæ in the 'P.J.F.'

Canada (J. T.).—We cannot reply to any communications which are not authenticated with the name and address of the sender. See the notice at the head of this column.

Recipes (H. S.—276/29).—You ought to find recipes similar to any of yours in the 'P.J.F.' At present we see no reason why any supplement to the book should be required.

Mixture (E. B. V.—107/19).—You will find it difficult to avoid the formation of magnesium carbonate, though the presence of a chloride sometimes prevents precipitation.

Mist. Vin. Antimonialis, etc. (F. B.—107/17).—(1) Magnesium sulphate, 20 grains; antimonial wine, 10 minims; infusion of roses, ½ ounce; (2) Tragacanth, 5 parts; glycerin, 2; water, 93.

Hair Lotion (F. C. L.—107/12).—It probably consists of almond or olive oil, tincture of cantharides, and oil of rosemary. You will find numerous formulæ for similar preparations in the 'P.J.F.'

Xylol Balsam (D. M.—107/16).—Heat Canada balsam on a water-bath until it sets hard on cooling, and dissolve four parts of the brittle resin in five parts of xylol, which may be obtained through any wholesale house.

Anonymous Communications (279/41).—A letter, dated the 22nd inst., and signed "Constant Reader," has been received. Correspondents must understand that the names and addresses of the writers must accompany all communications.

Pocket Electric Light (J. E. F.—107/20).—When the button is pressed contact is effected and the electric current passes through the filament in the lamp. We must refer you to some standard work on electricity for a detailed explanation.

Chloral Mixture (W. R. F.—107/23).—The separation of chloral (not butyl-chloral) alcoholate depends on the proportion of the alcohol in the mixture. You might make a few experiments. There is no "dose" of chloral alcoholate, as it is not a recognised medicine. The danger of such a mixture lies in the separation into two layers, which makes it possible to take all the chloral compound at once instead of a portion of it. Chloral hydrate is decomposed by alkalies, forming chloroform and a formate of the base.

Emulsion-making Machine (A. R.—107/1).—One of the best for your purpose is the Whitall Tatum Co.'s Phœnix Emulsifier, which was exhibited by Messrs. Parke, Davis and Co. at a recent meeting of the Pharmaceutical Society. It is made in two sizes (2½ and 7 gallons capacity). The emulsifier consists of a detachable porcelain tank, which fits into a japanned iron frame. The mixer is made of galvanised iron, and can be readily adjusted or removed. The tank, which is fitted with a tin lid, can easily be removed from the frame, facilitating emptying and cleaning. The prices of the emulsifier are respectively 42s. and 77s. each net.

Correction.

Editorial.—At page 215 of last week's issue, column 2, line 24, *for* "butyl-chloral" *read* "chloral."

Calendar for the Week (Feb. 28—March 5, 1904).

Days of		Events of the Week.	Sun	
M	W		Rises	Sets
28	S	**Second Sunday in Lent.**	6.52	5.34
29	M		6.50	5.36
1	Tu	Wakefield and District Chemists' Association, White Horse Hotel, at 8.15 p.m.—Ordinary Meeting.	6.48	5.38
2	W	○Full Moon, 2.48 a.m.	6.46	5.39
		Pharm. Soc. G.B., 17, Bloomsbury Square London, at 11 a.m.—Meeting of Council.		
		Pharm. Soc. of Ireland, 67, Lower Mount Street, Dublin, at 3 p.m.—Meeting of Council.		
		Stockport Chemists' Association, Albert Hall, at 9 p.m.—Ordinary Meeting.		
3	Th	Brighton Association of Pharmacy, Old Ship Hotel, at 8 p.m.—"The Pharmacy Bill." By Michael Carteighe.	6.44	5.40
		Chemical Society, Burlington House, London, at 8 p.m.—Ordinary Meeting.		
		Chemists' Assistants' Association, 73, Newman Street, London, at 8.30 p.m.—"Birds' Nests and Flowers—How to Colour Lantern Slides." By W. G. Vincent.		
		Great Yarmouth Pharmaceutical Association, 156, King Street, at 8 p.m.—Ordinary Meeting.		
		Linnean Society, Burlington House, London, at 8 p.m.—Ordinary Meeting.		
		North-East Lancashire Chemists' Association, Blackburn.—Annual Dinner.		
4	F	Blackpool and Fylde Chemists' Association, Palatine Hotel, at 9 p.m. Ordinary Meeting.	6.42	5.42
5	S	Football.—Metros. *v.* Polytechnic C.	6.40	5.44

LETTERS, NEWSPAPERS, QUERIES, and other COMMUNICATIONS have been received from Messrs. Allen, Baker, Barnard, Barrie, Barritt, Barron, Baynes, Betty, Bird, Birkbeck, Birnie, Blamey, Boorne, Bosustow, Bott, Broad, Campbell, Campkin, Cleland, Cockburn, Cowie, Cowley, Creasey, Crombie, Crow, Davenport, Dobbs, Dodd, Doe, Druce, Dunn, Elstob, Eking, Evans, Freeman, Gerrard, Gibson, Gifford, Gilmour, Goldby, Goudie, Harvey, Hedges, Hill, Hunter, Ince, Jennings, Jones, Kirkby, Lance, Lawson, Lewis, Lloyd, Long, Lucas, Mackinlay, Maddison, Marchant, Mason, Morgan, Munday, Nelson, Orton, Palmer, Parker, Pellew, Prior, Prosser, Quant, Robinson, Rose, Russell, Sampson, Sandy, Sankey, Sargeant, Sharpe, Sinclair, Skinner, Snow, Storey, Strode, Trick, Tunbridge, Vizer, Welbank, Widgery, Wigginton, Will, Wilson, Wood, Young.

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The Pharmaceutical Journal Office.

Thursday, March 3, 1904.

The Pharmacy Acts Amendment Bill was introduced into the House of Commons by Mr. Thomas Lough, on Monday last and read a first time.

Mr. A. S. Campkin, J.P. of Cambridge, has been co-opted on the Council of the Pharmaceutical Society, in the place of the late Mr. John Taylor.

Dr. Dobbin's Preliminary Report, respecting melting point determinations, is published this week by request of the Pharmacopœia Committee of the General Medical Council.

Two Sheffield Grocers have been fined for selling spirit of nitrous ether deficient in ethyl nitrite. One defendant contended that the liquid deteriorated in the act of pouring out.

For Selling Lime Water deficient in lime a drug company has been fined 10s with 16s. 6d. costs by the Jarrow magistrates. There was no qualified chemist on the premises, but the assistant said there was one at Shields!

A Verdict of Death by Misadventure has been returned by the jury which inquired into the death of the four lunatics of Portsmouth Asylum. The jury expressed the opinion that in future the dispensing should be performed by a fully qualified person.

The 'Pharmaceutical Journal Formulary' is the subject of numerous communications (see p. 353) selected from the thousands received from appreciative subscribers. Copies are now selling freely at the advanced price, and the book will probably soon be out of print.

Cream of Tartar Containing Arsenic to the extent of one-tenth of a grain per pound has been sold by three grocers, who have each been fined 40s. by the Loughborough magistrates. Similarly, for selling cream of tartar containing lead in the proportion of three-quarters of a grain per pound, a Leicester grocer has been fined £2 with costs.

The Last Evening Meeting of the Session will be held in the Pharmaceutical Society's House, 17, Bloomsbury Square, London, on Tuesday next—when two papers will be read—one by Mr. Horace Finnemore, on "Some False Virginian Prune Barks," the other by Miss Hooper, on "A Supposed Beilschmiedea Bark."

At Wednesday's Meeting of the Council a motion was brought forward by Mr. R. Lord Gifford, recommending the Council to appoint an organising secretary, whose duties should be to assist divisional secretaries, and generally to make effective the Council's system of local organisation. The matter was referred to the General Purposes Committee for consideration.

A Motion Brought Forward at Wednesday's Council Meeting by Dr. Symes was referred to the General Purposes Committee, with a view to obtaining for pharmacists a legal standing on future Pharmacopœia Committees. Dr. Symes proposed that the Council should approach the promoters of the draft Medical Acts Amendment Bill promoted by the British Medical Association.

Several Questions have been asked in Parliament which are of direct interest to pharmacists. A question by Sir Thomas Dewar relates to the sale of poisons, and one by Mr. O'Malley asks the First Lord of the Treasury whether he will consider the advisability of adopting for Great Britain a measure similar to an ordinance affecting the practice of pharmacy lately promulgated for the Orange River Colony.

Three Analysts Had Three Distinct Opinions about a sample of olive oil, which formed the basis of a prosecution under the Sale of Food and Drugs Act. The certificate of one of the analysts of the Westminster City Council set out that the adulteration amounted to 33 per cent. of arachis nut oil. The Government analysis showed 13 per cent. of the foreign oil, and Mr. Otto Hehner said the sample was perfectly genuine and of good quality. The case was dismissed.

The Fortnightly Drug Auctions were held to-day, and the result will be found in the market article. Privately the drug and chemical market remains rather quiet, and fluctuations have not been so numerous this week.

THE SALE OF MEDICINES UNSTAMPED.

In last week's issue of the Journal, chemists and druggists were cautioned against deciding, without due consideration, to give such references upon labels for compounded medicines as would enable anyone to identify the formulæ for those medicines absolutely. The reason for giving that warning was that many qualified persons, who are affected by the Board of Inland Revenue's change in practice, appear disposed to assume that all their troubles in connection with the medicine stamp difficulty will be ended when they have made a full disclosure of the composition of the popular remedies they sell. But chemists must not lose sight of the fact that the disclosure made when complete references are given to some well-known and recognised book, as required by the Board of Inland Revenue, will be tantamount to making the recipes the common property of all the world. And even though none but duly qualified chemists and druggists should be permitted to sell the preparations with ailment-names or with recommendations, unless they bear the requisite duty stamps, it is quite conceivable that the original maker's margin of profit in any particular case may be sufficient to enable limited companies or unqualified persons to pay the Government duty and yet supply the public, at a profit, with an identical article at a lower price. The possible effect of such competition on the chemist's business need not be enlarged upon here, as it should be only too obvious to anyone concerned. But it justifies the attention of readers being again directed to the fact that a sufficient disclosure may be made, without absolutely identifying the formula, by stating upon the label for a given preparation

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the names of all the active medicinal ingredients. Such a course of procedure will enable the seller to use an ailment-name, or to recommend the preparation as a remedial agent, and thus possesses some advantage over the substitution of a non-dutiable title, such as "Bronchial Mixture" for one like "Cough Mixture," which is now held to incur liability. But a change of title, as suggested, may enable the chemist to avoid both liability to duty and disclosure of the composition of the popular remedies he sells.

The fact that the Board of Inland Revenue is understood to have agreed to extend the chemists' privilege under the Medicine Stamp Duty Acts to certain individuals who are not legally entitled to style themselves chemists and druggists only serves to emphasise the need for caution in divulging business secrets. It would be unwise to attach too much importance to the Board's announcement that the special exemption in favour of "known, admitted, and approved" remedies could properly be allowed in favour of persons carrying on drug-stores on their own account, provided they have served regular apprenticeships to chemists and druggists, and have since been engaged as assistants to chemists and druggists, or in business on their own account. At the same time, the Board's decision to recognise an unqualified proprietor of a drug-store as a "duly qualified person," because he has served a regular apprenticeship to a chemist and druggist, is not one which can be justified, even though registration under the Pharmacy Acts was not a pre-requisite of the use of the titles in the reign of George III. A deputation from the Council of the Pharmaceutical Society is to interview the Board on the subject. Meanwhile it must be borne in mind that it is incorrect to assume that the judgment in the case of Farmer *v.* Glyn-Jones clearly established the principle that the respondent, as a registered chemist and druggist, came within the special exemption, since that case was decided upon the assumption that the respondent had served a regular apprenticeship, the fact having been admitted by the Inland Revenue authorities and mentioned in the statement of the case prepared by the magistrate, Mr. Dickinson, for the High Court judges. Obviously, therefore, it was not incumbent upon the Board of Inland Revenue to consider that the same principle which applies to one chemist and druggist will apply to all on the Register.

Another important point, which should not be lost sight of, is that the drug-store keepers in question may not sell any medicinal compound containing a scheduled poison, while, if they attempt to overcome that difficulty by transferring their drug stores to limited companies, the judgment in the case of Smith *v.* Mason will then prevent them from taking advantage of the special exemption, the benefits of which have now been extended to them in what may prove to be only a provisional manner. This question of the presence of poisons in medicines is also an important one for chemists and druggists to consider, as suggested by Dr. Hawthorne in last week's issue of the Journal. So long as the composition of cough mixtures, etc., sold by chemists and druggists was known only to the makers, it rested with them to decide whether to indicate upon the labels that the medicine contained poisonous ingredients. But the full disclosure now required by the Board of Inland Revenue leaves the sellers no option in the matter—they must either indicate upon the labels that poison is present, or lay themselves open to prosecution by the Pharmaceutical Society or the police, in accordance with the provisions of Section 17 of the Pharmacy Act, 1868. The attention of chemists and druggists is directed especially to this point, because it is essential, in the public interest, that the provisions of the Pharmacy Act should receive strict attention in all cases where they apply.

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A LESSON FOR THE MOTHER COUNTRY.

It's a wise father who is willing to learn from his own child. It would be a wise Great Britain which would be willing to learn from the pharmaceutical legislation of one of its youngest colonies. The Orange River Colony, as readers of the *Pharmaceutical Journal* are aware, has for some time had under consideration an ordinance to provide for the registration of medical practitioners, dentists, chemists and druggists, midwives and nurses. That Ordinance was read a third time on January 15, and having received the assent of His Excellency the Governor, has now been promulgated in the *Government Gazette* of the Colony. The Ordinance provides for the establishment of a Medical and Pharmacy Council of the Orange River Colony, to consist of seven medical men, one dentist, and three chemists and druggists. Two of the latter are to be nominated by the Lieutenant-Governor, and the third is to be elected by the chemists and druggists of the Colony. The chemists' representatives are not to vote on any matter unless the Council shall decide that pharmaceutical interests are affected. The Council may, with the approval of the Lieutenant-Governor, prescribe "the course of study, professional practice, conditions of service, and training and examination of persons desirous of being registered as chemists and druggists," and may amend the regulations which affect the keeping, dispensing, and sale of poisons. The rights of those who have obtained certificates of registration as chemists and druggists prior to the date of the Ordinance are preserved. Another section provides that any person holding the certificate of the Pharmaceutical Society of Great Britain, or of any society in any part of the British Empire recognised by the Council, shall be entitled to registration provided that the curriculum and standard of proficiency required for such certificate be not lower than those prescribed by the regulations of the Council. Apprenticeship of not less than three years in the Colony or "elsewhere" will admit candidates to the qualifying examination.

The two most interesting sections of the Act are those which refer respectively to the use of title and the practice of pharmacy by unqualified persons, and to the sale of poisons by a limited company. Any unregistered "person" who shall use a title implying registration," or "who shall practise as a chemist and druggist," is liable for the first offence to a penalty of £100, and, in default, to imprisonment with or without hard labour for a period not exceeding six months. To provide against "covering," it is enacted that an unregistered person who practises as a chemist must be under the actual personal supervision and control of some duly registered chemist and druggist. Section 25, which regulates the sale and dispensing of poisons by limited companies, is very similar to Clause 7 of the Pharmacy Bill. All the directors of a company which retails or dispenses poisons or medical prescriptions must be registered, and the act of selling or dispensing on the part of a limited company must be performed by, or under the supervision of, a registered person. Sleeping partners or directors who take no real share in the management of a company are exempted from this provision.

Medical men are allowed by the Act to dispense medicines, but not to keep open shops as chemists. Every chemist's shop shall be conducted under the actual and personal supervision of a registered person, whose name must be exhibited on the front of the shop. No appointment as a dispenser in a public institution is to be held except by a qualified chemist and druggist. Medical men, as well as chemists, are required to observe the regulations with regard to the sale of poisons, and a penalty not exceeding twenty pounds, or imprisonment, is provided for carelessness in keeping poisons or for dispensing medicines of bad quality. Certain specified poisons—in a third part of the schedule—may be sold by licensed general dealers, but no such licence shall be granted unless it is proved that there is no chemist's shop within six miles of the place of business of such general dealer. The first two parts of the Schedule of Poisons are practically identical with the Schedule in Great Britain. The third division includes certain "patent" and Dutch medicines, compressed tablets of poisonous substances, and a few other preparations. When poison is sold by an employee in breach of any provision of the Act, the chemist and druggist who employs the offender is to be held responsible.

It will be seen then that the "Medical and Pharmacy Ordinance, 1903," for the Orange River Colony contains several most useful provisions which are, for the time being, denied to the Mother Country. Chief among these are that which forbids limited companies to sell poisons or dispense prescriptions, that which protects the individual's "title," that which makes the poison regulations binding on medical men, and that which enjoins that dispensers in public institutions must be registered chemists and druggists. It will be noted with interest that Mr. W. O'MALLEY, M.P., is directing the attention of the First Lord of the Treasury to the Ordinance and will ask, in the House of Commons on Monday next, if the Government will consider the advisability of adopting a similar measure for Great Britain. A definite official pronouncement on the subject would be very welcome.

THE PHARMACEUTICAL JOURNAL FORMULARY.

THE 'Pharmaceutical Journal Formulary' has now been sent out to all subscribers, and at page 353 *et seq.* will be found a selection from the thousands of appreciative communications received from chemists and druggists who have received copies of the book. The remaining copies of the Formulary are selling freely, and it appears probable that the book will soon be out of print. In reply to several subscribers who have written asking when they may expect to receive their copies of the book, it may be stated that any further delay in delivery must be attributed to the carriers, and that the Editor will be glad to receive prompt notification of non-delivery.

"ENGLISH SPOKEN."

THE attention of visitors to France has recently been called to a very grave danger. Dotted all over the more picturesque quarters of the gay city are numbers of so-called English pharmacies. These are in the districts which form the temporary headquarters of English residents in Paris; for wherever Englishmen flock in France the French shopkeeper is ready to receive them. And the *pharmacien*, although a professional man, at once develops all the instincts of a second-hand furniture dealer as soon as the sons of perfidious Albion congregate in sufficient quantity within his immediate neighbourhood. Englishmen come to Paris to spend money, says the pharmacist, therefore why should I not have a share of it? And straightway he causes to be placed on his window the alluring words "English Spoken." The milliner does it, the barber does it, the *marchand de lorgnettes* does it; why should not the pharmacist? *Je suis, tu es, il est, nous sommes, vous êtes, ils sont,* was the successful defence once pleaded by a French cabby; and by somewhat the same line of reasoning, a certain class of Parisian pharmacist comes to the conclusion that he has a right to dispense English medicines.

The Paris edition of the *New York Herald*—a journal which is read by every English visitor to the French metropolis—has done a service in pointing out to its readers the folly of taking English and American prescriptions to pharmacies which are obviously not adapted to dispense them properly. It is not a question of language, for the French chemist may be able to speak English as she has never been "spoke" before. He may even understand the difference between the systems of weights and measures of the two countries; but these accomplishments are superfluous unless he has a complete stock of English preparations. And it seems hardly credible that a French pharmacist who dispenses at the most half a dozen British prescriptions a week can possibly afford to stock a double range of English and French galenicals. It is too much to expect of him. It would also appear almost beyond belief, but, nevertheless, it is the fact that many French pharmacists are unaware of the fact that the standards laid down by the Codex, and those of the Pharmacopœia, are altogether different. They believe that all that is necessary is to be able to decipher a prescription, convert the quantities into the metric system, and mix. This, of course, is altogether wrong; unless a man has proper material to work with, he is bound to turn out bad products, no matter how capable a workman he may be. This applies to pharmacy as much as to any other calling, and without English material English prescriptions cannot be dispensed. The strengths of the galenicals of the two pharmacopœias are materially different, and there are pitfalls at every step, which beset the French pharmacist dealing with English prescriptions. Only the other day, in the House of Lords, Lord LANSDOWNE told a story of how a friend of his was furnished with a two-gramme calomel pill — more like a horse-ball — instead of one containing two grains of the drug. Then again, the English doctor prescribes liquids by measure, while the French pharmacist weighs everything, and very serious effects might follow as the result of disregarding this fact.

It is not intended to depreciate the capabilities of the *pharmacien*. On the contrary, it is a generally admitted fact that, as a scientific chemist, there are few to compare with him, and as regards knowledge of the Codex and French prescriptions he has no equal. And it is pleasing to know that, as a class, the Parisian pharmacist will not undertake duties he is incapable of carrying out in a proper manner; but there are undoubtedly quite a number who do not realise the danger there is in doing work they know so precious little about. Until an international pharmacopœia is recognised the Englishman travelling abroad will be well advised to take his prescriptions to a reputable English pharmacy; that is to say, to an establishment where English pharmacy is under authentic control and where the dispensing department is stocked with drugs prepared according to the English standard. There are plenty of these in Paris. It goes without saying that many things are likely to happen before this same international pharmacopœia sees the light of day. For nearly forty years a movement has been on foot to fix a universal standard for potent drugs, and although the Conference held in Brussels in 1902 produced very satisfactory results, it will be a long time before a standard is recognised, even for medicinal preparations of a drastic nature. And given that it takes an indefinite period to bring about such a pressing need it requires a prophet rather than a mathematician to say how long it will be before we have a universal standard for all drugs.

THE ROYAL SOCIETY.

The list of candidates recommended by the Council of the Royal Society for election as Fellows comprises several scientists whose names are well known to pharmacists. The list includes Dr. J. J. Dobbie, Director of the Science and Art Museum, Edinburgh, author of papers on the relation between electrical qualities and different kinds of glass, between absorption spectra and the chemical composition of organic compounds, and on various alkaloids; Dr. M. W. Travers, Professor of University College, Bristol, and formerly Assistant Professor to Sir W. Ramsay at University College, London, with whom he was associated in researches at low temperatures and in the discovery of new constituents in the atmosphere, besides independent investigations on similar subjects; Dr. T. G. Brodie, Director of the Laboratories of the Royal College of Physicians and of Surgeons, author of numerous papers on physiological subjects; Dr. G. H. F. Nuttall, Lecturer in Bacteriology and Preventive Medicine in the University of Cambridge, and author of papers on physiology and the action of bacteria; Mr. H. Wager, Inspector of Schools for the Board of Education, South Kensington, author of many papers on the minute structure of various low types of vegetable life, such as bacteria, fungi, and the yeast-plant; Dr. H. Marshall, Lecturer on Chemistry and Mineralogy in the University of Edinburgh, author of numerous papers on the persulphates and their industrial uses, nickel, cobalt, thallium, and other rare earths and metals. The other prospective Fellows, who are mainly famed for work in mathematics, meteorology, zoology, or geology, are Mr. E. Meyrick, Dr. A. Muirhead, Mr. A. E. Shipley, Major S. G. Burrard, Dr. A. C. Dixon, Mr. T. H. Holland, Professor C. J. Joly, Mr. G. T. Walker (a boomerang-thrower of note), and Professor W. W. Watts.

THE NEW COUNCILLOR.

Mr. Algernon Sidney Campkin, J.P., of Cambridge, who was co-opted at Wednesday's meeting of the Council of the Pharmaceutical Society to fill the seat left vacant by the death of Mr. John Taylor, has behind him a distinguished record of public work. Having served his apprenticeship at Royston, Herts, Mr. Campkin in 1868, when only twenty-one years of age, bought a business at Rose Crescent, Cambridge, where he has ever since practised as a chemist and druggist, and, later, took another business at 74, Mill Road, Cambridge. His first appearance in public life was made as a Guardian in 1875. In 1901-2 he was chairman of the Board of Guardians. For some twenty years Mr. Campkin has been a member of the Cambridge Town Council, of which body he has presided over several committees. In 1890 he became a Justice of the Peace, and he has for some years been Visiting Justice to His Majesty's Prison in the Borough. The presidency of the Cambridge Pharmaceutical Association was an honourable position which Mr. Campkin ably filled for three years. He is a Governor of Addenbrooke's Hospital, and a member of the Drug Committee. As an Oddfellow, Mr. Campkin has reached high rank, having been Grand Master of the Manchester Unity in 1891, a honour which came after many years' hard work for the Oddfellows in less important positions. Two of Mr. Campkin's sons have chosen pharmacy as their calling. Mr. Campkin himself has, on several occasions, shown himself desirous of working on behalf of the Pharmaceutical Society, and his experience and splendid record of public work admit of no doubt that his co-optation to the Council of the Pharmaceutical Society brings to that body an able and zealous member of the craft.

AN ABSURD INSINUATION.

In the Journal of November 28 last, a synopsis of the Medicine Stamp Duty Acts was published for the purpose of providing chemists and druggists with a comprehensive summary of the legal requirements in regard to the payment of stamp duties on medicines. The special article in question was concluded with a tabular statement showing at a glance what are the grounds of liability to Medicine Stamp Duty, and what articles are not dutiable. That tabular statement, in a slightly modified form, was reprinted in last week's Journal, and now, exactly three months after the original publication of the matter, the editor of the *Chemist and Druggist* writes to say that the compiler of the statement must have had before him, and adapted, the matter on a printed slip alleged to have been "issued" by our contemporary early in November. Proof of that charge is not forthcoming, and cannot be furnished. Moreover, apart from the fact that comparison of the two tabular statements reveals a certain general resemblance in arrangement, which could hardly have been avoided in the treatment of the subject under consideration, we fail to see any justification for this much-belated complaint, unless it be that exception is taken to questions of trade interest being dealt with in the official organ.

ABSTRACTS—SCIENTIFIC AND TECHNICAL

A REVIEW OF CURRENT WORK IN PHARMACOPEDICS AND ALLIED SCIENCES

Action of X-Rays on Animal Tissues.

R. Lépine and Boulerd find that exposure of fresh pancreatic tissue to the action of X-rays increases markedly the formation of amylase—in one case as much as 25 per cent., and in the mean of five experiments 12 per cent. In the liver and the blood, at first, both glycogenesis and glycolysis are increased; but a longer exposure diminishes and even stops both processes. If exposed for less than an hour, liver pulp contained less glycogen and more sugar than a control pulp not exposed to the rays; but the sum of glycogen and sugar is less in the exposed rays. If the exposure be continued for more than an hour, both more sugar and more glycogen are found in the exposed pulp.—*Comp. rend.*, **138**, 65.

Gelatin Capsules.

The following basis is stated to be that which will be official in the new Codex:—Gelatin, 1 part, is macerated in water for twelve hours, and then drained. Mix glycerin, 2, with water, 1, and add the mixture to the soft gelatin. Dissolve on the water bath, and evaporate to a suitable consistence. Fix the moulds, which are made of polished steel and terminated by an oval bulb, in a circle in a piece of flat wood; wipe them over slightly with a little liquid vaseline, and immerse them in the gelatin bath. Withdraw, and rotate the moulds so as to distribute the melted gelatin evenly over the surface. When the gelatin has set, stand them in a cool place. After a time, withdraw the gelatin coating from the moulds, cut off the pedicels near the end of the capsule. Place the empty capsules in a suitable wooden rack, which is pierced with holes to receive them, the orifice being placed uppermost. They may then be filled with the prescribed medicament by means of a sharp-pointed glass syringe, the tip of which has been filed off. They are then sealed by placing a drop of the melted gelatin basis on the orifice.—*Journ. Pharm. d'Anvers*, **59**, 223.

Echinacea Angustifolia.

J. U. Lloyd, in a *résumé* of the medical history of *Echinacea angustifolia*, states that he has been converted from a sceptical opinion of its value to a firm conviction that it will prove to be a drug of service as a blood purifier. He adduces a case of cancer in which a preparation of *Echinacea* gave more relief as a palliative than any other drug. Since the capitula of *E. angustifolia* closely resemble those of *E. purpureum*, the root of the latter is often gathered as the true drug, although it has no medicinal value. Large amounts of *Eryngium aquaticum* root are also sold as *Echinacea angustifolia* root. The true root is of a brownish red colour, much wrinkled longitudinally, the folds of the shrunken epidermis often twisting about spirally. A transverse section shows the medullary rays to be separated from each other by a greenish pulp; when the dried root is broken the fracture has the appearance of being affected with dry-rot. When the root is chewed the sweetish taste at first apparent becomes persistently acrid and tingling, reminding of aconite; but it acts as a sialogogue, instead of causing dryness of the tongue. Insipid, tasteless roots are worthless. The root contains a minute quantity of a colourless base, which, however, is not the active principle. It also contains much inert colouring matter and sugar. The active constituent is a colourless body, probably a mixture, with an acid reaction and an intensely acrid persistent taste. It occurs to the extent of less than 0·5 per cent. in the root.—*Amer. Journ. Pharm.*, **76**, 18.

Different Character of Physiological Radiations.

A further step has been made in the research on the nature of the physiological rays by A. Charpentier. They are now found not to be precisely identical with Blondlot's N-rays, and, further, to differ among themselves, those emitted by muscular tissue possessing characters which differentiate them distinctly from the emanations of the nerves. Physiological rays of all kinds appear to contain a large proportion of N-rays, but there are other rays present which are not cut off by a lead screen or by a layer of water. The rays given off by nervous matter are now found to be interceptible by a thin sheet of aluminium, so that their activity is markedly modified by the interposition foil if that metal is placed between them and the fluorescent surface. The rays emitted by the heart, muscles, and diaphragm are, however, affected in no appreciable manner by the aluminium screen. Muscular tissue, also, shows but slight increase in radiant activity on compression, while the radiant energy of nervous matter is increased very greatly. There is a difference also in the temperature at which the maximum phosphorescent effect is produced on the sulphide screen by the rays of muscles and of nerves, the latter showing an increased energy at 40°-45° C.—*Comp. rend.*, **138**, 45.

Influence of Atmospheric Conditions on Geranium Oil Secretion.

P. Jeancard and C. Satie have compared the physical and chemical characters of essential oil of geranium produced under their supervision in the Cannes district, from representative specimens of the crops of the years 1901, 1902, and 1903. From the data thus obtained they conclude that a succession of cold nights, such as occurred in 1903, diminishes the proportion of alcohols in the oil of *Geranium odoratissimum*, without, however, giving rise to a greater formation of esters, as was observed to be the case, under similar conditions, with neroli and petitgrain oils. The lower temperature, also, brought about a lower percentage yield of oil. Of the two alcohols, geraniol and citronellol, the amount of geraniol remained fairly constant, while the citronellol increased with the greater yield of oil. The physical constants showed but slight variation during the three years, and the amount of esters was not found to vary greatly. The difference in total alcohols showed no very great divergence, except in a few isolated instances where distillation was performed with plants which had been exposed to a succession of cold nights. Comparing these results with those obtained with distillations of neroli and petitgrain oils, it would appear that a period of low temperature invariably gives oils of low free alcohol content. In 1901 the specific gravity varied from 0·8980 to 0·8990; in 1902 it was constant at 0·8976; in 1903, from 0·8958 to 0·8968. The solubility of the 1903 product was slightly less in alcohol 65 and 70 per cent. than that of the two preceding years. The free acid number diminished slightly from 1901 to 1903, and in the latter year decreased as the harvest progressed. In 1901 the acid value ranged from 2·5 to 3·5; in 1902 it was 2·8; in 1903 at first 2·8, finally 1·4. The ester number in 1901 was from 52·5 to 53·9; in 1902, 52·5 to 56·7; in 1903, 46·9 to 53·9. The saponification number, after acetylation, ranged in 1901 from 221·5 to 225·4; in 1902, from 222·6 to 226·1; in 1903, from 203·0 to 227·5. The lowest figure in last year was abnormal, and was obtained with oil from plants exposed to cold nights. The free alcohols in 1901 ranged from 59·92 to 60·19 per cent.; in 1902, from 59·53 to 60·38; in 1903, from 57·9 to 63·34. The combined alcohols in 1901 were 13·48 to 14·12 per cent.; in 1902, 13·66 to 14·82; in 1903, 12·30 to 14·95.—*Bull. Soc. Chim.*, **31**, 43.

PRELIMINARY REPORT RESPECTING MELTING-POINT DETERMINATIONS.*

BY LEONARD DOBBIN, PH.D.

The melting-point being one of the important physical constants of a large number of pure solid substances, the compilers of the various pharmacopœias have been careful to include the melting-points amongst the characteristics of a number of definite organic compounds which are solid at ordinary temperatures and melt, without decomposition, when heated to a sufficiently high temperature.

The general method by which melting-point determinations are carried out is familiar to everyone who has worked at practical organic chemistry in a modern laboratory, but the details of the procedure in heating the substance, and of the mode of noting the moment of liquefaction, as employed in the different laboratories or described in the different text-books, present a number of variations. Some observers who have critically examined the various modifications of the general method have found that there are slight differences in the ascertained melting-point of the same substance, depending upon the particular procedure which has been adopted in applying the method. The conclusion to be drawn from these results is that it is practically impossible to ascertain with certainty what is the true melting-point of a substance by the aid of any modification of this general method.

A method of melting-point determination which is now employed in some cases, and which, as nearly as possible, appears to constitute a theoretically satisfactory mode, consists in introducing a tube containing some 15 to 20 Gm. of the substance to be experimented upon into a thermostat, which has been heated previously to a temperature 1° or 2° above the melting-point of the substance (as already approximately ascertained by means of a preliminary experiment on a small quantity), and which is maintained at that temperature during the experiment. The substance is stirred throughout the whole period occupied by its liquefaction by means of a thermometer, on which the temperature is read at frequent intervals. So long as there is present in the tube an intimate mixture of the substance in the liquid state with a quantity of the unmelted solid, the temperature, as indicated by the thermometer, is found to remain constant; and this temperature, which frequently remains constant for a period of several minutes' duration, may be regarded as the true melting-point of the substance, just as the temperature of an intimate mixture of ice and water which is kept constantly stirred is the true melting-point of ice. As a considerable quantity of the substance is necessary, however, in order to carry out this method satisfactorily, it cannot be regarded as suitable for general use.

While it is thus impracticable in the case of many substances to ascertain the exact melting-points without employing quantities of the substances, which would be wholly out of the question, it is obviously desirable to secure the highest possible degree of uniformity in the method employed in fixing the official melting-points of those substances for which the British Pharmacopœia requires a definite melting-point, and in determining the melting-points of commercial specimens of the substances themselves. At the same time, it is important that the apparatus and the manipulation should be as simple as possible.

With regard to the official instructions for the determination of melting-points (as contained in the second paragraph on page 436 of the British Pharmacopœia, 1898), while the description of the manipulation may be looked upon as satisfactory, there is justification for the criticism that the due preparation of the substance to be operated upon, by thoroughly drying it prior to testing it, should be described in these instructions. The preliminary operations described in the Pharmacopœia, of first melting the undried substance and then cooling it again until it solidifies, followed by remelting the substance and recording as the melting-point the temperature at which liquefaction occurs for the second time, do not in any satisfactory manner take the place of thoroughly drying the substance in the first instance.

Further, the official instructions respecting the application of a correction to the observed melting-point on account of the fact that the whole mercury column in the stem of the thermometer does not possess the same temperature as the mercury in the bulb, appear to indicate a straining after a high degree of precision, which neither the requirements of the case nor the other known deficiences of the method altogether warrant. Omitting any reference to this correction, it might probably suffice, for all practical purposes, to require that the Centigrade thermometer to be employed for the determination of melting-points shall be of a certain specified length between the points marked 0° and 300° respectively; that it shall be immersed to a specified depth in the hot liquid when a melting-point determination is being made; and that, prior to its being used, it shall have been compared with a standard thermometer and provided with a table of corrections.

The official method should, of course, be employed in determining the official melting-points.

MUSEUM NOTES.

Mexican Scammony Root.

BY E. M. HOLMES, F.L.S.

Curator of the Museums of the Pharmaceutical Society.

Under this name specimens of a root were sent a few weeks ago to the Museum for identification. These proved to be undoubtedly the root of *Ipomœa orizabensis*, described in 'Pharmacographia' as light, fusiform, or woody jalap (male jalap), orizaba root, and jalap tops or stalks, the Mexican name being *Purgo macho*. The root seems to rarely occur in the English market, since I have not met with it during the last thirty years. The appearance of the root is very characteristic and quite different from that of scammony root. It occurs mostly in transverse slices, showing concentric rings, from which coarse fibres protrude on both of the transverse surfaces. The sections are mostly those of the larger portion of the root, and vary from 2 to 3 in. or more in diameter, but are only about ½ in. to ¾ in. in thickness. The smaller roots are about 1 in. or so in diameter, but are frequently 3 or 4 in. long; a few pieces are obliquely cut. The concentric arrangement of the vascular bundles at once distinguishes it from the root of *Convolvulus scammonia*, in which they are scattered and somewhat rounded, forming islands as it were in the softer tissue. The specimen sent to the Museum had been received from Hamburg with the following information, which was kindly forwarded by Messrs. J. Richardson and Co., of Leicester, who have since presented a large specimen to the Museum of the Society, together with a sample of the resin extracted from it:—"The sample we send is scammony root. It is a new production from Mexico, and German makers have bought large lots of this kind, and have entirely given up using the Levant root, since the Mexican root contains a higher percentage of resin, usually 15·5, against 8·9 per cent. in the Levant root. During 1903 there was an importation of over 3,000 bags, which readily sold to the makers. It is the root of *Ipomœa orizabensis*. The analyses made in 1903 were between 6·4 and 22·2 per cent. of resin, but only three of the analysed lots had a percentage of 6·4, 6·6, and 7·3 per cent. All the other lots had about 17 per cent. of resin." Apparently the percentage is variable, since Messrs. J. Richardson and Co. found only between 8 and 9 per cent. of resin in their laboratory, and their manager is of opinion that the large percentage mentioned by the German importer must refer to the total yield of matter soluble in spirit before the part of it soluble in water has been removed. The statement in 'Pharmacographia' is 11·6 per cent. of resin, dried at 100° C. These statements being somewhat conflicting, it seemed to be desirable that a further examination of the root should be made. This was kindly undertaken by Mr. Harold Deane, whose report is given below. It may be mentioned that a full description of the chemical properties of the resin is given in 'Pharmacographia,' second edition, p. 447. It is interesting to note that for some months past scammony resin of German manufacture has been offered at a price at which it could not be manufactured in this country from the genuine root. It may, indeed, be taken as an axiom that any unaccountable fall in the price of any drug necessitates a certain amount of caution in buying, and careful investigation of the reason of the low price. Chemically, there appears to be no difference between the resin of scammony and the resin of *Ipomœa orizabensis*, but it still remains to be ascertained if they are identical in their physiological action.

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* Prepared for the Pharmacopœia Committee of the General Medical Council, and sent for publication by request of that Committee.

A FALSE SCAMMONY ROOT.

BY HAROLD DEANE, B.SC. (LOND.).

The root of *Ipomœa orizabensis* (Ledan.), known as "woody jalap" or "male jalap," has recently been placed on the market in considerable quantity, and it is stated to have largely displaced scammony root in Germany as the source of commercial "scammony" resin. Thirty years ago, when it was last on the market in quantity, Flückiger and Hanbury ('Pharmacographia,' p. 447) found that it yielded 11·8 per cent. of resin; recently Weigel (*Pharm. Centralhalle*, xliv., 793) has found 17 to 18 per cent., but, judging from private statements, it has given much lower figures in the hands of manufacturers. A sample of a consignment imported into Hamburg as "Mexican scammony root" has been recently presented to the Society's Museum, and, at the request of Mr. Holmes, I have determined the amount of resin in this specimen.

The drug was powdered, exhausted by percolation with alcohol (90 per cent.), the greater part of the alcohol distilled off, and the resulting strong tincture poured into three times its volume of water. The resin separated as a mass of honey-like consistence. It was well washed with boiling water until the washings were free from sugar and from colour, and then dried on a water-bath until the weight was constant. The yield of resin amounted to 18·5 Gm. from 100 Gm. of the powdered drug; this is the highest percentage yet recorded from this source. The dried resin was pale brown, and almost entirely soluble in ether, the insoluble portion from 18·5 Gm. weighing less than 0·25 Gm. It had the general characters of scammony resin. Poleck (*Zeitschr. d. allg. Oesterr. Ap. Ver.*, 1892, 451) has shown that the purified resin, which he terms jalapin, and others orizabin, is identical with that obtained from scammony root. As scammony root yields only 5 or 6 per cent. of resin, the preference of manufacturers for the root of *Ipomœa orizabensis* is readily explained.

The powdered drug, dried at 100°, yielded 9·89 per cent. of ash.

THE STUDENTS' COLUMNS.

MATERIA MEDICA (5).

Senna Leaves.

Two varieties of senna leaves are official—viz., East Indian (or Tinnivelly) and Alexandrian. Examine the Tinnivelly leaves first. Observe the size, the lanceolate shape, and the inequality near the base. Examine both surfaces carefully with a lens and note the short, scattered hairs (pubescence), as well as the rather distinct veins on the under surface. The leaves are remarkably flat, the result of their being pressed into firm bales by hydraulic pressure, indications of which are often visible. The taste is sickly and the odour faint and herby.

Alexandrian senna leaves should now be compared with the Indian. They are usually smaller, more distinctly asymmetrical, and bear more numerous hairs; the colour is bluish green rather than greyish green. They are usually exported in bales, but are not subjected to strong pressure; hence they are not quite so flat as the Indian.

Both these drugs are yielded by small shrubby plants belonging to the natural order Leguminosæ—the Indian by *Cassia angustifolia*, the Alexandrian by *C. acutifolia*. The former is a native of Southern Arabia, but is cultivated in various parts of India, particularly in the south-east, whence our supplies are derived; the latter grows wild in the Upper Nile territory. Here the leaves are gathered by the Arabs and sent down the Nile to Cairo, or are brought to Suakin or one of the Red Sea ports. They are freed from impurities, such as foreign leaves, stalks, fruits, etc., by picking, and sorted into grades before they are exported. Both varieties are remarkably free from admixture.

Although the drug is commonly called senna "leaves," the term is not strictly correct. The senna plants produce compound leaves with about six to eight pairs of leaflets, which are separated from the common stalk when they are collected, and constitute the drug. "Senna leaflets" would be more correct, but rather pedantic.

Senna leaves have often been examined chemically, but our knowledge of the active constituents is still sadly deficient. Chrysophanic acid, emodin, and isoemodin are definite crystalline bodies, closely related to one another and possessing purgative properties; they are believed to be present in the leaves in the form of glucosides (gluco-sennin), which yield them by decomposition. Mucilage is also present and often in considerable quantity, especially in young leaves. Beyond these, little definite is known.

Other parts of the plant contain the same or similar constituents, and consequently possess similar properties. This is particularly the case with the fruits, which form a separate article of commerce. They are easily recognised by their brown or greenish-brown colour, extreme flatness, and papery texture; they are slightly curved, and contain several very flat seeds.

Belladonna Leaves.

Although the official preparations of belladonna are made from the root, the student should not omit to study the dried as well as fresh leaves, on account of the toxicity and importance of the drug.

Commercial dried belladonna leaves consist usually of the leaves and leafy tops, and contain therefore a variable amount of stem. During the drying the leaves shrivel so much that their outline is no longer discernible, and some means must be adopted of spreading them out. From a sample of belladonna leaves as fresh, and consequently as little broken as possible, pick out three or four that appear to be intact. Keep them between sheets of damp blotting-paper until they become flexible enough to allow of their being spread out without breaking, so as to exhibit their shape. This is generally ovate, whilst the margin is entire and the apex tapering. Examine both upper and under surface with a lens, and note the absence, or at least paucity, of hairs; very young leaves of wild plants are often pubescent, but the hairs fall off as the leaves mature. Observe the angle at which the lateral veins leave the midrib and they assume as they approach the margin. Look carefully, also, at the arrangement of the stalks; there are usually a large stalk and a small stalk leaving the stem together; in the angle formed by these with the stem there is a flower bud (or the remains of a flower or young fruit) and a leaf bud. The purplish bell-shaped flower and shrivelled black fruit are characteristic, and indicate that the drug was collected during the flowering stage, at which time it is most active.

The belladonna plant, or deadly nightshade (*Atropa belladonna*, N.O. Solanaceæ), is an indigenous herb about four feet high, springing from a perennial root. It is not uncommon on chalky soil, especially in the southern counties, but it is also cultivated by the herb-growers. All parts of it are poisonous, and fatal cases of accidental poisoning with the fresh plant are not unknown. These toxic properties are due to the alkaloid hyoscyamine, of which the dry leaves contain about 0·5 per cent. Hyoscyamine is readily converted into the very similar alkaloid atropine, but the fresh or recently-dried leaves probably contain little or no atropine. Galenical preparations made from the leaves, especially the extract, will almost certainly contain atropine, but in these cases it is produced from the hyoscyamine originally present during the process of manufacture.

Preparations of belladonna are much used externally as anodynes, the alkaloid reducing the sensibility of the nerve-endings and thus relieving pain. They also check the formation of various secretions, and are therefore used to dry up milk and to stop various mucous secretions. The alkaloids, hyoscyamine and atropine, even in very minute quantity (1/5,000th of a grain) powerfully dilate the pupil of the eye.

Stramonium Leaves.

Stramonium, or thornapple, leaves, when dried, resemble belladonna leaves somewhat closely, and the student must adopt similar means for examining them, noting particularly the following points:—(1) The outline of the leaf is different, the margin is sinuate-dentate, and the veins leave the midrib at an acute angle, passing straight into the points; (2) the occasional presence of the yellowish remains of a long funnel-shaped corolla (originally white), or a small, shrivelled, bristly fruit; (3) the dull, greyish, green colour, curled appearance, and unpleasant odour of the dry drug.

The thornapple plant (*Datura stramonium*, N.O. Solanaceæ) is cultivated in this country, and is also found apparently wild, much of the drug coming from Germany and Hungary. It contains the same alkaloids as belladonna, and in nearly the same proportion (0·4 per cent.), but is considered to be more useful than belladonna for asthma and bronchitis, for which affections either the extract is given or the leaves are smoked as cigarettes.

The student is referred to Greenish's 'Introduction to the Study of Materia Medica,' Section I., for further information on the leaves described above.

STUDENTS' COMPETITION.

Student-Associates of the Pharmaceutical Society are reminded of the examination paper set in last week's issue of the *Pharmaceutical Journal* (page 296). Particulars were then given of the second competition, based on the articles which have appeared in the Students' Columns during December, January, and February last.

THE REORGANISATION OF PHARMACY (2).

BY AN ORDINARY PHARMACIST.

A Model Organisation.

The British Medical Association has a Central Executive, consisting of a representative Council and Committees. The Council, advised by its Organisation Committee, defines, and from time to time modifies, the boundaries of the "Divisions" (*vide antea*, p. 264) of the Association. It also effects the grouping of the Divisions into "Branches." Each Division is governed by the General Regulations of the Association and by the rules which, with the consent of the Central Council, it may think proper to adopt. The Divisions appoint their own officers and committees, arrange their own meetings, and in every way manage their own affairs, subject to various provisions which have the object and—more important—the effect of securing the harmonious co-operation of the whole. The stated aims to which the local work of a Division may be directed are four in number. Three of these may be shortly described as being social, scientific, and ethical. The fourth avowed object for which the Division exists and works is "to maintain locally the interests of the profession, and to represent the profession in its relations with public bodies." The extent to which each Division undertakes each or any of the four duties mentioned may, and does, vary, but in every such undertaking the Division has the advantage of the assistance and support of the entire British Medical Association.

A Contrast.

Now, what are the aims of our local associations of chemists? Some cynical people say that in many cases there are none. I can well understand that the programmeless and ill-attended meetings of some associations, with their blind groping for the intangible, give some ground for shoulder-shrugging. I could be cynical at the expense of the local association of which I myself am a member; but, on the whole, I think it fair to say that most chemists' associations have no need to concern themselves greatly with ethics, no inclination to further the cause of science, and, from their circumstances, no ability to maintain the interests of the "profession" in its relations with the public. If they do attempt work of a political nature, can they claim that they have the active assistance and support of the Society which is supposed to represent the chemists and druggists of the country? On the other hand, the associations succeed, in many instances, in organising social functions which lead a chemist to discover that his neighbour is not such an "outsider" as he once thought. Of late, too, the commercial interests of the members have received attention, the efforts of those associations which have a "buying section" having resulted in the saving of a halfpenny here and there on advertised proprietaries. I must resist the temptation to enlarge upon the possibilities of a local association of chemists becoming like, in power and usefulness, unto a "Division" of the British Medical Association until I have given further details of the organisaton of that body.

Branches and Branch Councils.

The Branch, which, as before explained, is composed of a number of Divisions, similarly elects its own officers and makes its own rules; also, alone or in conjunction with other Branches, it elects a representative or representatives on the Central Council of the Association. The officers of the Branch, together with the representatives on the Central Council, are *ex-officio* members of the "Branch Council," the other members of which are elected by the Divisions in proportion to their membership. The Branch Council elects new members of the Association for its territorial district, and controls the finances both of the Branch and of its component Divisions. The object of the Branch is to promote social and scientific gatherings of members of all its constituent Divisions, and "to provide an instrument for common action by the Divisions in questions affecting the honour and interests of the profession." Pharmacy has nothing to correspond with the "Branches" of the British Medical Association. I may proceed, therefore, to describe that organisation's system of

Central Government and Administration.

The bodies directly engaged in the work of central government are General Meetings, Representative Meetings, the Council, and Committees. The Annual General Meeting is convened every year at a place determined by the Council. It passes the annual balance-sheet and elects the chief officers of the Association. As part of the Annual General Meeting are held Sectional General Meetings, at which papers of a medical and scientific character are read and discussed. In short, the Annual General Meeting of the British Medical Association is not unlike that of the British Pharmaceutical Conference.

The annual "Representative Meeting" is composed of representatives elected annually a few weeks before the Annual Meeting by each Division or group of Divisions of at least fifty members. The demarcation of constituencies for this purpose, restricted to 300 in all, is made by the Council. The meeting, which is held at the same place and about the same time as the Annual General Meeting, may amend the bye-laws of the Association or adopt any resolution, of which due notice has been given, affecting the interests of the profession. This meeting, again, elects half the members of the Medico-Political and Ethical Committees, may appoint Special Committees, receives the Annual Report of the Council and the reports of such Committees as it appoints. A representative must vote on any question in accordance with the resolution, if any, adopted by his constituency during the preceding three months. In addition to the Annual Representative Meeting, other Representative Meetings may be arranged as required.

The Council is composed principally of members elected "territorially" by the Branches. Other members represent the Navy, Army, and Indian Medical Services, while the Council may co-opt additional members, to the number of not more than one-tenth of the elected members. The Council, subject to the decisions of General and Representative Meetings, has the general management of the affairs of the Association, including the *British Medical Journal*, and appoints the paid officers. Matters come before the Council (*a*) on instructions from General or Representative Meetings, (*b*) on the report of a Committee, (*c*) on the motion, after notice, of a member of the Council.

The Committees are appointed by the Representative Meeting, by the Council, or by those bodies jointly. No question involving expenditure is determined until it has been reported on by the Finance Committee. The Committee in which those concerned with the reorganisation of pharmacy are principally interested is the Medico-Political Committee, a body appointed partly by the Council and partly by the Annual Representative Meeting to report "on all questions, not specially referred to other Committees, affecting the relations of the profession to the public." This Committee reports to the Annual Representative Meeting, as well as to the Council.

The Working of the System.

It remains to add that the Association has 215 Divisions, grouped in thirty-seven Branches. For the election of representatives to the Representative Meetings, the Divisions in the United Kingdom were last year grouped to form 153 constituencies, and for the purpose of electing members of Council the Branches were grouped to return fifty-two members of Council. In addition to the General Secretary, it is found necessary to employ a Medical Secretary, whose duties include a general supervision of the medico-political work of the Association. The official organ of the Association is supplied free to every member, and keeps the member informed of the policy and progress of the Association and the profession.

It will be seen that any local grievance or requirement must be first urged at the meeting of a Division and the opinions of the Division, as expressed by resolution, may then be brought by its representative before a Representative Meeting. There is thus no opportunity left for the faddist to complain that the Association is governed by a clique which is out of touch with general conditions of practice in the provinces. If, for example, some of the medical men of Glasgow wish for protection against the prosecution of their unqualified assistants who sell poisons in open shops, they may or may not persuade the Glasgow Division to pass a resolution endorsing their grievance. If such a resolution be passed, the Glasgow "Representative" may bring the matter before the Annual Representative Meeting, when representatives from all parts of the United Kingdom will have the opportunity of expressing the views of their respective constituents, and the policy of the Association, as a whole, will be formulated. If the Representative Meeting adopts a motion submitted by one of its members, the matter automatically comes before the Central Council. If, on the other hand, no other representatives, in my hypothetical example, support the Glasgow Division, the Division is forced to the conclusion that its grievance is imaginary, and the more reasonable members decide to let the question drop. How different from the method whereby solitary, and in many cases equally shallow, grievances are sedulously nursed from year to year against the Council of the Pharmaceutical Society by single associations of chemists in various provincial centres!

POST-GRADUATE CURRICULA.*

BY F. PILKINGTON SARGEANT.

The subject of post-graduate study has received a great deal of attention ever since it was recognised that the calling of the pharmacist demanded a more or less specialised education. Instead of considering the Minor as embodying the minimum requirements, the chemist appears to consider that it covers the sole information necessary for the thorough qualification of the chemist. If, when he enters business, he finds that pharmacy pure and simple is hardly profitable, he casts about for various side-lines, and, perforce, begins to stock aërated waters, photographic goods, or phonographs, in my humble opinion he is a wise man; nor can I think that petty ideas concerning professional status should stand in the way of his commercial prosperity. If the student, after qualification, devoted a portion of his spare time during, say, three years to the study of one or more scientific subjects, he would perhaps be able to develop his business on more scientific and even more profitable lines than if he had to depend entirely upon business acumen and the policy of hustle. In any case, it must be admitted that scientific knowledge is a useful adjunct to business enterprise. Not long ago Mr. Glyn-Jones proposed that the Pharmaceutical Society should take steps towards initiating "post-graduate lectures." There are, however, several reasons why such classes might not be successful. First, excluding London, the number of young qualified men in any area is not large; second, the time such men have at liberty is short; third, the chemist in business would not care to associate himself in classes with junior qualified men. These objections only refer to the holding of classes—that is, to attendance at lectures, but not to the acquirement of knowledge. The chemist in many cases has ample time during the day for study, and the same applies to assistants. Would it not, therefore, be advisable for assistants after qualification to devote their attention to some scientific subject?

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* Read before the Bradford Chemists' Association on February 23, 1904.

How useless it is for a man who is to own an agricultural business in a small town to waste his time gaining what is called West-end experience. Of what value is the fact, announced later on his sign, that he is from "X. and Co., Chemists to the King." If such an one had made it his task to learn some of the peculiar requirements of an agricultural business and the means of satisfying them, he would not only have done himself a service, but he would have rendered himself a more useful member of the community. To a man in those circumstances could be recommended the following course of study, spread over three years, and capable of accomplishment by any student in his spare time:—

Syllabus of Agricultural Science.

First Year.

The first year could be employed in the study of the botany of cereals and agricultural produce, the respective effects of these on soils, rotation of crops, elementary geology, the composition of soils, their defects and the methods employed to remedy these, including irrigation.

Second Year.

During the second year the botanical studies could be extended to the fungi, with special reference to diseases of plants; the life history and methods of reproduction of these fungi, and the best means of preventing their appearance and recurrence; elementary entomology, having regard to insects injurious to crops, fruit, and animal parasites; the life history and habits of such insects in their various stages, the composition of and methods of using insecticides.

Third Year.

During the third year a study of the science of manuring could be undertaken; the respective values of ammonium sulphate and sodium nitrate in varying conditions of soil and for various crops; practical determinations of the values of phosphatic and other artificial manures could be made or, in a district where arable land is in excess, the methods employed in the analysis of dairy produce and cattle foods could be practically acquired. In this case, also, the difficulties entailed in the making of butter, cheese, etc., and the methods of correcting defects could be studied.

There is the assistant whose highest ambition is to possess a dispensing business, or, at any rate, what is termed "a high-class pharmacy." To carry on such a business successfully he must court the goodwill of the prescribing physician, and be prepared to assist in many ways the ordinary medical practitioner. This he would be able to do if he made himself competent to undertake bacteriological analysis. Again, by utilising the spare time of about three years the object could be accomplished. The following course might be undertaken:—

Bacteriology.

First Year.

The first year might be devoted to the study of cryptogamic botany and biology, with special reference to the schizomycetous fungi; the methods of reproduction, life histories and effects of external influences on these fungi could be mastered, and some simple method of classification studied.

Second Year.

During the second year the preparation of nutrient media and the cultivation of bacteria could be undertaken, the relative values of gelatin, agar-agar, serum and other media in varying circumstances thus becoming familiar. Plate, tube (stab and streak), hanging-drop and other cultures could be made and examined, and the methods employed in staining, mounting and microscopical manipulation generally acquired.

Third Year.

During the third year bacteriological examinations of water, air and urine could be made. The methods of detecting *Bacillus tuberculosis* in milk, sputum, etc., and the identification of the more important pathogenic organisms, *e.g.*, the Klebs-Löffler bacillus, *Bacillus typhosus*, etc., could be practically studied. The preparation and standardisation of vaccines, serums and antitoxins, and the best means of storage and of application of these, together with the theories upon which these uses are based, might be considered. At this stage some further specialisation might be possible. One chemist might devote his attention to the examination of brewers' yeast, which, though not strictly within the scope of bacteriological analysis, is a closely allied subject. A Bradford chemist could make a special study of *Bacillus anthracis*, the cause of woolsorter's disease, and so forth.

The man who is uncertain about his future is never a very satisfactory subject to advise, and yet there is no reason why he should not improve himself after qualification. To him the study of optics could be recommended. That such a course of study might be rendered complete, it would be advisable that the student should finally pass the examination held by the Spectacle Makers' Company or one of those held under the auspices of the British Optical Association. After a three years' course of home study this would not be difficult. The course might be thus indicated:—

Optics.

First Year.

During the first year the elementary laws of light could be studied—refraction, reflection, and the action of mirrors, lenses, and prisms on light rays; the manufacture of various kinds of glass, their distinctive properties compared together and with quartz and other transparent substances; the anatomy of the eye, accommodation and convergence.

Second Year.

The second year could be devoted to the study of the effect of cylindrical and spherical lenses and prisms on vision; the causes of presbyopia, hypermetropia, myopia, and astigmatism and methods employed for remedying these conditions; use of test types, trial lenses, charts, etc.; reading of oculists' prescriptions.

Third Year.

During the third year the measurement and neutralisation of lenses and prisms and transposing could be acquired, the use of the ophthalmoscope, optometer and other instruments, the detection of diseased conditions of the eye, face measurement and the general technique of spectacle-making.

Thus, I think, it would be possible for a chemist to utilise that foundation of scientific knowledge which is laid when he is studying for the Minor. It is an asset the value of which is often not sufficiently realised, and from which the possible pleasure and profit are seldom drawn. The student has acquired the art of reading industriously, and the Minor certificate alone is poor compensation for the trouble. He may increase his value enormously by the further utilisation of this art and a very little trouble. Perhaps the examples of curricula quoted may awaken some of the younger chemists to the possibilities open to them. There are many firms in various branches of industry who, though unable to afford the luxury of a resident chemist, would be only too glad to have within call someone capable of advising on scientific and technical matters. The variety of study is not limited; many other subjects will readily suggest themselves. Each man has his own characteristic sphere, and if he recognises in time that the success of his work depends not on the possession of knowledge, but on the practical application of it, I venture to think that he would benefit substantially by undergoing a self-guided course of postgraduate study.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN.

MEETING OF COUNCIL.

WEDNESDAY, March 2, 1904, at 17, Bloomsbury Square, London, the PRESIDENT, Mr. S. R. Atkins, in the chair. Other members of Council present were Vice-President, Mr. C. B. Allen, Treasurer, Mr. Walter Hills, and Messrs. Carteighe, Cooper, Corder, Cross, Currie, Gifford, Glyn-Jones, Harrington, Newsholme, Park, Robinson, Symes, Wootton, and Young.

The minutes of the February meeting were confirmed.

The President's Return.

The VICE-PRESIDENT said that before commencing the business of the day he felt it would be the wish of his colleagues to welcome the President back to the chair. They had all sympathised with him in his illness, and were very pleased to see that he was now rapidly leaving the convalescent stage.

The PRESIDENT said he was extremely obliged for the expression of sympathy, and he was particularly thankful to the Vice-President for the discharge of duties which he (the President) was unable to meet. He had received during his illness a large number of letters all couched in the warmest terms of appreciation, and those letters had been very warmly appreciated by the members of his family. He was not going to affect that he had not been ill; he had been ill, but he was thankful to say that he was very much better, though this was his first appearance in public since his illness.

Co-option of a Member of Council.

Mr. HILLS proposed that Mr. Algernon Sidney Campkin be appointed to fill the vacancy in the Council occasioned by the death of Mr. John Taylor. It was hardly necessary for him to say anything about Mr. Campkin, because he was so well known to members of the Society generally. Mr. Campkin was a man of considerable capability and experience. He had on many occasions appeared at the annual meetings as a critic—he might say a generous critic. Mr. Campkin, he believed, was a Justice of the Peace for Cambridge, a member of the Town Council of Cambridge, and for many years he had held positions of great importance in the Manchester Unity. On the ground of Mr. Campkin's great experience of public work, as apart from his loyalty to the Society, he asked the Council to fall in with his proposal; and if they did so he was confident that they would find Mr. Campkin a very useful colleague.

The PRESIDENT seconded the nomination. He had known Mr. Campkin for many years as a public man of business. He remembered being present at an annual meeting of the Manchester Unity when Mr. Campkin presided over an assembly of some five or six hundred north countrymen, and he (the President) had never in his life seen a man conduct the business of a meeting with greater ability and tact than Mr. Campkin did. He had noticed in the Journal that Mr. Campkin took a great interest in the Cambridge Pharmaceutical Association, and he thought Mr. Campkin would bring to that Council that tact and geniality which would make him a very valuable colleague.

The proposition was agreed to unanimously. It was also agreed that Mr. Campkin be asked to serve on the Benevolent Fund Committee in the place of the late Mr. Taylor.

Election of Members.

The following persons having tendered their subscriptions for the current year were elected members of the Society:—

Ashdown, Wm. P. C.; Bournemouth
Beken, Alfred Edward; Cowes
Benjamin, John B.; Penarth
Bourne, C. Wm. K.; West Bromwich
Burt, May; Wimborne
Campbell, Arthur G.; Rochester
Cassie, Rhona C. H.; Hopeman
Corke, Harry Malcolm; Haslar
Culverhouse, Albert H.; Sheffield
Davies, John; Mayfair.
Davies, John; Pontypridd
Davies, William J.; London
Douch, Walter; Holborn
Edwards, Herbert; Hornsey Rise
England. Thomas A.; Sheffield
Fuller, Edgar G.; Ealing
Gardam, William J.; Scarborough
Gray, George W.; Fulham
Gray, Sydney B.; Rugby
Hall, William D.; Skegness
Hewitt, Neville C.; Cowes
Hindle, Robert G.; Wirksworth
Hodkinson, Richard G.; Ashton
Hollingsworth, Arthur; Newcastle-on-Tyne
Jackson, William F.; London
Jacques, Sidney P.; London
Jung, Fritz Rudolph W.; Norwood
Mallinson, George A.; Withington
Matthews, Edwin J.; Pontypridd
Moffatt, W.; Newcastle-on-Tyne
North, Josiah; Reading
Oldfield, Ashley C.; Manchester
Ough, Thomas; Liskeard
Owen, Henry J.; Cadoxton-Barry
Pain, Ch. Frederick; Beckenham
Peacock, Frederick; Hackney
Pegg, George Ch.; Burton-on-Trent
Perkins, George M.; Knighton
Pike, Herbert William; Norwood
Pim, Ernest H.; Pontypridd
Pryor, Sydney H.; Beckenham
Rankine, Andrew L.; Kingussie
Reed, John; Devonport
Rees, Harding M.; Norwood
Richardson, George; Coundon
Richardson, Joseph; Rugby
Robinson, Edward G.; Hillsborough
Rutter, Arthur D.; Cheltenham
Scott, W. H.; Saffron Walden
Sirvai, Pestonji H.; Kennington
Skidmore, Bertrand; Nantwich
Steedman, William; Coupar-Angus
Stringer, Horace; Leeds
Swaby, Harry Coupland; Beckenham
Thomas, Thomas; Treharris
Thomas, Wilfred J. L.; Stepaside
Turney, Frederick E.; Bodmin
Waterhouse, William M.; Dublin
Webster, Digby; Reading
West, Tom E.; Keighley
White, Arthur A.; Hanwell
Williams, Wm. John; Llanbradach
Williamson, Joseph B.; Nottingham
Wilson, James B.; Dorking
Withers, Arnold B.; Canterbury
Wood, John G.; Spittal
Woolnough, Harry A.; Melbourne
Yeats, John; West Linton

Election of Student-Associates

The following persons having tendered their subscriptions for the current year were elected student-associates of the Society:—

Bell, G. Andrew; Stockton-on-Tees
Grimshaw, Edmund; Wigan
Harrison, Wm. H.; Westhoughton
McPherson, Duncan; Aberdeen
Penfold, Fred; Benwell
Roberts, Hugh; Bangor
Ryall, W. Malcolm; Stoke
Smith, Arthur N.; Blackburn
Thomas, John P.; Neath
Wadsworth, Norman F.; Halifax

Restoration to the Register.

Josiah Ward, of 74, High Street, St. Nicholas, Rochester, having made the required declarations, and paid the restoration fee of one guinea, was restored to the Register of Chemists and Druggists.

Restorations to the Society.

Several persons were restored to the Society upon payment of the current year's subscription.

Finance Committee.

The report of this Committee was as follows:—

February 24, 1904.

Mr. ROBINSON in the chair.

Present:—Messrs. Allen, Carteighe, Cooper, Harrington, and Hills.

1. The SECRETARY submitted the following statement of the accounts:—

General Fund :—	£	s.	d.	£	s.	d.
Balance (January 31) ..				3,387	4	4
Receipts :—						
Penalties and costs ..	148	17	6			
Restoration fees ..	5	5	0			
Subscriptions	1,205	8	0			
Pharmaceutical Journal	1,334	9	10			
School fees	2	2	0			
Rent	23	17	1	2,719	19	5
				6,107	3	9
Payments authorised by the Council (including £2,000 placed on Deposit Account)				3,866	15	5
Balance				£2,240	8	4

General Fund :—

Amounts recommended for payment :—

	£	s.	d.
Calendar and Register	319	1	7
On behalf of the Journal	426	13	7
School	21	2	10
House	37	19	2
Law charges..	17	13	6
Stationery, etc.	68	7	11
Salaries, etc.	849	11	8
Current expenses..	500	0	0
Museum and Library	52	15	8
Compendium	9	12	0
'P. J. Formulary'	1,403	16	9
	£3,706	14	8

Benevolent Fund (Current Account) :—	£	s.	d.	£	s.	d.
Balance (January 31)				£510	16	1
Receipts :—						
Subscriptions	£307	7	9			
Ground rents	323	12	7			
				631	0	4
				1,141	16	5
Payments				126	9	6
Balance..				£1,015	6	11

Benevolent Fund (Donation Account) :—	£	s.	d.
Balance (January 31)	£224	18	6
Donation	15	15	0
Balance..	£240	13	6

Orphan Fund :—	£	s.	d.
Balance (January 31)	£88	9	11
Subscriptions	1	11	0
Balance	£90	0	11

(2) The Committee examined the accounts and found them to be correct, and in accordance with the foregoing statement. The accounts of the North British Branch were also examined.

Recommended.—That the Treasurer be requested to pay the amounts indicated.

R. A. Robinson (Chairman).

Supplementary Report.

The Chairman also reported that the Committee had considered an offer of an additional freehold adjoining the Society's Shortlands Estate. The plot offered was estimated to produce a ground rent of £35 and the house upon it was let at £115 a year. The freeholder asked £2,800 for the property.

The Committee resolved that the owner be informed that the Committee cannot see its way to entertain the offer.

Both reports of the Finance Committee were received and adopted unanimously.

Benevolent Fund Committee.

The report of this Committee included the recommendation of grants to the amount of £61 in the following cases :—

Widow of subscriber to Society and Fund. 51. Chesterfield. Has had previous grant.

Widow of registered chemist and druggist. 60. Malvern Wells.

Widow of member and subscriber who was an annuitant on the Fund from 1895 to 1901. 59. Anerley. Has had previous grants.

Widow of registered chemist and druggist. 30. Kilburn. Has had previous grant.

Registered chemist and druggist. 70. Kennington. Has had previous grants.

One case was not entertained.

The Secretary reported the death of Mrs. Sarah Ann Dutton on February 8, aged 84. Was elected an annuitant in 1880.

The Vice-President moved, and it was seconded by Mr. Cooper and carried, that the report of the Benevolent Fund be received and adopted.

The Secretary reported the receipt of the following donations and subscriptions to the Benevolent Fund :—

Donations.

	£	s.	d.
Mrs. M. C. Crutcher (in memory of George Crutcher)	10	10	0
Price's Patent Candle Company, Limited	5	5	0

Subscriptions.

	£	s.	d.
Newcastle-on-Tyne and District Chemists' Association (collected at a smoking concert)	3	12	3
Wolverhampton Chemists' Association	2	2	0
Dewsbury and District Chemists' Association (collected at the annual dinner)	1	5	0
Northampton Chemists' Association (in memory of Mr. Negus)	1	1	0
Great Yarmouth Pharmaceutical Association	1	1	0
North of England School of Chemistry (balance from a smoking concert)	0	13	0

The President said he would like to acknowledge those contributions. They were all very acceptable, and represented a good deal of interest in the Benevolent Fund. More especially he should like to direct attention to the contribution from Northampton. He thought much might be done in a similar direction by Divisional Secretaries and the officers of local associations to interest chemists in the Society and the Benevolent Fund. He understood that there was only one member of the Association who was not represented in the list from Northampton, and he was sure that indicated an industry in collecting which was very praiseworthy. They might circularise to the end of time, and a very large proportion would go into the waste-paper basket, but one word from a living friend did a vast deal more than anything else.

Mr. Cooper said he should like to emphasise what the President had said, and personally he should be pleased to render the Divisional Secretary for Kensington all the assistance he could to secure better support for the Benevolent Fund. Mr. Cooper went on to refer to his work on the Benevolent Fund Committee, and to again urge that a Benevolent Fund Banquet be organised. If a banquet was held he should be pleased to give a donation of £10 10s., and he had reason to believe that others would also give donations.

Mr. Young suggested that the fact that the Benevolent Fund dinner was not held each year was not a sufficient reason why any member of the Society should not contribute to the Fund each year.

The President said that Mr. Cooper would have an opportunity of bringing the matter forward at the Dinner Committee next week.

Mr. Cooper said he gave ten guineas to the Fund ten years ago, and he would gladly do so again.

Mr. GLYN-JONES pointed out what has previously been urged, that the necessity of the moment is not donations of ten guineas, which have to be invested, but subscriptions which can be used for present purposes.

Library, Museum, School and House Committee.

The report of this Committee was as follows:—

February 10, 1904.

Mr. ALLEN, Vice-President, in the chair.

Present—Messrs. Carteighe, Hills, and Robinson.

1. The Committee received the usual monthly statements respecting the Society's Libraries and Museums in London, and particulars of these are published in the *Pharmaceutical Journal* for February 13, 1904.

2. Messrs. Parkinson and Son's account for £15 8s. 11d., for work done during the month, was submitted, approved, and referred to the Finance Committee.

3. MUSEUM.—A special letter of thanks was ordered to be sent to Messrs. Baker and Smith for their donation illustrating the Eucalypts.

4. SCHOOL.—Professor Green reported that his Demonstrator, Dr. Drabble, had left, and he recommends the appointment of Mr. Chandler to continue Dr. Drabble's work until the end of June.

On the suggestion of the School Staff, the Committee agreed to close the School on Wednesday, March 30, at 5 p.m., for the Easter Vacation, and to reopen on April 18, at 9 a.m.

5. SCHOLARSHIPS.—The Committee had under consideration the desirability of ensuring that a Bell Scholar should have, during his tenure of the Scholarship, the training contemplated when the Scholarships were founded. The Secretary was instructed to present to the Committee at its next meeting a draft paragraph for insertion in the Regulations to the effect that if a Bell Scholar should pass the qualifying examination before the termination of his Scholarship he shall forthwith forfeit his position.

6. APPLIED PHARMACEUTICS.—The Vice-President and the School Visitor reported upon the possibility of improving the facilities in the School of Pharmacy for teaching practical Pharmaceutics. The Dean submitted rough plans for the conversion of a room in Galen Place for the purpose contemplated. The Committee approved of the establishment of a Pharmaceutical Laboratory, and requested Mr. Hills and the School Visitor to confer with the School Staff with a view to obtaining plans and estimates for the consideration of the Committee in March.

7. The SECRETARY submitted particulars of the Quarterly Cleaning done by Messrs. Parkinson and Son. The Vice-President was requested to see Mr. Parkinson thereon.

8. ELECTRIC FANS.—The Committee considered the communication remitted from the Council, relating to the provision of electric ventilating fans for the Society's examination premises in Edinburgh. On the urgent recommendation of the Executive, the Committee ordered the work to be proceeded with, at a cost not exceeding £100.

9. RESEARCH.—Professor Wynne reported on the work of the Burroughs Scholar, and the Committee ordered the publication in the *Pharmaceutical Journal* of a paper on "The Determination of Methyl Alcohol in Pharmacopœial Preparations," communicated by the Scholar.

The VICE-PRESIDENT, as Chairman of the meeting on February 10, moved that the report of the Committee be received and adopted. He directed attention to paragraphs 5 and 6. Those paragraphs dealt with matters of importance, which were still under consideration, and would come before the Council later for discussion.

Mr. CROSS seconded the motion, but wished to ask if the principle of paragraph 5 had been accepted by the Council. It was an important matter, which had been debated quietly among members of the Council for some time, and it involved an important change in procedure.

The VICE-PRESIDENT explained that an alteration of the regulations in regard to the Bell Scholarships was necessary, in order to ensure that students who gained those scholarships should benefit by the training contemplated when the scholarships were founded. At present it was possible for a Bell scholar to enter for and pass the Minor Examination before completing the course of instruction provided, but by so doing the scholar missed that special training which was essential to establish a good foundation for the Major course. The proposed new regulation would impose no hardship upon future Bell scholars, and the professors, as well as the Committee, were convinced that those who gained the scholarships should at least fulfil the conditions—*i.e.*, to work ten months for the Minor, and on their qualifying, the Council granted a further five months' training for the Major. Mr. Cross had asked if the Council agreed to the principle involved; he might say that the Committee was unanimously agreed as to the desirability of the proposed new regulation.

Mr. ROBINSON pointed out that if the report of the Committee was adopted with paragraph 5 as it stood, it meant that the Council thought the alteration was necessary; but that was a point which had to be carefully considered by the Committee and a draft submitted to the Council. He believed they were all agreed as to the desirability of the Bell scholars getting the full benefit of the training in the School, but it must be understood that the Council had not expressed approval of the principle of the draft paragraph which was to be prepared.

Dr. SYMES said he was highly gratified that the Committee had expressed its approval of the establishment of a pharmaceutical laboratory; also that Mr. Hills had been associated with Mr. Carteighe, the School Visitor, to confer with the School staff. He felt sure that in arranging for the laboratory there would be no undue parsimony in carrying out that important work.

The report and recommendations of the Committee were then adopted unanimously.

The Bell Scholarships.

The Treasurer was authorised to pay the Bell Scholars the sum of £15 each, being the second moiety.

Absentee Members.

The PRESIDENT intimated at this point that letters had been received from Mr. Harrison and Mr. Storrar expressing regret at not being able to be present; Mr. Southall was also unable to attend.

The Next Annual Meeting.

On the motion of Mr. PARK, it was resolved that the preparation of the annual report of the Council be referred to the Library, Museum, School, and House Committee. It was also resolved that the sixty-third annual general meeting of the Society be held on Wednesday, May 18, at noon, to receive the report of the Council and to elect the Council and auditors.

The April Meeting of Council.

It was agreed to defer the next meeting of the Council from April 6 to April 13, on account of the Easter holidays.

Appointment of a Divisional Secretary.

Mr. R. S. Page was appointed Divisional Secretary for South Islington.

The PRESIDENT said Mr. Wallis, the retiring Divisional Secretary for South Islington, had done very substantial service in the division.

The School of Pharmacy Students' Association.

The SECRETARY said he had received a copy of the revised rules of the School of Pharmacy Students' Association, which was referred to the Council for approval.

It was decided to submit the revised rules to the Library, Museum, School and House Committee.

The Society's Battersea Property.

The Secretary said he had to report that the licence authorising the sub-letting of the Society's property had been settled and sealed and signed.

The Pharmacy Bill.

The Secretary said a resolution had been forwarded by Mr. Feaver Clarke from the North Kent and District Chemists' Association, supporting the Pharmacy Bill.

Parliamentary Committee.

The report of this Committee was as follows:—

March 1, 1904.

Mr. Michael Carteighe in the chair.

Present—Messrs. Allen, Glyn-Jones, Hills, Gifford, Newsholme, and Wootton.

The Chairman reported that the Pharmacy Bill was introduced by Mr. Lough on February 29, and that it bore the names of a large number of "backers" who had manifested considerable interest in the objects of the Bill.

The Committee then discussed and agreed upon the steps to be taken to advance the prospects of the measure.

Mr. Carteighe moved that the report of the Committee be received and adopted. There was practically nothing in the report to confirm or adopt, but it was convenient for the Council to be able to announce that their friend Mr. Lough had introduced the Bill and had induced several members of Parliament to back the Bill. Their friends in the country had also been working in support of the Bill, and altogether the prospects of the interests of chemists and druggists being considered in the House of Commons were beginning to improve. A suggestion had been thrown out that the Council should approach the medical profession in the House to give the Bill their support—not necessarily moral support—but to take such an interest in the Bill as would enable them to educate the laymen in the lobbies as to the aims and objects of the Bill.

Mr. Robinson seconded the motion for the adoption of the report.

Mr. Glyn-Jones directed attention to a recent statement that the Inland Revenue authorities had intimated their intention to recognise certain unregistered persons as chemists for the purposes of the Medicine Stamp Duty Acts. He wished to ask if the Parliamentary Committee had taken any steps in the matter.

Mr. Carteighe said a suggestion had been made that the President and himself should go to Somerset House about the matter—in fact, he believed a letter of inquiry had already been sent to the Board of Inland Revenue. The Board had distinctly promised some time ago to consult the Council on all matters affecting the interests of chemists and druggists, but they had not done so in this case. It was possible that the authorities considered the persons referred to did not come within the category of chemists and druggists, and that therefore they were not exactly in their calling. At any rate, the Board had not consulted the Council, and he thought there must be a misconception.

The report was then adopted.

Proposed Appointment of an Organising Secretary.

Mr. R. Lord Gifford, in pursuance of notice of motion, said he wished to move that an organising secretary be appointed, whose duties would be such as assisting Divisional Secretaries and generally to make effective the Council's system of organisation. That was essentially a subject of organisation, and it had been a troublesome subject for very many years, culminating, perhaps, in the very admirable system brought into being largely by Mr. Newsholme some three years ago. The present motion, he took it, supposed that even that admirable system was not perfect and in his view, not quite complete. He thought it was short of a coping-stone, and he suggested that they should try to make that system complete. There were innumerable examples of what he intended. He would content himself, however, by pointing out the fact that the British Medical Association, which had always recognised the value of organisation, had during the past three years entirely reconstructed their organisation, and, so far as he could see, their organisation was of a very effective character. He judged by their general organisation in his own town. He was sure they were not ashamed of their pharmaceutical organisation in Blackburn. It was, however, put to shame by that of the British Medical Association. He was very glad to hear Mr. Carteighe say recently that each individual unit must be represented on that Council, and that it was not only subscriptions, but the power of the men behind the subscriptions that was needed. He took it that the principal of organisation was desirable, and he would like to say at once that what he would suggest to the Council was with a view to making the present system more perfect and more effectual. His idea was that the General Purposes Committee should be appointed an Organising Committee. That Committee should have at its disposal an organising secretary—an officer whose duty would be to carry out the behests of the Committee, and who should be responsible for keeping the Committee in touch with all current questions. The General Purposes Committee suggested itself to his mind, because it was a committee of the whole Council, and therefore represented every district in the country. The Committee had also had a good deal of work taken from it, and the present was a very convenient time for considering the matter. There was a very great deal to be done in the matter of organisation, and he believed it to be a very important subject, involving much greater things than perhaps appeared on the surface. He believed the General Purposes Committee would find the matter very interesting—he believed they were all interested in the subject of organisation. They might call the organising secretary a peripatetic secretary if they wished. He did not think it mattered much what they called him. When he saw Mr. Bremridge last year surrounded by the chemists of Blackpool, Preston, and the surrounding districts, he did not think that he sacrificed his dignity at all—in fact, it struck him then that he had never seen the Secretary at so great an advantage. He had not the slightest idea of interfering with the Secretary's duties, and it would explain his attitude to say that he looked upon the Secretary as "town clerk" of that Society, and everything that tended to benefit the Society would increase his dignity as the Secretary. He did not think that was a question which touched the Secretary in any shape or form. When he (Mr. Gifford) was at the Blackpool dinner lately, the Chairman said that the Secretary of the Association and he had been round the whole of the Fylde district with very considerable success. There had been only one man with whom they could not get into touch. He (Mr. Gifford) suggested that it was just the people that the local officers could not get into touch with, on account of local prejudices, that a peripatetic Secretary could approach with more success. He next referred to Mr. Carteighe's influence with members of Parliament as Chairman of the Parliamentary Committee, but that would not have been so great had it not been for the support of the chemists all over the country. He then went on to refer to the Minority Report of the Poisons Committee, and he spoke in high terms of that report, but he thought sufficient use had not been made of it. The language of the report was simple, and the whole case for chemists was stated with the greatest moderation. To his mind that report was a very good example of the effect produced by simple language and moderation of statement. The effect of that Minority Report was to asphyxiate and cremate the other Minority Report. He directed attention to the fact that the 6,000 members of the Society were sometimes compared with the 15,000 persons on the Register; but he pointed out that many persons on the Register were not engaged in pharmacy at all, and that the proportion was more like six to twelve or thirteen than six to fifteen. There had been during the past few months several hundred new members elected, but he asked if that was satisfactory? To his mind it was not satisfactory. There ought to have been thousands instead of hundreds. He then went on to say that he did not attach undue importance to Acts of Parliament, and he thought that organisation would do more for pharmacy than Acts of Parliament would, though he did not wish to depreciate the value of Acts of Parliament. Better organisation would give the members of the Society material and moral benefit, in that it would improve them intellectually as well as improve their status.

Mr. Cross said he had discussed Mr. Gifford's scheme with him, and he was prepared to second his motion if he would consent to the matter being referred to the General Purposes Committee.

Mr. Gifford expressed his consent.

Mr. Hills: What is the effect of that—are we not to discuss the question?

Mr. Cross said his idea was that anything which would improve the organisation of the Society throughout the country would have the ready assent of the Council, but he thought it would be better first of all to discuss the details of Mr. Gifford's scheme in committee; therefore, he suggested that the matter be referred to the General Purposes Committee, when it could be properly threshed out.

Mr. Glyn-Jones said it seemed to him that before the Council went into that it was for the members of the Council to say whether it was desirable to appoint an organising secretary.

Mr. Newsholme, after some discussion, moved as an amendment that the General Purposes Committee take into consideration the desirability of appointing an organising secretary. He said he very largely agreed with Mr. Gifford. He believed that the visits paid by Mr. Bremridge and the assistant to the Secretary, Mr. Chater, to various parts of the country in the early part of last year and previously had had very encouraging results. But it was not practical for Mr. Bremridge to take up that work to any great extent, and for that reason he was strongly in favour of the principle of the scheme which had been suggested by Mr. Gifford.

Mr. Corder seconded the amendment.

Mr. Gifford then withdrew his motion, and, on Mr. Newsholme's motion being put to the Council, it was carried unanimously.

Pharmacists and the Pharmacopœia Committee.

Dr. Symes, who had previously given notice of his intention, moved:—

> That this Council approach the promoters of the Medical Acts Amendment Bill now before Parliament, or take such other steps as may be deemed desirable, for the purpose of obtaining for pharmacists a legal standing on future Pharmacopœia Committees.

He said the subject was not a new one by any means, for it had been discussed by the Council and at other pharmaceutical meetings, such as the Conference, for the past twenty years. The matter was of such importance that he had quite expected there would have been several notices of motion on the subject, in order that advantage might be taken of the present opportunity of pressing the claims of pharmacists for statutory recognition in the production of the Pharmacopœia. He referred to the meeting of the British Pharmaceutical Conference at Hastings before the issue of the B.P. 1885, when the late Mr. John Williams, in his address, dealt with the question of the desirability of pharmacists being associated with the General Medical Council in the production of the Pharmacopœia. He also referred to a circular letter on the subject issued by the Pharmaceutical Society to its local secretaries at the time when he was Local Secretary for Liverpool, and he said that he then waited upon many medical men in his district, and obtained the signatures of nearly all of them in favour of pharmacists being recognised. But when the matter came before the General Medical Council they were informed, very courteously, that the production of the Pharmacopœia was entrusted to the General Medical Council by Act of Parliament, and that nothing could be done until that Act was amended. He understood that an effort was now being made to amend that Act, and he thought it was a very opportune time to again broach the question. The condition of things had greatly altered since the old Act was passed, and the British Pharmacopœia was now not only a book for medical men, but a recognised standard under the Sale of Food and Drugs Acts. Therefore, if the question was of importance twenty years ago, it was doubly important now that the Pharmacopœia had been placed more on a commercial basis, and not as it was originally merely a book for the professional side of medicine.

Mr. Hills asked what was the Medical Acts Amendment Bill referred to, and who were the promoters of the Bill.

Dr. Symes said he was not quite sure, but he had no doubt the Secretary could ascertain. His impression was that it was a Bill promoted by the British Medical Association, and he knew that many years ago the British Medical Association said that the Pharmacopœia did not represent the medical profession. That statement was taken up by the *Pharmaceutical Journal* at the time, and the question was asked: If the Pharmacopœia Committee does not represent the medical profession, as it does not represent pharmacists, who does it represent?

Mr. Wootton said the Bill referred to was promoted by the British Medical Association with the object of getting more representative members on the General Medical Council. It was proposed, practically, to reorganise the General Medical Council. The Bill was that to which it was proposed at one of the branch Associations to add a clause for the suppression of dispensing by medical men.

The Secretary said there were two Bills—one of which had already been introduced into Parliament, and another promoted by the British Medical Association, but not yet introduced.

Mr. Robinson thought Dr. Symes had been a little premature in bringing the matter forward before the Bill was before Parliament. He suggested that the matter be referred to the Parliamentary Committee.

Mr. Young, in seconding the motion, expressed his regret at not being able to be present at the Committee meeting the previous evening, when he understood this matter was discussed, as it might have lightened his darkness. He went on to speak in strong terms of the unsatisfactory—he might almost say very humiliating—and anomalous position occupied by pharmacists in the matter of the Pharmacopœia Committee. The Pharmacopœia was a book which he ventured to say did not find its way into the hands of more than 25 per cent. of the medical profession, while practically all of the chemists and druggists of the country used it. At present the B.P. simply teemed with errors which would have been avoided if pharmacists had been adequately represented in the production of the book.

Mr. Robinson said it seemed to him the Council had not sufficient definite information to enable it to deal with the matter that day, therefore he suggested, as an amendment, that the matter be referred to the Parliamentary Committee.

Dr. Symes said that would mean that it was delayed till April.

Mr. Robinson said he did not wish for any delay, and was prepared to suggest that the Parliamentary Committee be empowered to act if necessary.

Mr. Carteighe, as Chairman of the Parliamentary Committee, pointed out the danger of injuring the prospects of the Pharmacy Bill if the Council were to endeavour to obtain an amendment of a Medical Bill in Parliament. The Parliamentary Committee was endeavouring to secure the support of Sir Walter Foster and Sir John Batty Tuke for the Pharmacy Bill, and he thought it might place the Committee in a little difficulty, if it was left to that Committee to deal with the matter.

Mr. Robinson said he would move, as an amendment, that the Council, whilst approving of the principle that the pharmacist should have statutory representation on future Pharmacopœia Committees, requests the Parliamentary Committee to consider the present position and report in due course.

Mr. Glyn-Jones seconded the amendment. He did not think Dr. Symes was to be blamed for making a medical Bill which he had heard about a peg to hang this question upon. Obviously Dr. Symes had made the Bill an excuse to bring forward a matter which was of considerable importance. He had no doubt that the Council had in times past officially stated in public that it considered the Pharmaceutical Society should have a direct legal position in the production of the Pharmacopœia, but it had not done so in his time, and he thought it would be useful for the Council to do so again. While he was anxious that the Council should not interfere in any way in the production of the Pharmacopœia now in course of preparation, and in which the Society had had a part, though not a statutory part, he thought they should, in season and out of season, maintain their position that they had a right to legal recognition as part of the Pharmacopœia Committee, and he hoped the General Medical Council would see that in holding that view they were only claiming that the work of the pharmacists on the Pharmacopœia should be duly recognised. The Pharmacopœia was the legal standard by which pharmacists were judged, and they had a right, so long as the B.P. was treated in the Courts as it now must be treated—as a standard under the Sale of Food and Drugs Acts—to have some voice in its compilation.

Mr. Wootton did not agree with Mr. Glyn-Jones that this matter should be pressed in season and out of season. He should strongly support Mr. Carteighe that this was hardly the time to burden the Parliamentary Committee with the matter, and he suggested that it be referred to the General Purposes Committee for consideration.

Mr. Robinson agreed that the matter should be referred to the General Purposes Committee.

Dr. Symes thought it rather savoured of inaction to refer the matter to a Committee. He pointed out that the medical profession did not shrink from approaching the Council when they thought a certain clause in the Pharmacy Bill was detrimental to their interests. There was no friction in that case, and he saw no reason why the action of the Council should be considered unfriendly if they approached the British Medical Association in the matter of the Pharmacopœia Committee. If it was the fact that the Bill was not yet before Parliament so much the more reason for approaching the promotors promptly, because it would be much more difficult to get the Bill amended in the House than it probably would be before it was introduced.

Mr. Gifford said he might perhaps clear Dr. Symes's mind of any difficulty in regard to delay. The Bill was one promoted by the British Medical Association.

Mr. Carteighe: There is one in Parliament.

Mr. Gifford: Yes, but not your Bill, sir. Continuing, Mr. Gifford said they would find the text of the Bill printed in the *British Medical Journal* some time in the autumn of last year. It was a Bill in the stage of being before the British Medical Association in the same way that the Pharmacy Bill was before the Council a year or so ago. He did not think there would be any disadvantage in adjourning the matter for a month.

Mr. Hills supported the amendment. He was sorry that Dr. Symes had not brought the information as to the particular Bill he meant, because therein lay the gist of the whole matter. They did not want an academic discussion as to the desirability of pharmacists being represented on any body which was empowered to produce the Pharmacopœia. The question was one of practical politics, and Dr. Symes brought the matter before the Council and did not say what the Bill was, and he (Mr. Hills) wished to know. He heard that it was a Bill promoted by the British Medical Association, but it was not before Parliament—at least, he had not heard that it was. The General Medical Council's Bill merely dealt with Colonial qualification. He should not have spoken if reference had not been made to the Committee meeting the previous evening. Mr. Young and Dr. Symes seemed to think the matter under consideration had been discussed at that meeting, and he wished to disabuse their minds of that impression, because the discussion there had nothing to do with it. As one of the representatives of the Council on the Pharmacopœia Conference, he wished to unburden his mind as to the present position. He did unburden his mind, and he should go back to the Conference strengthened, to try and do something which would be advantageous all round. He thought it desirable to say this in public to prevent misunderstanding as to what had taken place at the meeting of the Committee.

The amendment was then put to the vote, and carried by thirteen to two; it was then put as a substantive motion and agreed to unanimously.

WEST HAM AND DISTRICT CHEMISTS' ASSOCIATION

SMOKING CONCERT.

Thursday, February 25, 1904, at the Earlham Hall, Forest Gate, Mr. Harold Mitchell, President, in the chair. Songs were excellently rendered by Messrs. Blades, jun., Knight, Ashby, Titford; recitations by Messrs. Eastman and Soper; while the comic element was in the able hands of Mr. Frank Rattenbury. Messrs. Knight and Gwinn sang "The Army and Navy" duet, and a novel introduction was a series of anecdotes told by Mr. Horace Weston. The duties of accompanist were ably carried out by Mr. Johnson. At the conclusion of the programme the Chairman proposed a vote of thanks to the gentlemen who had kindly entertained them that evening, which was very heartily accorded. The Chairman also reminded the members of the Association that the next meeting, on March 10, was the annual meeting, at which some important business would be brought forward, and particularly desired that the whole members of the trade in the district would make a special effort to be present on that occasion.

ABERDEEN PHARMACEUTICAL ASSOCIATION.

SUPPER.

Tuesday, February 23, 1904, in the Bonaccord Hotel, Market Street, Mr. Wm. Giles, President, in the chair. After supper the usual loyal and patriotic toasts were given, and heartily responded to. Then followed an evening of vocal and instrumental talent, contributed by Messrs. Cable, Cran, Dufton, Forsyth, Johnston, Mutch, Simpson, Strathdee. Mr. Simpson made the hit of the evening with a parody on "Father O'Flynn," in which the name of the President of the Association was freely mentioned.

EDINBURGH CHEMISTS', ASSISTANTS', AND APPRENTICES' ASSOCIATION.

Wednesday, February 24, 1904, in the Pharmaceutical Society's house, 36, York Place, Edinburgh, Mr. Archibald Currie, President, in the chair.

In the unavoidable absence, through a slight illness, of Mr. David Storrar, his paper on

The Future of Pharmacy as a Trade

was read by Mr. J. Rutherford Hill.

Mr. Storrar said: This year I hope to celebrate my jubilee as a pharmacist, and it appears to me that, if we have any love for our calling, any *esprit de corps*, the clear duty of those who grow old in the profession is to place the experience they have gained in its practice at the service of its younger members. In regard to the future of our craft I am not a pessimist. Like all other tradesmen we are passing through rather trying times. Old methods and old boundaries in trade are rapidly becoming disorganised and broken up. We may lament the change, but to attempt to stop its progress altogether is simply "kicking against the pricks." Our clear duty is to adapt ourselves to the altered circumstances and prepare ourselves for the new conditions. Pharmacy is an exacting profession, and if money-making is our sole object in the choice of a profession, it should be carefully avoided. It is, however, a useful one and, not only in itself, but in its side issues, an eminently interesting one. So much is this the case that had I the opportunity of commencing life again, I would, with little hesitation, become once more a pill-roller.

Fifty Years Ago

the Pharmaceutical Society was indeed in existence, but its examinations were entirely optional. Pharmacy was a free trade. We complain that at the present time any limited company can sell or dispense certain scheduled poisons, but at that time anyone could keep open shop for their sale and use the title of chemist and druggist. The hours were long and the pay was very small. My first salary as an assistant was £30 outdoors, and I know that in one of the historic London pharmacies in 1860 a Major man was serving as an assistant at £30 indoors. Fifty years ago there were fewer drug shops in Scotland, and the consequence was that in the cities and country towns there were more shops with a large connection and doing a larger trade than at the present time. The ordinary country chemist's business must have been, however, as a general rule, much smaller than it is now, and the average profit no greater. Retail prices were certainly better and expenses of all kinds less, but a much larger proportion of the doctors did their own dispensing, and what of it came to the chemist was charged at even a lower average rate than that of the cutter of the present day, and very often from what they did charge a fairly large percentage found its way into the pockets of the prescribers. There can be no doubt that the higher rates for dispensing which gave the limited companies their opportunity were the outcome of the higher status and the protection given by the Pharmacy Acts. Full price was certainly obtained for "patents," but my recollection is that neither the demand for these nor for medical advice had reached anything like the extent to which the higher wages and the increased prosperity of the community has since brought it up. The general impression appears to be that the average income of the present-day chemist is less than it was, and this is no doubt true when compared with the prosperous times of twenty-five or thirty years ago, but with the middle of last century the comparison would, I believe, be found to be in favour of the present time. What I believe misleads us is that, in common with the rest of the community, we lived much more simply in those earlier days, and that neither personal nor family expenses ran so high. It may be interesting to you to hear a few

Extracts from an Old Ledger

in my possession of date about 1840. In it there are no fewer than twenty accounts for supplies of crude drugs and preparations to doctors, showing how common the dispensing medical man was in those days. It is impossible to get at the prices of mixtures as the sizes are not given, but the following are the charges made for dispensing even to country people:—Pills, 3d. per dozen; powders, 1d. each, even to single powders; ointments, 3d. per oz.; antimonial wine, 3d. per oz.; tinctures, 4d. per oz.; infusions, 1d. per oz.; mixture to recipe, 3d.; antibilious pills, 2d. per dozen. On the other hand, some of the retail prices make our mouths water:—Castor oil, 3d. per oz.; essence of lemon, 1s. 6d. per oz.; rhubarb, 1s. per oz.; soda water, 3s. 6d. per dozen; and Howard's soda, 1s. 8d. per lb.

The passing of

The Act of 1868

changed the whole conditions of pharmacy. It put the trade upon a recognised footing, which it has not yet lost, but which has been to some extent obscured. There can be no manner of doubt that the original intention of the Act was to confine the keeping of open shop for the supply of scheduled poisons and the use of certain titles to examined persons. The decisions of the Law Courts have, however, over and over again decided that the Act fails to do this, but it has as often laid down the law that the sellers must be qualified. This stops far short of what we think is required for the safety of the public, of what we think is simply justice to the qualified person; but are we doing the most we can to safeguard and use the power that is left to us for our own protection? Personally, I am of opinion that it is a distinct danger to the public that anyone else than the person or company whose name is upon the shop or store, and who is reaping the profit, should be looked upon as the seller. Equally, I think it is misleading the public to allow a company of unqualified men to use the title "chemist." That should be restricted to their qualified manager, if they have any. In many cases the companies are bogus, and belong almost solely to men who have failed to qualify, and who have taken advantage of the Limited Liability Acts to defeat the law. But in all cases, whether the object is money-making or evasion of the Pharmacy Acts, these companies are practically breakers of the law which has been passed as "expedient for the safety of the public." Are we doing our best as individuals to educate Parliament and the public upon these points by showing them that they require attention, as much in the interest of the community as in the interests of our trade? I think not. We are not yet agreed amongst ourselves as to what we want, or, rather, as to what we can get. Quoting from a leader in the *Pharmaceutical Journal*, "If anything is to be done practical unanimity must be secured, all internal opposition should be neutralised, and due regard must be paid to what is practicable under existing circumstances."

The Pharmacy Bill

is an admitted compromise, the result of a good deal of "give and take" between its framers, so that possibly not a single one of them is perfectly satisfied with all its clauses, but it is in the main right, and would give us what at present we entirely lack, namely, the power of regulating the whole of the trade. The Bill has been approved by the great majority, if not the whole, of the trade associations throughout the country, and what it now requires to give it a chance of becoming law is the personal interest in it of every member of the craft. Is it too much to expect that it will secure this? The Bill is certainly not all that we could wish, but it would give us a big slice—a much bigger slice than we are likely to get if we delay much longer. This time we have the General Medical Council with us, and with its influence and a united trade, we should have a fair chance of success. The weak point in our case is our notorious lack of union. United we could do much; disunited we can do little. And the only rallying ground is under the flag of the Pharmaceutical Society. I, at times, regret that the Amending Bill does not contain a clause making yearly registration compulsory, the small fee (say 5s.) chargeable for this carrying with it membership of the Society. As John Taylor, that manly man whose loss we have had so recently to deplore, has wisely said, "A man says, 'Why should I join the Society? What has it done for me?' I confess it is not easy to tell him." I think the proper way—a way not incompatible with true individualism—is to say, "What can I do for myself through the Society?" You may tell the man who asks that, "Everything that men acting collectively can do for themselves." But what, Mr. Chairman, you may ask, has all this to do with the future of pharmacy as a trade? Assuming that we succeed in passing our Bill, that we succeed in securing the power of regulating the whole trade—the illegitimate as well as the legitimate—what better would we be than we are at present? We would still have the combination of Store and Company against us. Quite true, but they would not have the free hand which they have now. We would at least know where we were; we would stand on solid ground and not upon a quicksand. We would pit against impersonality and cheapness, personality and efficiency; against commercialism, professional knowledge. I am not a pessimist. I believe that the future of pharmacy is with the pharmacist, if his training is pursued on the right lines. He must conduct his business on business principles, certainly, buy keenly and sell keenly, but he must never forget that he is selling more than drugs, that he is selling a knowledge of his wares, of their properties, qualities, uses and modes of preparation. He should be able to say that "this is right, because I made it, and that I know is wrong, because I have tested it." He should cultivate his personality, and so gain the confidence of his customers, and he should without hesitation claim the reward of his knowledge and professional skill. Much in the way of encouragement to the purely commercial chemist—the man who would compete with the drug companies on their own ground—I cannot give. I believe this policy to be a mistake; to be a wilful drawing away of the trump cards in one's hand. Nor do I think such a policy likely to succeed unless with persons of exceptional energy and with a command of capital which is unusual in the case of the average chemist. I have been gradually forced to the conclusion that its future lies in the better education and higher training of the individual pharmacist. Exception is being taken to the high standard of our preliminary examination, and there is little doubt that it is too high for purely commercial pharmacy, but if my view is the correct one, that the successful future lies in the combination of professionalism with commercialism, then the present preliminary requirements are not a bit too high, as the only way to secure the required qualification is through a curriculum, and for any curriculum worth adopting a generous primary education is absolutely necessary. When the arrangements for a curriculum come to be a matter of practical politics, I hope that some university connection will be secured, but, at the same time, I trust that generous recognition will be made of the many admirable pharmaceutical training schools throughout the country which are at present doing so good work. Let me, in conclusion, urge upon the young pharmacists here to look forward with hope and confidence to the future practice of the calling they have chosen. It may not prove specially money-making, but it is honourable, interesting, and useful. No one nowadays expects to be spoon-fed. He must feed himself or live very sparingly. The pharmacist can be no exception to this rule. He must, in the right sense of the term, be all things to all men; the medical man, the nurse, and the patient's right hand; the general consultant in all difficulties for the clearing up of which a little chemical knowledge is required; the amateur photographer's guide, philosopher and friend; in country towns their optician, and in many cases their district analyst. He can, in fact, always lead a fairly profitable one, as I hope will be the experience of many of those who have listened to my long sermon to-night.

Mr. D. B. Dott, in moving a vote of thanks, said there could be but one opinion as to the highly interesting and important character of Mr. Storrar's address. They much regretted his absence, but were glad to know that he was so much better. In almost everything Mr. Storrar said of a controversial nature he was in cordial agreement with him. The maintenance of a high standard of education was a matter of very great importance.

Mr. Peter Boa, in seconding the vote of thanks, said he thought Mr. Storrar's contention for high education and thorough equipment was the right thing. As to the future, he believed the professional aspect of pharmacy would be more and more recognised.

The Chairman said he was certain they would be wise not to lose sight of the professional side of their calling, which was its real backbone.

In the unavoidable absence of the author, Mr. David McLaren, the following paper was read by Mr. J. G. Sclater:

If the Drug Business is a "Trade," Why so much Preparation?

Ours is a particular calling. The boys come to us after a very special training, and after having passed a strict general knowledge examination, to serve a four years' apprenticeship. They are taught to sweep floors, clean windows, polish bottles and counters and cases, wash measures, and break them, and mortars, and a lot of other duties admirably fitted for their future career as pharmacists. The boy or the man who does all these things well, we have no hesitation, will in the course of his studies of pharmacy, materia medica or chemistry come to the front. Time for study must be found, and we would act wisely and well, while insisting on the attendance of the boy at 8.30 a.m. and the performance of other duties in the shop, give him of our time a little share that he may learn from others that wisdom which cannot be always found in a drug shop. In 1868 a real, very real, Act, conferring all necessary benefits and securing to chemists and druggists the sole right to deal in and dispense poisons, was passed, but through careless drafting, where are we? Limited companies have learned the way how to do it, and have to a large extent partaken of the good things that should have gone to make the chemist fat. Every change hitherto has been in the direction of crippling us at all hands. A boy, when he hears of what is before him and the expenses to be incurred before being able to qualify, thinks seriously, and comes, reluctantly it may be, to the conclusion that he had better seek his fortune elsewhere. Thirteen guineas for fees alone, not to say a word about the cost of classes, is far too much. What about the qualifying examination? Is it not too much to expect a common man to undertake the whole at once? Why not divide it into two? Are the tests, particularly in dispensing, fair ones as to the ability of the examinee? We think that all should be made smooth sailing for the practical dispensing; but should the examiner see fit to set, as is now and again done, a theoretical prescription entailing some arithmetical calculations too cumbrous to grasp, he should not write it to be made up, but simply, after the other work has been done, lay it down and ask the man how he would go about it. We feel sure the result of the returns of passes would not then be 30 per cent. The weak part of our armour consists in this, that a man having passed and got his qualifying certificate need no longer have anything to do with our Society. If we are, as we hold, only traders, why all these hindrances as to its furtherance?

Mr. Lunan, in proposing a vote of thanks, said it was well known that Mr. McLaren held strongly some broad views in regard to education and examination, and he expressed them freely. That did not detract in any way, as all who knew him were aware, from his loyalty to the Society and all that related to its interests. He whole-heartedly believed that their business was merely a trade, and that so much preparation was unnecessary. He (Mr. Lunan) did not agree with that, but believed such preparation was necessary if they were to do their work well.

Mr. Donald McEwan, in seconding, said he did not think the present regulations of the examiners asked too much in the way of education. With regard to the dispensing problems, they had been hearing too much of the opinion of the rejected candidate, and it would be well to hear what was to be said on the other side. He had been glancing at the 'Pharmaceutical Journal Formulary' in the Library before entering the meeting, and was much struck by the appositeness of a quotation from Bacon on the first page, as follows :—

> I hold every man a debtor to his profession, from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavour themselves by way of amends to be a help and ornament thereunto.

He thought they would all agree that that was a most sensible saying. Some thought the trouble of qualifying too much, but he would like to encourage such by quoting a verse written up on the wall in the pharmacy where he was employed, by a former apprentice :—

The heights by great men reached and kept,
  Were not attained by sudden flight;
But they, while their companions slept,
  Were toiling upwards in the night.

Mr. McCutcheon, in the general discussion, said he thought the prescriptions set in the Minor should be published for the guidance of intending candidates, as was done with the Major questions.

Mr. Rutherford Hill said the progress of co-operation would be a most important competitor with individualism in pharmacy, and hence the vast importance of thorough education and equipment, so that in a communistic as well as in an individualistic state the position of the pharmacist would be duly protected. It was of great value to have the deliberate and mature opinion of one with such ample opportunities and experience as Mr. Storrar so distinctly in favour of higher education and professionalism as the true safeguard of the future of pharmacy.

The Chairman agreed with Mr. Lunan as to the Minor Examination prescriptions. He put the votes of thanks to the meeting, and they were cordially awarded.

Mr. Alexander McCutcheon was unanimously elected Vice-President, in the room of Mr. A. E. Kelly, who had gone to fill an appointment in England.

CARDIFF AND DISTRICT PHARMACEUTICAL ASSOCIATION.

GENERAL MEETING.

Wednesday, February 24, 1904, in the Park Hotel, Cardiff, the President, Mr. D. Anthony, in the chair.

The Representation of Wales on the Council of the Pharmaceutical Society

was introduced by Mr. Hagon, who spoke strongly in favour of Wales having direct representation on that body, as did Messrs. J. A. Jones, Malins, Coleman, and the Vice-President, Mr. Blake Benjamin. The following resolution was proposed by Mr. Benjamin, seconded by Mr. Rees, and carried unanimously :—

> That this meeting of the Cardiff and District Pharmaceutical Association thinks it desirable that Wales should have a representative on the Council of the Pharmaceutical Society, and directs the Hon. Secretary to write to the various Divisional Secretaries throughout the Principality and ask their opinion as to the advisability of making an effort to bring this about.

WAKEFIELD AND DISTRICT CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Tuesday, March 1, 1904, at the White Horse Hotel, Wakefield, Mr. Whaley in the chair.

The Chairman reported his attendance at the annual dinner of the Dewsbury Association, and reference was made to the forthcoming dinner of the Wakefield Association, which will take place on Wednesday, March 23.

The Hon. Secretary read a communication which he had received from Mr. W. Watson-Will, Secretary of the Federation of Local Pharmaceutical Associations. This enclosed copies of a communication to members of Parliament with reference to the Pharmacy Bill. The letter went on :—"Yours is one of the associations which up to the present have not become units of the Federation. May I ask your members to seriously consider this matter, and I hope they will see their way to become affiliated with the Federation."

BARNSLEY AND DISTRICT CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Thursday, February 25, 1904, at the Royal Hotel, Barnsley' the President, Mr. H. B. Billington, in the chair.

Replies from the several proprietors of patent medicines written to by the Secretary were read. Messrs. Prout and Harsant's letter, announcing the fact that their preparation, Blair's Pills, had been put on the P.A.T.A. was received with satisfaction.

An invitation to the annual dinner of the Wakefield Association was read, and the Secretary, Mr. W. Rigby, was appointed to represent the B. and D.C.A.

A discussion on Medicine Stamp Duty took place, and the Secretary was instructed to ask the editors of the trade journals why preparations, such as tabloids, etc., even if a pure drug, or if the formula is disclosed, should be sold without medicine stamp, when the law courts have decided that the makers have a proprietary right in the name of the preparation? (See page 248 of last week's issue.—Ed. *P.J.*)

Mr. Norwood suggested that the members of the Association have uniform formulæ for mixtures (cough, etc.), to retail in small quantities, the formula to be disclosed. Other members discussed the matter, but the question was adjourned for further consideration.

CHEMISTS' ASSISTANTS' ASSOCIATION.

ORDINARY MEETING.

Thursday, February 25, 73, Newman Street, London, the Vice-President, Mr. A. Latreille, in the chair. In consequence of the Junior Pharmacy Ball having been held the previous evening, at which many members of the Chemists' Assistants' Association were present, there was only a very small attendance. Mr. Robins, of Kodak, Limited, who had kindly promised to give a demonstration of collodio chloride and gaslight printing papers, entertained the members present with an interesting account of the gradual building up of the various tones obtained with the collodio chloride paper of Kodak, Limited. He demonstrated with the lantern the advantage of ortho-chromatic Kodoid plates. He also gave a demonstration of printing with the Dekko paper, and showed the Premo film pack.

A vote of thanks to Mr. Robins was heartily accorded, after which the meeting terminated.

INSTITUTE OF CHEMISTRY.

ANNUAL MEETING.

The twenty-sixth annual general meeting of the Institute of Chemistry was held at 30, Bloomsbury Square, on Tuesday, March 1, Mr. David Howard, President, in the chair.

The annual accounts, with the report of the auditors, having been submitted by Mr. A. Gordon Salamon, Hon. Treasurer, and duly received, Professor Tilden moved the adoption of the annual report of the Council, at the same time commenting on the general progress of the Institute. He considered it satisfactory to note that, notwithstanding the increasingly stringent regulations as to training, the very high standard of the examinations, and in spite of the loss of members by death, the number of Fellows and Associates—viz., 1,098—was 251 higher than in 1894. He also commented on the scheme for the promotion of the better training of technical chemists, now under the consideration of the Council.

Mr. Friswell seconded the report, which was then adopted.

The ballot for the election of censors having been taken, Dr. Thomas Stevenson, Professor J. Millar Thomson, Professor W. A. Tilden; and Dr. J. A. Voelcker were declared elected.

The meeting proceeded to appoint Hon. Auditors, and Messrs. A. R. Ling, C. H. Cribb, and R. E. Alison were appointed.

The President then delivered his address, in which he commented on the work of the Council during the past year, on the present position of the Institute, and on the work the Council at present have in hand.

He reported that the number of candidates for the examinations continued to increase, and that it had been found necessary to make arrangements for holding an extra examination in April of this year, in order to avoid an excess of candidates in July. The Council, with the help of the new Treasurer, had given particular attention to the finances of the Institute; the heavy expenditure on examinations had rendered it necessary to raise the fees, but the Council had given time for students, already in course of training, to become registered under the lower fees. The alterations would not be such as to impose a great hardship on the individual candidate, and yet, by the time the new regulations were in full operation, the fees received would probably meet the cost of the examinations. Hitherto, they had been conducted at a heavy loss. It had always been felt that the maintenance of the efficiency of the examinations was a primary duty of the Institute, and, in endeavouring to organise the profession—by bringing together the properly trained and competent—it had been necessary for the Institute to afford all possible facilities for this object. The principal duty of the Institute was to promote the better education and examination of public and technical analysts. Mr. Howard showed how the Institute had carried out this object in promoting the better education of professional chemists generally, and public analysts in particular. He mentioned incidentally that, from carefully collected information, he had ascertained that in England and Wales 93·5 per cent., in Scotland 89·5 per cent., and in Ireland 84·7 per cent. of the appointments as public analysts under the Sale of Food and Drugs Acts were held by Fellows and Associates of the Institute. However, no special provision had been made in respect of the training and examination of technical chemists, and it was to this matter that the Council at the present time were paying particular attention. An outline of the proposed scheme had been published in the 'Proceedings,' and details will be published shortly. The Special Committee which had the matter in hand would hold a conference during the present year with manufacturers and others interested in the progress of our scientific industries. The difficulty was to bridge over the gap between the scientific training and the practical work of the technical chemist; he has to learn to think in tons, instead of grammes. The whole questions would require most careful consideration, but it was hoped that the Institute might assist in overcoming the difficulty.

The officers and members of Council for the ensuing year were duly elected as follows:—

President.

David Howard.

Vice-Presidents.

George Beilby.
Frederick Daniel Chattaway, M.A., D.Sc.
Percy Faraday Frankland, Ph.D., F.R.S.
Edmund Albert Letts, D.Sc.
Edmund James Mills, D.Sc., F.R.S.
John Millar Thomson, LL.D., F.R.S.

Hon. Treasurer.

Alfred Gordon Salamon, A.R.S.M.

Members of Council.

Alfred Henry Allen.
Leonard Archbutt.
Edward John Bevan.
Bertram Blount.
Horace T. Brown, LL.D., F.R.S.
James Cameron.
Alfred Chaston Chapman.
Edwy Godwin Clayton.
James Kear Colwell.
Edward Divers, M.D., F.R.S.
James Johnstone Dobbie, M.A., D.Sc.
Bernard Dyer, D.Sc.
Thomas Fairley.
Richard John Friswell.
Arthur George Green.
Alfred John Greenaway.
Oscar Guttmann.
Henry James Helm, I.S.O.
Herbert Jackson.
William Walker James Nicol, M.A., D.Sc.
Frederic James Montague Page, B.Sc., A.R.S.M.
William Jackson Pope, F.R.S.
Alexander Scott, D.Sc., F.R.S.
David Alexander Sutherland.
Leo Taylor.
Edward William Voelcker, A.R.S.M.
Sydney Young, D.Sc., F.R.S.

SOCIETY OF PUBLIC ANALYSTS.

ORDINARY MEETING.

Wednesday, March 2, 1904. A paper was read on

The Adulteration of Otto of Rose

by Mr. F. Hudson-Cox and Mr. W. H. Simmons.

Now that artificial otto of rose has been brought to such a state of perfection, and is so much cheaper than the natural otto, its use as an adulterant of the latter was only to be expected, in view of the sophistication this product has always been so largely subject to. A strong point in favour of artificial otto for adulteration was that, unlike palmarosa or geranium oils, it had no very appreciable effect on the physical and chemical data usually taken in examining an otto, even when added in large quantity. That this is so will be seen from the following table, showing analyses of two makes of artificial otto:—

	A.		B.
Specific Gravity, 30°/15·5°	0·8629	....	0·8583
Rotation, 100 Mm., at 30° C.	—0° 50′	....	—0° 14′
Saponification Number	20·5	....	3·8
Setting Point	22·5° C.	....	21·9

The authors showed that the iodine absorption gives a means of detecting the addition of artificial to natural otto, as well as the presence of otto common adulterants. They find that genuine natural otto absorbs from 187 to 194 per cent., artificial 221 to 254, when containing stearoptene, and 261 to 279 if free from stearoptene; palmarosa, 296 to 307; geraniol, 239 and 307 for two different makes; and geranium oils about 213. The method adopted is to treat 0·1 to 0·2 Gm. of the oil with 25 C.c. of a freshly-prepared Hübl solution, allow to stand three hours at the temperature of the laboratory, and titrate back the excess of iodine with this sulphate in the usual manner.

LEGAL INTELLIGENCE.

Pharmacy Act, 1868.

Application to Commit at Dartford.

Pharmaceutical Society v. Bishop.

On Wednesday, March 2, 1904, at the Dartford County Court, before his Honour Judge Emden, an application was made to commit J. H. Bishop, an unqualified assistant, in the employment of Mr. Sykes, at 109, West Street, Erith, for default in complying with an order of the Court, made on January 13, 1904, to pay a penalty of £5 and costs for selling a poison in contravention of Section 15 of the Pharmacy Act.

The case was reported in the *Pharmaceutical Journal* of January 16, 1904, page 63.

Mr. W. H. Quarrell (of Messrs. Flux, Thompson, and Quarrell, solicitors for the Pharmaceutical Society of Great Britain) appeared for the Society. The facts stated to the judge showed that Bishop had had an order made against him in the Edmonton County Court on May 14, 1903, for a penalty of £5 and costs for selling another poison, in which case he had confessed judgment, and signed a consent to pay the same by instalments—£2 on June 15, and the remainder by £1 5s. each month. He had paid the first instalment of £2, but had not since made any payment on account of either penalty. The Society now applied for committal, the order made on January 13, 1904, having also been endorsed with notice of attachment.

The Defendant gave evidence, and stated that his salary had been 30s. per week, and was now 25s.; that he had a wife and five children depending upon him, and that he had, after the 1903 penalty, been out of work sixteen weeks.

His Honour, after careful consideration, and under the special circumstances which defendant alleged, directed the application to be adjourned so long as Bishop should pay 10s. a month regularly. His Honour stated that he only made this order under the special circumstances of Bishop's position, otherwise the case, apparently showing that he had wilfully again sold poison and infringed the Act, would have been dealt with at once by committal, and his Honour cautioned the defendant accordingly.

His Honour made an order for the Society's costs of this action.

Sale of Food and Drugs Acts.

Cream of Tartar.

On Saturday, February 20, 1904, at Leicester, Joseph Bishop, grocer, of Oadby, was summoned in respect of cream of tartar which contained lead in the proportion of three-quarters of a grain per pound. Mr. G. T. Hincks, for the defence, admitted the facts, and said his client had for upwards of twenty-five years carried on a grocery business at Oadby. The defendant had purchased the drug from a Leicester chemist of the highest standing, and paid the highest price for it. The Bench imposed a penalty of £2 and costs.

On Wednesday, February 24, 1904, at Loughborough, Edward L. P. Parker, chemist, of Castle Donington, was summoned for selling cream of tartar which contained arsenic to the amount of one-tenth of a grain to the pound.

Mr. Wilfred Moss pleaded guilty on defendant's behalf, and said that the previous week the explanation as to the presence of lead in the cream of tartar was that the latter was prepared in leaden vessels, and he (Mr. Moss) stated that manufacturers were seeking to obviate that adulteration by using earthenware vessels. But they appeared to be jumping out of the frying-pan into the fire, for the arsenic in the present case probably came into the salt from the earthenware vessels used in its preparation. Defendant bought the stock of a chemist who died in Castle Donington about two years ago.

A fine of 40s., including costs, was imposed.

Charles Lee, grocer, Great Wigston, and Maria Johnson, grocer, Great Wigston, were summoned for similar offences.

In each case a penalty of 40s. and costs was imposed.

Sweet Spirit of Nitre.

On Thursday, February 25, 1904, at Sheffield, Chas. Powell, grocer, Harvest Lane, was summoned for selling sweet nitre which was deficient in nitrous ether. A fine of 10s. and costs was imposed.

William Kirkby, chemist and druggist, 36, Meadow Street, Sheffield, was charged with a similar offence.

Defendant contended that the liquid deteriorated in the act of pouring out.

Dr. Scurfield, Medical Officer of Health for Sheffield, however, did not think there could be deterioration to such an extent as shown by the certificate of the analyst.

Defendant was fined 5s. and costs.

Olive Oil.

On Friday, February 19, 1904, at Westminster Police Court, Messrs. Pearks, Gunston and Tee, Limited, of Bayer Street, Finsbury, E.C., were charged before Mr. Horace Smith with selling at a branch establishment, 4, Lower Belgrave Street, S.W., adulterated olive oil.

Mr. F. W. Beck appeared for the defendants, who had taken an adjournment of the case for an independent analysis of the oil at the Government Laboratory. The certificate of Mr. Cassal, one of the analysts of the Westminster City Council, set out that the adulteration amounted to 33 per cent. of arachis nut oil. The Government analysts' report was that the sample submitted contained oil of the character of arachis nut oil to the extent of not less than 13 per cent. Mr. Strutt, for the City Council, said that in any case he should submit that the adulteration was proved. The prosecution asked the Court to accept the City analyst's report as the correct one.

Mr. Beck agreed with his friend that the Government analysis was not binding. The Government Laboratory was in no sense a court of appeal. Though in a sense their report was against his clients, it differed in a marked degree from Mr. Cassal's analysis. He proposed to call a third analyst of very great experience and reputation, prepared to testify that the oil was absolutely pure.

Mr. Otto Hehner said he had given special attention to the analysis of fats and oils. The olive oil which formed the subject of this prosecution was perfectly genuine and of good quality.

The Magistrate said that, on the evidence, he could not convict, and he therefore dismissed the case. No costs were asked for.

Lime Water.

Monday, February 29, 1904, at Jarrow Police Court. Messrs. Mason and Co., Limited, were summoned for selling lime water deficient in calcium hydrate. Mr. C. W. Newlands defended.

Mr. Ed. Batey, the Borough Inspector under the Acts, said he purchased a pint of lime water at defendant's shop in Ormonde Street, Jarrow, on January 26, and paid 2d. for it. He handed in the analyst's report, showing that the lime water, when tested by the B.P. method, was deficient in lime to the extent of 23·70 per cent., and that it had suffered no change since purchase.

Mr. Newlands said his clients were unable to say how the deficiency had occurred, but he urged there was no wilful contravention of the law. He said two ounces of lime, which cost about ¾d., went to make a gallon of lime water, and therefore any suggestion of dilution could scarcely be entertained. Mr. Newlands further informed the Bench that Messrs. Mason had decided to discontinue the sale of lime water, and now supplied their customers with lime and instructions how to make lime water. He thought it was a case that might be dismissed on payment of costs.

Mr. Mason, managing director of the company, said the deficiency might have occurred through the bottle not having been sufficiently shaken when the lime water was prepared; this would cause undissolved parts to fall to the bottom.

Cross-examined: Are you a chemist?

Mr. Mason: Yes.

Inspector: Are you qualified?

Mr. Mason: No. Continuing, Mr. Mason said he knew the Pharmacopœia method of making lime water, but did not make this lime water himself, nor did they take any means to know the strength of it.

The Inspector, on handing the British Pharmacopœia to the Bench, said: I do not suggest that this gentleman attempted to defraud the public, but I do suggest that gross carelessness has been used in the manufacture of this lime water.

Mr. Coldwell, the assistant who prepared the lime water, said he put in the proper proportion of ingredients in accordance with the recognised rule. He was not a qualified chemist. They had a qualified chemist—not in the Jarrow shop, but at Shields.

The Bench retired for a few minutes, and on returning the Chairman said that, in the opinion of the Bench, there had been carelessness in the preparation of the lime water, and defendants would be fined 10s. and 16s. 6d. costs.

Medicine Stamp Duty Acts.

Selling Medicines Without a Licence.

At Petersfield, William Street, a grocer, of Horndean, has been fined £5 and the costs, 11s. 6d., for keeping for sale "patent" medicines liable to stamp duty without having the necessary licence.

Opoponax Bouquet.

Grain musk, 30 grains; vanilla, ½ oz.; Tonka beans, 2 drachms; alcohol (9 per cent.), 25 fl. oz. Macerate for one month and add citron oil, 1 drachm; bergamot oil, 1 drachm; citronella oil, 15 minims; lemon oil, 15 minims; otto of rosee 50 minims; patchouli oil, 50 minims; violet extract, 16 fl. oz.; rose extract, 10 fl. oz.; tincture of orris, 10 fl. oz.; cassi, extract, 5 fl. oz.; orange-flower extract, 5 fl. oz.—*Spatula*, 9, 546.

POISONING CASES AND INQUESTS.

The deaths by poisoning reported during the seven days ended Wednesday, March 2, 1904, numbered ten.

Poison.	Accident.	Suicide.
Ammonia	—	1
Carbolic Acid	—	2
Chloroform	1	—
Ether	1	—
Hydrochloric Acid	—	1
Hydrocyanic Acid	—	1
Laudanum	—	1
Oxalic Acid	—	1
Strychnine	—	1
Total	2	8

Ammonia.—A Keighley man committed suicide by taking liquid ammonia.

Carbolic Acid.—A Worksop butcher drank some two ounces of disinfecting carbolic acid. A young woman at Sheffield also committed suicide by taking a quantity of phenol.

Chloroform.—A woman at Mere, Wiltshire, died under chloroform.

Ether.—A Blackburn woman died under ether, administered as an anæsthetic.

Hydrochloric Acid.—A man died in the West London Hospital after taking hydrochloric acid.

Hydrocyanic Acid.—A Weymouth chemist, who had been in financial difficulties, committed suicide while temporarily insane by taking prussic acid.

Laudanum.—A man at Bradford committed suicide by taking laudanum.

Oxalic Acid.—This acid caused the death of a labourer at Preston.

Strychnine.—A vermin-killer containing strychnine was taken with fatal effect by a woman at Coleshill.

INQUESTS.

Conclusion of Inquest at Portsmouth.

It was late on Thursday night, the 25th ult., when the jury (engaged in inquiring into the misadventure whereby four female patients of the Portsmouth Borough Lunatic Asylum came by their deaths from an overdose of chloral) came to a verdict.

Dr. Henderson, recalled, said that since giving evidence at the last hearing and as a result of consideration given to the questions asked by the Coroner as to whether he had tampered with the dispensing bottle of chloral and bromide, he had spoken to Dr. Merry respecting a suspicion which had occurred to him after sealing the bottle on Thursday afternoon in the presence of Dr. Merry and Dr. Watson. During Wednesday night he had occasion to make several visits to the dispensary, and on one of those occasions he glanced at the chloral and bromide bottle, and noted its contents. He did not handle it, or take it down, in any way; but on Thursday, when the bottle had been sealed up, it seemed to him that there was rather less in the bottle then than when he saw it in the night, and he mentioned the fact to Dr. Merry, and expressed the hope that no one had been tampering with it. Dr. Merry replied that no one was likely to do that.

The first of the analysts was then called in the person of Mr. Edward Russell, B.Sc., F.I.C. The dispensing bottle contained 12·7 grains of chloral hydrate to the fluid ounce, with from 4 to 5 grains of potassium bromide to the fluid ounce. In the draught bottle there were 192 grains of chloral hydrate per fluid ounce, or 384 grains to the 2 ounces which the bottle would contain when full. There was but a faint trace of bromide in the bottle; therefore the draught could not have been taken from the dispensing bottle if its contents were then in its present state. The percentage of chloral hydrate in the dispensing bottle was 2·88, and in the draught bottle 44·1. If anyone had roughly filled the draught bottle half full of pure chloral, and then filled it up with water, that would account for the mixture he found, except as to the colouring matter, and as to the trace of bromide, which would be accounted for by the bottle being badly rinsed before using. He had also analysed the contents of three other bottles—two Winchester bottles and one dispensing bottle. The Winchester bottles were used as stock bottles; one contained pure chloral and the other chloral hydrate and potassium bromide, whilst the dispensing bottle contained pure chloral. In the chloral stock bottle were 437 grains of chloral hydrate to the fluid ounce, and in the chloral potassium bromide (stock) bottle were 27·4 grains of chloral hydrate per fluid ounce, and 31 grains of potassium bromide per fluid ounce. If the dispensary bottle referred to in his previous analysis (the one from which the draughts were said to have been taken) had been half filled from the Winchester bottle of chloral potassium bromide, and then filled up with water, it would contain about the right quantity of chloral hydrate, but not the right quantity of potassium bromide, as found in the bottle. In potassium bromide there would be a difference of about one-seventh, or 10 grains to the ounce. Under these circumstances, therefore, it was not probable that the dispensing bottle containing the mixture as there now was filled from the stock bottle to which he had referred.

Dr. Lysander Mayburg, who conducted the post-mortem examination on the bodies, was asked by the Coroner if it were the custom amongst medical practitioners who dispense their own drugs to have qualified chemists as dispensers, or whether they were in many instances unqualified, and Dr. Mayburg replied that as a rule they were qualified, or they had had great experience to fit them for the duties required of them.

The Coroner: But as a rule they are qualified chemists?

Dr. Mayburg: They are.

The Coroner: But there are instances where they are not, but yet are experienced men?

Dr. Mayburg: Yes.

The Coroner then proceeded to make his observations upon the evidence. The analyses, he pointed out, had established the fact that the opiates given to the deceased women contained 384 grains of chloral hydrate, instead of 30 grains, together with 30 grains of potassium bromide. If it were true that Dr. Watson took the draughts from the dispensing bottle on Wednesday, it was clear that between her taking them out and the time the bottle was sealed for analysis someone must have tampered with it, because the analysis showed it to contain only about 12 grains to the fluid ounce. There was evidence that on Tuesday night the dispensing bottle was empty, and on Wednesday the draughts were taken out of it by Dr. Watson, but who put the chloral in the dispensing bottle between seven o'clock on Tuesday night and seven o'clock on Wednesday morning, when Dr. Watson went into the dispensary to make up her prescriptions? Someone must have filled it up. It could not have filled itself, and if anyone in filling it had made a mistake and had put in pure chloral, instead of chloral hydrate and bromide, it was a great pity it had not been confessed, because no one could have been made criminally responsible for what might have been purely an accident. They had not had the whole truth as to that; something had been kept back. The Coroner put to the jury eleven questions on the principal points raised by the evidence, and in order to establish whether due and proper care had been exercised in the administration of the sleeping draughts, and whether anybody had been guilty of criminal or culpable negligence in the matter.

The jury were away about an hour, and on their return into Court the foreman announced that they found that death was due to chloral hydrate poisoning, the draughts having been taken from the dispensing bottle. They were of opinion that this bottle, which was empty on the Wednesday morning, was refilled before the Thursday, but they were unable to say by whom, and that it had been tampered with since the draughts were taken out. They thought proper care was exercised in the administration of draughts, and found no person guilty of gross criminal or culpable negligence, but that the deaths were the result of misadventure.

They also, by way of a rider, expressed the opinion that in future the dispensing should be performed by a fully-qualified person, and they expressed their regret that the person, or persons, responsible for the filling of the dispensary bottle had not had the moral courage to come forward and own to it. They further expressed condolence with the friends and relatives of the deceased women.

A thorough investigation by Portsmouth Borough Asylum Visiting Committee has not thrown any fresh light on the fatal poisoning of four female inmates. It has been decided, however, that, pending consideration of the appointment of a qualified dispenser, all dispensing at the institution shall be done by the medical staff.

NOTES IN PARLIAMENT.

The Pharmacy Bill.

The Pharmacy Bill was presented in the House of Commons on Monday last and read a first time, the second reading stage being put down formally for March 21. The following are the members whose names appear on the back of the Bill:—Mr. Henniker Heaton (Canterbury), Mr. Osmond Williams (Merionethshire), Mr. Wanklyn (Central Bradford), Mr. Marshall Hall (Southport), Mr. John Burns (Battersea), Mr. Remnant (Holborn division of Finsbury), Mr. Ellis Griffith (Anglesey), Mr. Jas. Reid (Greenock), Mr. Geo. McCrae (E. Edinburgh), Sir M. Bhownaggree (Bethnal Green), Mr. Tomkinson (Crewe), and Mr. Thos. Lough (W. Islington).

Sale of Poisons.

In the House of Commons on Monday last Sir Thos. Dewar asked the President of the Local Government Board whether his attention had been called to a coroner's inquest, held at Southwark on the 23rd ult., when the jury, in returning a verdict of death by misadventure, added a rider that the sellers of acids and all poisons should be compelled to label the vessel with the name of the substance it contained and the word poison, and that no poison should be sold to young children except in sealed bottles; and, if so, would the question of legislation on the subject receive his consideration. The Home Secretary replied in the following terms: I have been asked by my right hon. friend to answer this question. I am not aware of the facts of this particular case, but, as to further legislation with regard to the sale of poisons, I would refer my hon. friend to the statement made by the Prime Minister on March 4 last, indicating that the matter only awaited a favourable opportunity.

The Sugar Convention.

Mr. Kearley has asked the President of the Board of Trade whether, having regard to the nature of the matter to be brought before the Permanent Commission, established under the Brussels Sugar Convention, in March next, with reference to the limitation of the surtax laid down in Article 3 of the Convention, the Government propose to take the advice of experts in the trades interested. Mr. G. Balfour replied that he had taken steps to learn the views of those interested in the trades referred to, and he should be glad to consult with any expert who might be suggested by the Association representing those trades.

Illicit Trade Commission.

In the House of Lords the Lord Chancellor has again brought in the Prevention of Corruption Bill. The Bill used to be warmly championed by the late Lord Chief Justice Russell, and is now assiduously advocated by the present Lord Chief Justice, at whose instigation the Government took the measure into their own hands a year or two ago.

The Metric System.

The following peers have been appointed as the Select Committee on Lord Belhaven and Stenton's Weights and Measures (Metric System) Bill:—Lords Belhaven and Stenton, Colchester, Wolverton, Kelvin, and Farrer.

Pharmaceutical Legislation.

Mr. O'Malley has given notice of the following question to the First Lord of the Treasury, "Whether he will consider the advisability of adopting for Great Britain a measure similar to the Ordinance lately promulgated for the Orange River Colony, which prohibits a firm, co-partnership, or company, carrying on the business of a pharmaceutical chemist in the dispensing of medicines or the compounding of poisons unless the directors are qualified persons."

The Sale of Opium in South Africa.

Mr. Herbert Roberts has asked the Secretary of State for the Colonies whether the Regulations relating to the Transvaal Labour Ordinance will contain special provisions with reference to the sale of intoxicating liquors and prohibiting the sale of opium to the Chinese imported labourers, and Mr. Herbert Samuel has asked the same Minister a similar question. Mr. Lyttelton states that he is not aware that Chinese labourers are addicted to the excessive use of opium, but the necessity for providing against such abuse will be borne in mind.

The Dispensing at Portsmouth Asylum.

Sir Albert Rollit, M.P., has given notice of the following question:—To ask the President of the Local Government Board whether he will state what steps will be taken to carry into effect the rider of the jury in the case of the inquest held on February 25 upon the four female patients in Portsmouth Lunatic Asylum who died from the effects of careless dispensing; and whether the Local Government Board will cause regulations to be made requiring all dispensaries in public institutions to be in charge of persons registered under the Pharmacy Acts.

MISCELLANEOUS NEWS.

Divisional Secretaries and other Members of the Pharmaceutical Society are requested to assist the Editor by sending local newspapers containing items of interest to chemists and druggists.

Burglary at a Scarborough Chemist's.—During Friday night burglars broke into the premises of Messrs. John Whitfield and Son, of 113, Westborough, Scarborough, and stole £3 in money.

Chemical Works Development.—It is reported that an important project is about to be carried out at Lostock Gralam, Northwich. It is the erection by Brunner Mond and Co. of new ammonia soda works—a development which competent judges declare will cost some £200,000.

Glasgow and West of Scotland Pharmaceutical Association.—In our report last week of the meeting of this Association it should have been stated that the firms which exhibited apparatus were Messrs. Raphael, Wheway, and Redfern, Limited, London, and Mr. J. Bain, Glasgow.

Chemists' Wills.—The estate of the late Mr. Frederick George Deacon, chemist and druggist, of 50, Victoria Road North, Southsea, has been valued at £2,740 gross.—The will of the late Mr. James Fawthorp, chemist and druggist, of Crossgate, Leeds, has been proved at £2,424 gross.

Guardians and Dispenser.—Mr. Harold Lloyd, solicitor, Cardiff, on Thursday, the 25th ult., received a letter from the Local Government Board intimating that Mr. Bircham, their inspector, had been instructed to hold an inquiry into the charges preferred by the Cardiff Board of Guardians against Mr. Taylor, who was formerly in charge of the union dispensary in Charles Street.

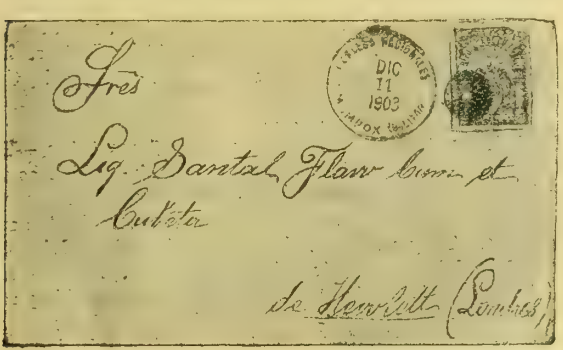
Chemists' Assistants' Association.—The twenty-sixth annual dinner of this Association will be held in the Venetian Chamber, Holborn Restaurant, on Thursday, March 17, at eight o'clock. Tickets, price 5s. each, may be obtained from the Council and stewards, and, the number being limited to 200, an early application is requested to the Honorary Secretary of the Committee, Mr. William Matthews, 10, Nelson Road, Stroud Green, N.

Fire at a Chemist's.—On Sunday morning, the 28th ult., a fire was discovered in the basement of Messrs. Hunt and Ruff's chemist's shop, Westborough, Scarborough, which is situate opposite the railway-station. The alarm was given, and the police fire brigade was soon on the spot, and confined the flames to this one spot. The damage is expected to be considerable, but until an examination is made no reliable estimate can be arrived at. The whole of the stock is said to be covered by insurance.

A Pharmaceutical Prodigy.—The *Daily News* has received numerous letters on the subject of the poor pay given to clerks in the Government service. One correspondent has pointed out, however, that "pharmaceutical chemists" are in worse case. He states:—"I know a gentleman in this profession who works fourteen hours daily, Saturday sixteen hours; he has had a good education, public school and university; he is a linguist, knowing enough of four languages to converse with the foreign customer. His knowledge of science is large; he is able to take a good shorthand note of a lecture; he can turn out good literary work. His manners are good, his conduct blameless. His ability in the business he conducts is shown by the fact that he has to extract teeth, prescribe for simple ailments, advise on photography and other matters. These attainments and this knowledge are at the call of an employer who pays him 40s. weekly. Compare his case with that of the Government clerks to decide which is in greater need of sympathy."

Optical Lectures in Glasgow.—A course of preliminary lectures, with practical instruction in sight-testing, to candidates preparing for the Dioptric Examination of the British Optical Society, were given by Mr. J. H. Sutcliffe, F.R.S.L., at the Shepherds' Hall, Bath Street, Glasgow, from the 8th to the 11th inst. Over thirty students attended, about one-half being connected with pharmacy. The lectures were much appreciated by the students, and the deep interest taken by each and all elicited from Mr. Sutcliffe the very flattering compliment that he could not recall having had the pleasure of instructing such an appreciative and hard-working class before. Mr. Chalmers, Springburn, replying, expressed the feeling of all present in saying that not only had they learned much, but the clear way in which Mr. Sutcliffe had delivered his lectures merited the attention which had been paid.

A Unique Envelope.—The accompanying illustration shows the address on an envelope which was recently sent from Colombia, South America, with an order for "Liq. Santal. Flav."



DIC
11
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Sres
Liq. Santal. Flav. Com. et
Cutèta
Sr Hewlett (Londres)

It reached its destination safely, and arrived at the works of Messrs. C. J. Hewlett and Son, Charlotte Street, E.C., without any delay on the part of the Post Office.

The St. Louis Exhibition.—The *Times* has published an article on the forthcoming exhibition at St. Louis, from which we extract the following:—The chemical exhibit is collective, and represents work carried out by several members of the Commission and other expert committee assistants. At their head is Dr. Boverton Redwood, who has given most of his time for many months to the task in hand. Ninety-two individuals, firms, and companies have contributed, so that no phase of the industry has been overlooked. A few among these are Messrs. Brunner, Mond and Co., Professor J. Norman Collie, Professor Dewar, the Glasgow and West of Scotland Technical College, Professor Hartley, of Dublin, the John Bennet Lawes Company, the Lister Institute of Preventive Medicine, Sir William Ramsay, Professor J. Emerson Reynolds, the South Metropolitan Gas Company, Professor Tilden, and Professor Travers. It became known at an early day that the Germans were also engaged in forming a chemical exhibit, and much friendly rivalry has ensued.

Pharmacies in Foreign Countries.—The Paris edition of the *New York Herald* has recently emphasised the undesirability of patients taking English prescriptions to French pharmacies. With the French Notes which appeared in the *Pharmaceutical Journal* of last week as a basis, the *Herald* has further investigated the matter and interviewed the Paris pharmacies mentioned. The following is a short abstract of the result of this very interesting inquiry:—"The whole case was summed up (says the article) in my very first interview, which happened to be at Swann's well-known pharmacy in the rue de Castiglione." I was told, there are a great many medicaments common to English prescriptions, the formulæ for which do not exist at all in the French Pharmacopœia. . . . . Many preparations, such as the tinctures, for example, vary greatly in strength according to the different countries. As a rule, the French tinctures are much stronger than those of England, while the names are exactly the same. Obviously, then, when the prescription has been written by an English practitioner, having in mind the British formula for a certain tincture, the product may be something widely different from what he intended, be it ever so conscientiously dispensed by a French pharmacist. The signs used in writing the prescriptions differ greatly according to the nationality of the prescribing physician. Thus, the ordinary French pharmacist cannot be expected to understand and, in fact, seldom does understand, the hieroglyphics of the foreign medical man.

The Colonies and the Metric System.—A Parliamentary paper has been published relating to the proposed adoption of the metric system of weights and measures within the Empire. The Colonial Governors had been asked to say what action was likely to be taken in their respective Colonies with regard to the resolution adopted at the conference of Colonial Premiers in London in favour of the adoption of the metric system. The replies received are thus summarised. The metric system is already used in Mauritius and Seychelles. The following are favourable to its adoption:—Australia, New Zealand, Cape of Good Hope, Transvaal, Orange River Colony, Southern Rhodesia, Gambia, Northern Nigeria, Gilbraltar, British Guiana, Trinidad, Leeward Islands, Windward Islands. Also, with a reservation that it must also be adopted in the United Kingdom or in the Empire generally, Sierra Leone, Southern Nigeria, Ceylon, and Falklands. Hong-kong would take common action with other Colonies. The States of New South Wales, Victoria, and Western Australia are also favourable, but, together with South Australia and Tasmania, consider that the matter is one for the Commonwealth Government. Fiji is doubtful, but must follow Australia and New Zealand. British New Guinea would go with Australia. Jamaica and British Honduras need the adoption of the system in the United States of America. The practice of India is imported to the Straits Settlements, which would be followed by Labuan; and the Bechuanaland Protectorate would follow the rest of South Africa. St. Helena, Cyprus, Lagos, Wei-hai-wei, Barbados, and Bahamas are on the whole unfavourable. The Gold Coast Colony and the State of Queensland are prepared to adopt, but consider that inconvenience would occur. Natal cannot consider the matter until some general lines of legislation have been agreed upon by his Majesty's Government. No definite answer has been given by Newfoundland, Malta, or Bermuda. Canada has not yet replied.

Dispensing by Doctors.—The lay Press continues to take an interest in this moribund problem. Letters have appeared in the *Standard*, one being a spirited defence by Mr. H. Wippell Gadd against the insinuations levelled at dispensing chemists as a class by a medical man. *Truth* of this week contains the following :—"The medical profession has been very much perturbed of late by a proposal made at the metropolitan branch of the British Medical Association that Parliament should be asked to make it penal for doctors to dispense medicines. In spite of the storm of indignation it aroused, there is a good deal to be said in favour of the proposal. Altogether, apart from the question as to whether the status of the medical profession would not be raised by making it entirely distinct from the calling of chemist and druggist, there is bound to arise the doubt as to whether the doctor is the best compounder of his own prescriptions. The time he can give to the acquisition of a knowledge of pharmacy during his training is necessarily trivial, and, so far as a practical knowledge of drugs is concerned, the average apprentice in a chemist's shop is probably better equipped than the young doctor entering practice to-day. One result is that the doctor is apt to depend very largely upon wholesale houses who compound for him stock mixtures and pills which he can dispense for himself with a minimum of trouble and expense, and another is that he is of necessity compelled to prescribe with an eye to his stock, as well as to the needs of his patient. Nevertheless, the time is hardly ripe for such a change. Medical fees in poor practices are already so small that the general practitioner could scarcely afford to share them with the chemist. . . . Even if poor patients could afford to support both the chemist and the doctor, I doubt whether they would do so. . . . The high ideals of Harley Street, under these circumstances, are scarcely sufficient to induce the general practitioner to commit financial suicide."

Weather-Forecasting Extraordinary.—Some notice has been taken in the lay Press of a lecture given at the Society of Arts on Saturday last by Baron Fridland von Nowack, on the "Forecasting of Atmospheric Disturbances on Land and Sea." The paper was concerned with a system of forecasting based primarily upon indications given by a tropical plant, *Abrus precatorius nobilis*, or "Weather Plant." According to the lecturer, immediately changes in the distribution of the electric and magnetic forces of our atmosphere and earth took place, the twigs and leaves of this plant performed peculiar and abnormal movements, each having its definite signification. For instance, as soon as a spot sufficiently large to influence our earth appeared on the sun, the twigs directed towards the district affected performed more or less rapid movements; and from the rapidity and extent of these movements, the direction in which the twigs pointed, and their variation in colour, there could be determined the nature, force, and geographical position of the disturbances that would affect our earth about twenty-six days later—*i.e.*, when the spot had completed its first revolution round the sun. He believed he had so perfected his system that from a single station it was possible for a radius of about 3,000 miles to issue, twenty-four or twenty-eight days in advance, special charts showing the "critical" barometric centres; to issue daily charts showing for from two to seven days in advance the lines of equal barometrical pressure and the districts of rainy, fine, and foggy weather; and to publish daily a detailed forecast, forty-eight to seventy-two hours in advance, of the weather within a radius of forty to sixty miles. It was explained that though with suitable precautions the "weather plant" could be grown by almost anyone, it was impossible to interpret its indications without a great deal of training and subsidiary knowledge. It may be mentioned that the species named is not one with which botanists are familiar, and the lecturer's theories must for the present be received with caution.

SCHOOL AND COLLEGE NEWS.

West of Scotland College of Pharmacy.—On Saturday last the students of the West of Scotland College of Pharmacy, accompanied by the principal, Mr. T. S. Barrie, had their first botanical excursion for 1904 to Balloch and Loch Lomond. Though so early in the season, a large number of flowering plants and ferns were found in various stages of development. Catkins of various willows, the hazel, the alder, the male cones of yew, ivy berries, cotoneaster fruits, cherry laurel in bud (flowers), etc., were collected, while the following ferns were found in excellent condition:—*Asplenium trichomanes, Polypodium vulgare, Blechium boreale.* Ben Lomond and its neighbours were covered with snow, but the bright sunshine tempered the winds and brightened up the shores of the romantic loch.

Inter-Pharmacy Football League.—Westminster *v.* London College.—Played at Old Oak Farm, Shepherd's Bush, February 27. The match resulted in an easy win for London by six goals to nil, Westminster playing only ten men. Goals scored by Righton (4), Dodgson (1), and Hilton (1).——Metropolitan College *v.* Muters.—The return match in the Inter-Pharmacy Cup Competition between the above teams was played on the ground of the latter at "Old Oak" Farm, Shepherd's Bush, and ended in a win for the Metros. by 6 goals to nil. The ground was very heavy, but a keen game was expected. Muters started well, their right wing making several good runs, and Keene, at half, was very prominent, but they could not break through the defence of Lloyd, Baird, and Co. At half-time the Metros. were leading by two goals to nil. In the second half the Metros. had much more their own way, and, scoring four more goals, they won as stated.

Football in the Inter-Pharmacy Cup Competition.—The interest in this competition is considerably diminished, as the Cup is already won by the Metropolitan College team, though the competition is not quite finished, as will be seen by the subjoined list. They will have the gratification of receiving the cup and medals from their principal, Mr. W. Watson-Will, who is taking the chair at the annual League smoking concert at the Holborn Restaurant on March 16. Had the Square succeeded in winning the cup this season it would have become their property; their defeat, therefore, leaves it in the competition for some years to come.

Position of clubs up to March 1:—

Club.	Played.	Won.	Lost.	Drawn.	Goals For.	Goals Agst.	Pts.
Metros.	7	7	0	0	52	5	14
London	6	2	2	2	18	8	6
Square	4	1	2	1	16	16	3
Muters	6	0	3	3	6	31	3
Westminster	5	1	4	0	3	35	2

TRADE NOTES.

Messrs. C. J. Hewlett and Son, 35-42, Charlotte Street, E.C., have secured the contract for the supply of drugs to the Metropolitan Asylums Board for 1904-1905.

A Royal Warrant.—The Vinolia Co., Limited, who held the appointment as soapmakers to the late Queen Victoria, have been appointed, by Royal Warrant, soapmakers to his Majesty the King.

A Guessing Competition.—A Worcester chemist, Mr. A. E. Marshall, has hit upon a new way of advertising Wright's Coal-

Tar Soap. He has had in his window for the past few weeks a huge block of coal, and has invited his customers and others to guess its weight. He has offered three prizes. The first is a Turkish bath bowl with whisk, and filled with Wright's Coal-Tar Soap; the second a Doulton shaving-pot, filled with Wright's Coal-Tar shaving soap and brush; and the third prize is a box of Wright's Coal-Tar Soap.

Benevolence and Essence of Lemon.—Messrs. Atherton Rudd and Co., Norwood Junction, who announced last week an arrangement, whereby every purchaser of 1 lb. of violet perfume would contribute 1s. to the Benevolent Fund of the Pharmaceutical Society, have now decided to extend the offer to essence of lemon for the coming season. Every purchaser of 1 lb. of essence of lemon will subscribe 4d. to the same fund. With every invoice will be forwarded a numbered receipt form, the duplicate of which will be retained by the publishers of the *Pharmaceutical Journal.*

COMPANY INTELLIGENCE.

Messrs. Freemans and Green, Limited, veterinary chemists, Phœnix Mills, Farm Street, Birmingham, announce that they have purchased the patent rights, stock, machinery and goodwill of Lawry's Patents, Limited, London, and that the agricultural appliances made by that firm will in future be manufactured at and supplied from the Phœnix Mills, Farm Street, Birmingham.

Evans, Sons, Lescher, and Webb, Limited.—The report of the directors for the year ending December 31, 1903, to be submitted to the second ordinary meeting of shareholders, to be held at the Law Association Rooms, 14, Cook Street, Liverpool, on Friday, March 4, 1904, at 1.30 p.m., has been issued. After providing for interest on the debenture stock and the dividend on the preference shares, and paying an interim dividend on the ordinary shares in July last, and fees and salaries to directors, there remains a balance available for dividend on ordinary shares of £9.880 0s. 10d. In July last the directors declared an interim dividend on the ordinary shares at the rate of 10 per cent. per annum for the six months ending June 30, and they now recommend that a further dividend on the ordinary shares for the remaining six months ending December 31, at the rate of 12½ per cent. per annum, be declared, carrying forward the balance, £505 0s. 10d. The directors are pleased to be able to state that they have fully maintained and developed their general drug trade at home and abroad. The absence of warm weather last summer considerably interfered with the consumption of the company's specialty—"Montserrat" Lime Fruit Juice and its preparations.

Alfred Bird and Sons, Limited.—The annual meeting of shareholders of the company manufacturing Bird's Custard Powder was held at Birmingham on the 18th inst., Mr. A. F. Bird (chairman) presiding. The report stated that the profits of the year, including a balance brought forward from last year, amounted to £53,982. The directors recommended that a dividend of 15 per cent. be paid on the ordinary shares, that £12,000 be placed to the reserve, and that £12,357 be carried forward. The Chairman pointed out that during the company's existence the dividends had risen from 7½ per cent. in the first year to 15 per cent. on this occasion, and in this brief period of four years a reserve fund of £32,000 had been built up and nearly £38,000 of the company's funds invested. After the payment of the dividends of 1903 the company would be richer by £64,420 than when its capital was originally subscribed. As to the prospects of the current year the directors did not see why they should not do as well as in 1903, unless the country became involved in the unhappy war now in progress. The report was adopted and Mr. R. M. Bird was re-elected a director.

PERSONALITIES, BUSINESS CHANGES, &c.

Mr. Daniel Davison, pharmaceutical chemist, of Jetty Street, Cromer, is a candidate for County Council honours.

Mr. W. S. Tavener, M.P.S., of Farnham, has purchased the old-established business of Mr. F. Wheeler, High Street, Guildford.

Mr. John Brooks, chemist and druggist, has been re-elected, unopposed, as the representative of the Central East Ward of East Ham on Essex County Council.

Mr. F. H. Prosser informs us that the two businesses which he has recently purchased at Birmingham are situated at Hagley Road and Spring Hill respectively, not at High Street, as stated in last week's issue.

Dr. Geo. W. Parker, M.R.C.P., and his son, have landed at Georgetown, Guiana, bent on a scientific exploration of the interior, to last five years. Their collections will be presented to the nation—plants to Kew, medicinal herbs to the Museums of the Pharmaceutical Society, and Geological specimens to the British Museum.

Mr. T. E. Richardson, M.P.S., is opening a modern cash pharmacy at 136, Warbreck Moor, Aintree, Liverpool. The work of fitting the pharmacy is being carried out by Messrs. Ayrton, Saunders, and Kemp, Limited. Mr. Richardson has been for many years in the pharmacy of Messrs. Richardson and Sons, of Sefton Park, Liverpool.

Miss Edith R. Clarke, second daughter of Mr. R. Feaver Clarke, pharmaceutical chemist, 21, High Street, Gravesend, has passed the matriculation examination of the London University. Miss Winifred Sowter Clarke, youngest sister of Miss Edith Clarke, and also a pupil at the Grammar School for Girls, Rochester, has been successful in the University of Cambridge Local Examination, being placed in the first class, second division, junior girls.

PRACTICAL NOTES AND FORMULÆ.

Triberane.

Under this name, a new purgative powder has been introduced into French pharmacy. It consists of sugar, 70; powdered liquorice root, 20; powdered resin-free senna leaves, 20; precipitated sulphur, 10; vanillin, 1/5th part.—*Formulary of Bull. de Gén. de Therapeut.*

Rose Glycerin Jelly.

Best French gelatin, 2; water, 20; glycerin, 40; boric acid, 1; rose water, 20. Soak the gelatin in the water for twelve hours, then melt on the water-bath. Add the glycerin and rose water in which the boric acid has been previously dissolved. Tint with carmine, and strain while warm.—*Amer. Drugg.*, **41**, 269.

MARKET REPORT.

The quotations given below are the lowest prompt cash prices for bulk quantities, to which other charges have to be added. It is important that this should be borne in mind in making any comparison between the prices quoted and those of the wholesale drug trade.

The Drug Sales.

London, Thursday, March 3, 1904.

Old and new drugs, comprising 12 catalogues, were offered at the fortnightly auctions held to-day. Some of the catalogues were fairly heavy, but on the whole the supply was below the average. Generally speaking, the sales passed off in rather a dull fashion, and without any marked incident. Japan was remarkably well represented by a variety of drugs, including Menthol, Camphor Oil, Camphor, Peppermint Oil, Wax, and Cod Liver Oil. The fact of Menthol being catalogued gave no indication of the state of the market, for no bids were forthcoming for this article, and the offerings were all firmly held. The supply of Menthol comprised 23 cases, representing 1,380 lbs. Sixty-three packages of Camphor of various varieties were offered, amounting to a little over 2½ tons. Of these, 11 cases of crude dark Chinese, weighing about 9 cwt., were disposed of without reserve at 205s. per cwt., and two boxes Japan crude camphor at 210s. for damaged. The other Japanese goods were bought in at firm rates. The offerings of Ipecacuanha were rather large, the demand was very good, and the bulk of the offerings sold at about late rates; the general prices for Rio were 4s. 6d. and 4s. 7d., but one lot realised 4s. 8d. for good, and some bales were disposed of at 4s. 4d. for thin woody. A quantity was sold before the sale. Aloes were in large supply, and Cape again suffered a decline, 84 cases selling at from 26s. 6d. to 33s., the latter price being for fair hard bright; 6 cases of East Indian Aloes in skins realised the high figure of 60s., and two boxes of dark livery Curaçoa were knocked down at 22s. Senega Root was one of the interesting items catalogued, and two lots found buyers at 2s. 11d. for dark root, but the rest was firmly held. Siam Benjamin was represented for the first time since several sales, and, after good competition, one lot was knocked down at the high figure of £21 10s. for fairly bold free almond; a case of hardish block grains sold at £5. Sumatra was not in large demand, but a number of cases were disposed of at £7 for good fair seconds. Ordinary Palembang offered without reserve sold at a low figure. For Gum Arabic 80s. was paid for good grains. For Russian Coriander Seeds 18s. and 19s. were the prices paid. The moderate supplies of Cardamoms found buyers at higher values. Very little Senna was offered and sold at dearer rates, 2d. per lb. being paid for small brown leaves. A quantity of Buchu Leaves sold after the auction at 8½d. for fair green. For the most part the offerings of Rhubarb were bought in, but 2 cases of flat, high-dried sold at 1s. 1d., which is dearer, and the same quantity of Canton pickings at 1s. 2d. No bids were forthcoming for any of the 164 bales of Cascara Sagrada catalogued, and these were held at 85s. The various kinds of wax were well represented, but bids were not forthcoming, and only a few lots were disposed of at late rates. Brownish green Ceylon Coca Leaves realised 9d. Gum Guaiacum, offered without reserve, was sold at 10¼d. for fair glassy black. Quassia Wood, in chips, sold, without reserve, at £7 12s. 6d. Yellow Bark realised 1s. 2d. for flat cultivated Calisaya. The highest price obtained for Jamaica Sarsaparilla was 1s. 1d., and for Lima 1s. For Copaiba 1s. 3d. was paid for fair Maracaibo. An unusually large supply of honey was brought forward, but the demand was not great; Jamaica realised from 16s. to 24s., according to quality, and Honolulu 20s.; New Zealand and Californian did not sell. The bulk of the offerings of Gum Elemi were held at 35s., but some cases, forced on the market, sold at lower rates from 25s. to 26s. 6d. and 28s. for fair white. Gamboge was for the most part firmly held, but two cases were disposed of for £14 10s. for good pickings.

General Markets.

Fluctuations on the drug and chemical markets have not been numerous during the week, nor has business been very brisk. Camphor is again dearer and prices are uncertain. Menthol is also dearer. Quinine is quiet, pending the result of to-day's auctions at Amsterdam. Smyrna has done considerable business in Opium for America account at easier rates. The price of Carbolic Acid has recently advanced about one penny per lb. The causes of the advance are various; in the first place, the article was probably unduly depressed, while a considerable increase in demand from the seat of war is anticipated. A further increase in value is not considered impossible. As an outcome of the rise in Carbolic Acid people are talking of the possibility of an advance in price of Salicylates. It should, however, be borne in mind that while the competition among makers is very keen, the consumption of Salicylates is hardly on the increase. In view of these facts an advance is not so probable as it otherwise would be. American Peppermint Oil is dearer.

ALUM.—Lump, £5 12s. 6d.; Ground, £6 2s. 6d.

ARROWROOT—is steady. Fair manufacturing St. Vincent sold at the spice sales at 1¾d.

BICARBONATE OF SODA.—£7 5s. per ton, landed.

BISMUTH.—Carbonate, 8s. 1d.; Subnitrate, 7s. 4d.

BLEACHING POWDER.—English, £4 15s. to £4 17s. 6d.

BORACIC ACID.—Powder, £1 4s. 6d.

BORAX.—In powder, 14s. 6d.; crystals, 13s. 6d.

CAJUPUT OIL—On the spot is very scarce, and the price paid is 4s. per bottle for genuine.

CAMPHOR.—The price is still uncertain.

CARBOLIC ACID—Firm. Crystals, 39° to 40°, 7d.

CASCARA SAGRADA—Is very firm for old bark, 95s. to 100s.; while new bark, just arrived, is offered for 80s. That catalogued at to-day's sales was new bark.

CASTOR OIL—Easier. Belgian 1sts, £19 10s.

CHLORAL HYDRATE.—The price is now 3s., "duty paid."

CITRIC ACID.—1s. per lb.

CLOVES.—Sales of Zanzibar have been made at 8d. for June to August delivery.

COCAINE.—11s. 9d. to 12s. 3d. per oz. for the Hydrochloride, according to quantity.

COCOANUT OIL—Is firm. Cochin, £30 spot; Ceylon, spot, £26.

CODEINE.—8s. 11d. per oz. for the pure alkaloid.

COD-LIVER OIL.—New season's Norwegian has been done at 220s. Last reports say that fishing is not turning out so well as expected.

CREAM OF TARTAR.—98 per cent. foreign powder, 87s.

ERGOT OF RYE—Has again advanced, and 1s. 8d. is now the spot price. Hamburg has been buying very largely.

GINGER—Was slow of sale on Wednesday, Japan being slightly cheaper.

HYDRASTINE—Is now 22s. 6d. per oz. for smaller wholesale lots; Hydrastinine is from 3s. 6d. to 4s. per gramme.

IODIDES.—The prices are now: Sodium Iodide, 11s. 10d. to 12s. 1d.; Potassium Iodide, 10s. 3d. to 10s. 9d.

IODINE.—Resublimed is now 12s. 3d. per lb.

IODOFORM.—13s. 10d. to 14s. 1d.

MENTHOL.—For Kobayashi 18s. 6d. has been paid, which is again dearer.

MERCURIALS.—Calomel, 2s. 8d.; Corrosive Sublimate, 2s. 4d.; Red Precipitate, 2s. 11d.; White Precipitate, 2s. 11½d.; Mercuric Sulphate, 2s. 4d.

MORPHINE.—4s. 6d. per oz. for the Hydrochloride.

OIL OF STAR ANISEED—Is in about the same position as last week.

OPIUM.—A considerable business has been done in Smyrna on America account; a few hundred cases have been sold at easier prices, chiefly caused by the stringency of money, needy holders, being evidently hard up for money, having parted with some of their holdings.

OTTO OF ROSES.—The troubled state of affairs throughout Bulgaria and the possibility of a shortage of labour seem to indicate that the price cannot go much lower. In fact, some holders have slightly advanced their rates.

OXALIC ACID.—2⅝d., delivered free London.

PEPPERMINT OIL.—H.G.H. is dearer, 14s. 6d. being now asked, which is still cheaper than it can be imported from the other side. For American oil in tins 11s. 9d. to 12s. are the prices. Japanese Oil is dearer at 7s. for Kobayashi on the spot.

POTASSIUM BROMIDE.—1s. 11½d. per lb.

QUICKSILVER.—£8 5s.

QUININE.—German makers still quote 1s. 0½d., while from second hand it would probably be possible to buy for spot delivery in 1,000 oz. lots at nearly a penny less than this. The auctions in Amsterdam to-day opened at an advance, probably owing to the smaller offerings. This may have some effect on the market here.

SAFFRON—Is steady at about unchanged prices.

VERATRINE—Unaltered at 4s. 9d. to 5s. 6d. per oz. for the pure, according to quantity, the lower figure being for 100-oz. lots. The price for the Sulphate is 5s. 2d. to 6s. 2d.

PERFUMES AND CHEMICALS IN EGYPT.—The share of the United Kingdom in the imports of chemical products, medicines and perfumery into Egypt (says the Consular report on the trade of that country) has nearly quadrupled during the last sixteen years, and in 1902 its value was nearly one-fourth of the total trade, as against one-ninth for the quinquennial period 1887-91. The bulk of the imports from the United Kingdom consists of chemical produce and explosives. Germany has developed a trade in chemical produce, but no other country shows any marked increase. Austria-Hungary and Italy send most of the matches to Egypt. British India supplies incense, roots, bark, etc. The import of common soap has fallen off considerably, having declined by 50 per cent. since 1887; this is due to the competition of the locally made article. Turkey is practically the sole exporter of this commodity to Egypt.

BANKRUPTCY INTELLIGENCE.

Re **Thomas Henry Thomas, chemist and druggist, 97, Saltley Road, Birmingham.**

A receiving order was made against the above in the Birmingham County Court, on February 18, and the debtor was adjudicated a bankrupt.

PATENTS AND TRADE MARKS.*

New Patent Applications.

MANUFACTURE OF SULPHURIC ANHYDRIDE (No. 1,755 of 1903).—W. Garroway, Netherfield Chemical Works, Duck Street, Glasgow. The sulphurous fumes from the pyrites burners are first passed through channels containing bricks made of oxide of iron and oxide of manganese. This acts as a settler, removes dust, cools and purifies the gases. The sulphurous fumes are then conducted to vertical towers or columns, having therein irregular surfaces or pieces of baffling material unaffected by acids, where they meet the ozone and oxides of nitrogen, to form sulphuric anhydride. The latter may be condensed by any known means. Improved apparatus for carrying out this invention is described and shown.

TERPENE ALCOHOLS AND ARTIFICIAL PERFUMES (No. 3,543 of 1903).—J. Wetter, 37 and 39, Essex Street, Strand, London. (A communication from Heine and Co., 6, Schreberstrasse, Leipzig, Saxony.) Relates to the manufacture of a new rose-scented alcohol, $C_{10}H_{18}O$, which consists in treating linalool, or certain other unsaturated aliphatic terpene alcohols, $C_{10}H_{18}O$, or geraniol, or esters of these alcohols, or essential oils containing these alcohols, or their esters, or aliphatic hydrocarbons, $C_{10}H_{16}$, with glacial acetic acid, or other organic acids and sulphuric acid, or substances acting in a manner analogous to sulphuric acid, or with organic acids alone, such as formic acid and acetic acid, with or without the addition of acetates to assist their reaction, or with acetic anhydride, or the anhydrides of other fatty acids, with or without the addition of acetates, or of salts of other organic acids, saponifying the product of the reaction, converting the primary terpene alcohols into their acid esters by means of phthalic anhydride, or the anhydrides of other dibasic acids, separating the new alcohol from the said acid esters after purification by saponifying with alkalies, rectifying the said alcohol *in vacuo* or with steam, and relieving it of the geraniol mixed with the same by treatment with anhydrous calcium chloride.

SPHYGMOGRAPHS (No. 15,744 of 1903).—W. H. Fahrney, 112, South Hoyne Avenue, Chicago, U.S.A. Relates to improvements in sphygmographs, and consists in the combination of a recording slip, a recording needle for indicating the pulse throbs on said slips, an electric circuit, including an electro-magnetic device for operating the said needle by the pressure of the pulse throbs, a motor for moving said slip past the needle independently of said circuit, and a second electric circuit under the control of the operator for controlling said motor. By means of this invention a permanent record of the heart's pulsation, or action, is taken. Means are also provided whereby the position at which the gauge of the wrist-piece of the sphygmograph has to be set for each patient may be determined, so that said wrist-piece may be readily adjusted to the same patient on a second visit.

PRODUCTION OF GLAUBER SALTS, FERROUS CARBONATE, FERROUS HYDRATE, AND AMMONIA FROM NITRE CAKE (No. 24,639 of 1903).—C. L. Parker, 70, Shakespeare Crescent, Manor Park, London. The object of this invention is to produce Glauber salts of great purity, eliminating the nitric acid and converting the whole of the iron into the ferrous state. The manufacture is carried out as follows:—By (1) the addition of iron, zinc or like metals that decompose sulphuric acid with evolution of hydrogen, (2) the reduction of nitric acid into lower oxides of nitrogen and ammonia simultaneously with the reduction of ferric salts into ferrous salts by nascent hydrogen evolved from iron, etc., in contact with acid sodium sulphate solution, (3) the production of ferrous carbonate or ferrous hydrate by the addition of acetic or like acid and subsequent addition of carbonate or hydrate of soda, and (4) the evolution of ammonia by decomposing ammonium sulphate—formed in the manner previously described—by the addition of sodium carbonate or hydrate in excess of that required for the production of metallic carbonates or hydrates.

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* These abridgments of new patent applications and particulars of new applications for trade marks have been specially compiled from official sources, for the *Pharmaceutical Journal*, by Mr. Reginald W. Barker, agent for procuring patents and registering trade marks and designs, 56, Ludgate Hill, London, E.C., from whom any information on the subjects may be obtained. Mr. Barker will also send copies of his 'Trade Mark Notes' and Patent Notes for Inventors' free on application.

MANUFACTURE OF NEW COMPOUNDS DERIVED FROM CITRYLIDENE-ACETIC-ACID, ITS NITRILE OR ITS ETHERS (No. 25,695 of 1903).—A. Verley, 4, Rue Henriou-Berthier, Neuilly, near Paris. Relates to the manufacture of cyclic-derivatives by causing a mixture of concentrated phosphoric and sulphuric acid to act upon citrylidene-acetic-acid, its nitrile or its ethers by strongly agitating same for some hours at a temperature of about 60° C. The resulting product is treated with water, extracted with ether, and the product distilled *in vacuo*. Tertiary alcohols may be produced by treating the ethers of citrylidene-acetic-acid with iodomethylate of magnesium and its homologues and transforming three alcohols into isomerisation products by the action of dilute acids at ebullition, or by treating α- or β-ionone with iodomethylate of magnesium and its homologues. Three compounds are suitable for employment in perfumery.

Note.—Opposition to the grant of any of the above-mentioned patents must be filed at the Patent Office on or before April 4, 1904.

MANUFACTURE OF MEDICAL CAPSULES (No. 27,531 of 1903).—C. Cornu, 41, Rue de Veuves, Paris. Relates to a process whereby medical capsules free from the objections to ordinary gelatin capsules may be manufactured. Consists in immersing the capsules in a bath of water, or of glycerin and water, or, when the capsules are intended to contain salts or acid substances, of alcohol and glycerin, then passing the capsules while moist through powdered gluten, and then by means of a sieve polishing the capsules and removing any excess of gluten. The proportion of glycerin would in practice be from ¼ to ⅓ of that of the water in the bath. In order to increase the thickness of the coating of gluten the capsules may be plunged alternately into the bath and into the powdered gluten as many times as may be deemed desirable.

Note.—Opposition to the grant of above patent must be filed at the Patent Office on or before April 4, 1904.

A NEW MEDICINE FOR THE PREVENTION AND CURE OF SEA-SICKNESS (No. 7,334 of 1903).—F. W. Kinahan, of His Majesty's ship "Contest," Lieutenant in His Majesty's Navy, care of the Admiralty, London. Consists of a mixture of the following ingredients:—Chloralamid, 160 grains; kali bromid, 160 grains; elixir saccharin, 1 drachm; water, 8 ounces. One-eighth part to be taken when beginning to feel sea-sick, the dose to be repeated in a few hours if required.

HYPODERMIC SYRINGES (No. 28,511 of 1903).—C. O. W. Karst, 5, Schützenstrasse, Remda, Thuringia, Germany. The subcutaneous syringe, according to this invention, which is made entirely of glass and has an unperforated cylinder, the piston being perforated instead, is distinguished by the fact that the piston, which is ground at the rear cylindrical end, and the cylinder are only made to fit at one part—viz., at the rear end, the cylinder being made funnel-shaped at the front end and adapted to be closed in a tight manner by a thickened portion of the piston, and is provided with a bottom as large as possible, in order that it may stand firmly. Its inside base is arched upwards, so that the piston, which is provided with a corresponding concave bottom surface, will completely fill the cylinder at the ground position, whereby any waste of liquid is avoided, formation of air bubbles precluded, the striking of the cylinder against the piston handle during treatment prevented, convenience of handling secured, and cleansing and disinfecting greatly facilitated.

Note.—Opposition to the grant of above Patent must be filed at the Patent Office on or before April 11, 1904.

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New Trade Mark Applications.

"**PINAGESTINE ELIXIR**" ("Pine" and "Elixir" disclaimed), for remedies for diseases of the digestive organs, diarrhœa, and diseases of the blood, by Churchill Chemical Co., 108, Murray Street, New York, U.S.A. 258,294.

"**HIAWATHA INDIAN OIL,**" for Indian oil included in Class 3, by J. de Medici Clarke, 49, Eaton Terrace, S.W. 259,207.

"**QUERALL,**" for medicated soap, by J. Knight and Sons, Limited, Silvertown Soap Works, Victoria Docks, E. 259,768.

"**LALO,**" for perfumery, etc., by W. Wigglesworth, 13, Regency Square, Brighton. 260,050.

"**CURELLO**" ("Cure" disclaimed), for a hairwash and toilet preparations, by E. E. Lowe, Elmdale, Bridgetown, Totnes. 260,065.

"**DENTALIA**" ("Dental" disclaimed), for a tooth powder, by H. Tahl, Royal Exchange, Glasgow. 260,106.

"**ITHOLINE,**" for perfumery, etc., by R. Schueremans, 137, Cheapside, E.C. 260,347.

"**LOOPING THE LOOP,**" for a perfume, by V. Klotz, trading as Ed. Pinaud, 18, Place Vendôme, Paris. 260,398.

Note.—Opposition to the registration of any of the above-mentioned trade marks must be filed at the Patent Office on or before March 24, 1904.

"**ZOBEQ,**" for chemical substances used in photography, by R. and J. Beck, Limited, 68, Cornhill, E.C. 260,116.

"**ST. LUKAS,**" for photographic preparations, by Farbenfabriken vormals F. Bayer and Co., Koenigstrasse 27, Elberfeld, Germany. 260,707.

"**LASSOL,**" for moth and vermin killer, by M. Lobenthal, 11 and 12, Bridgewater Street, E.C. 260,024.

"**GORNALIA,**" for chemical substances used for agricultural, horticultural, sanitary, etc., purposes, by E. A. Underhill, 108, Kent Street, Upper Gornal, near Dudley. 260,182.

"**GERMITAS,**" ("Germ" disclaimed), by R. S. Clare and Co., Limited, 8, Stanhope Street, Liverpool, for disinfectants. No. 260,268.

"**MIGRIL**" label, for a remedy for headache, neuralgia, and like complaints, by D. F. Jones, 181, Church Road, Hove. 258,316.

"**PHOSPHOIDS**" ("Phospho" disclaimed), for medicinal tablets, by T. Powell, Limited, 1, Albion Place, Blackfriars, E.C. 259,193.

"**GEODENINE,**" for medicated articles, by T. Sterné, 49, Rue de la Victoire, Paris. 259,921.

"**PLANTOL**" ("Plant" disclaimed), for chemical substances prepared for use in medicine and pharmacy. 260,020, and "**COON,**" for perfumery, etc. 259,746. Both by Lever Brothers, Limited, Port Sunlight, Cheshire.

"**HISTOSAN**" ("Histo" disclaimed), for chemical substances prepared for use in medicine and pharmacy by H. C. Fehrlin, 38, Understadt, Schaffhausen, Switzerland. 260,261.

"**PEKURAL,**" for chemical substances prepared for use in medicine and pharmacy, by J. Giller, 16, Kaiser-Wilhelmring, Cologne, Germany. 260,479.

"**KAPPON,**" for perfumery, preparations for the hair, skin, and teeth, and kindred toilet articles, by S. L. Koenig, 45, Osborne Road, Southsea. 257,850.

Note.—Opposition to the registration of any of the above-mentioned trade marks must be filed at the Patent Office on or before April 2, 1904.

LETTERS TO THE EDITOR.

All Communications for the ***Pharmaceutical Journal*** **must be addressed to the Editor, 17, Bloomsbury Square, London, W.C., and, if intended for publication in the current week's issue, should reach the Office not later than Wednesday, unless specially arranged for in advance. The matter should be written clearly and concisely on one side of the paper only and must be authenticated by the names and addresses of the writers, as no notice can be taken of anonymous letters. Articles submitted for the Editor's approval should be accompanied by stamped addressed envelopes, otherwise no guarantee can be given that they will be returned if not found suitable. Reprints of articles cannot be supplied unless the authors communicate with the Editor before publication. The right to reproduce all original matter and illustrations published in the Journal is strictly reserved.**

The Pharmaceutical Society's Annual Dinner.

I am requested by the Committee to inform you that a meeting will take place in the Pharmaceutical Society's House on Wednesday next, the 9th inst., at 12 noon precisely, to consider the preliminary arrangements for the annual dinner on May 17 next. It is usual for the President to preside at dinner, and as success depends upon his being adequately supported by the personal attendance of members of the Society and others interested in pharmacy, I trust that I may rely upon their hearty co-operation. If it should not be convenient for members to be present at the meeting fixed for the 9th inst., I shall be much obliged by their intimating before that date their willingness to become stewards.

S. R. Atkins, President.

17, Bloomsbury Square, London, March 3, 1904.

The Pharmacy Bill.

Since I remitted the letter to the members of Parliament I have received replies from the undermentioned, who have in some cases positively promised to support the Bill, and others to give it their very careful and serious consideration.

The Right Hon. A. J. Balfour, Prime Minister.
Captain C. B. Balfour.
Sir George C. T. Bartley, K.C.B.
Dr. F. Rutherfoord Harris.
Dr. Charles F. Hutchinson.
Rowland Hunt, Esq.
A. H. Aylmer Morton, Esq.
Sir Robert G. C. Mowbray, Bart.
J. S. Randles, Esq.
H. J. Reckitt, Esq.
Captain J. Sinclair.
Sir Ernest Spencer.
Colonel Sir C. E. Howard Vincent, K.C.M.G., C.B.
H. J. Wilson, Esq.
Right Hon. Walter H. Long, President of the Local Government Board.
Right Hon. C. Scott Dickson, K.C., Lord Advocate.

I send you this for publication as an incentive for the chemists to approach the members of the House and thus stimulate them to support this much desired Bill.

W. Watson-Will,
Hon. Secretary, Federation of Local Pharmaceutical Associations.
London, S.E., March 2, 1904.

*** With the exception of the Prime Minister, all the above members had previously intimated to the officers of the Pharmaceutical Society their intention to support, or to give careful consideration to the Pharmacy Bill.—[Ed. *P.J.*]

The Sea Lavender.

I was glad to see the interesting paper by Mr. White on sea lavenders, as, from a decorative and artistic point of view, these beautiful plants deserve far more attention than they receive; indeed, it is quite rarely you meet with anyone who even knows them by name. I well remember, during my apprenticeship, Mr. Broad, of Hornsey Rise, bringing back a few plants gathered from the chalk cliffs between Ramsgate and Margate, and planting them in his garden, on the odd chance they would take root and flower, and his surprise when they not only did so, but came up several years in succession, and how fond he was of decorating his table with them, and drawing the attention of visitors to their beauty. Planted in pots and well watered, the sea lavender flourishes exceedingly. Growing in this way, it was most effectively used round the transept fountain at the Crystal Palace, very fine flowers resulting. It is difficult to obtain specimens along the chalk cliffs of the South Coast, as it grows well out of reach; but it flourishes in sandy mud, and may be found plentifully in Bosham Creek, near Chichester. Here the tide overflows the channel daily, and covers a wide expanse of London clay, fringed with sand and shingle. Just within high-water mark, rooted in clumps of sand and clay, the sea lavender is found in flower well into August. There is a curious phenomenon, which is worth noting—viz., the striking difference in colour of the flowers under different light conditions; by daylight the colour is a true delicate lavender, but seen by gaslight the colour is a decided pink.

London, S.E., March 2, 1904. T. H. Powell.

The Pharmaceutical Council and Medicine Stamp Duty.

The 'Pharmaceutical Journal Formulary' and last week's *Pharmaceutical Journal* provide food for reflection. The Formulary, as a collection of recipes and other information, is a marvellous production which is too embarrassing for criticism. As far as modern popular publications are concerned, it seems to be the last word in pharmaceutical literature. Apart from the main feature—the collection of private recipes—the book cannot be too highly praised. With regard to those private recipes, the question arises as to whether the object for which the Formulary was originally designed will be attained. The work was undertaken without taking into consideration that the views of the Board of Inland Revenue are as transient as the fine weather of last summer and as elusive as De Wet. Since the changes in medicine stamp regulations were first mooted the compass has been boxed. With the fact persistently before us that any particular advantage, statutory or otherwise, which would appear to be reserved for registered chemists usually becomes public property, it is difficult to imagine how the Formulary will be confined to those only for whom it was, very rightly, intended. It is only a question as to what pecuniary benefit can be derived from it to decide how far the mass of outsiders who entrench on our province will take advantage of this new opportunity. I have not much fear about the big commercial undertakings which make our practice and titles the magnets for drawing more profitable trade. So-called company pharmacy is not a public benefactor economising three-halfpences which really come out of the pockets of their customers. The danger arises from unregistered drug-store keepers, whose nostrums will have the added glamour of 'P.J.F.' I am not writing this with the object of disparaging the "special work which the Society has undertaken on behalf of chemists," but in order to place actual facts and legal precedents against the fool's paradise which many chemists have made out of the reiterated Press statements that certain privileges would be granted to "qualified chemists only—as opposed to limited liability companies or unqualified individuals." I quite believe that these Press statements have been made with the best intentions, just as many other misleading statements have been made in the pharmaceutical Press.

Some months ago I publicly expressed my doubts as to the validity of similar statements to the one I have quoted from your article "The Other Side," and I found how deep-rooted the illusion had become, and I was received as the usual heretic who endeavours to dissipate a pleasing fiction. Yet the unqualified individual bubble is burst already. How will the limited liability disability stand the simplest test? If the Board of Inland Revenue were to take the trouble of testing the matter in the courts, and by any chance got the very satisfactory legal decision that a limited company is the actual seller of an ailment-named remedy, we should have that against the verdict that a limited company is not the actual seller of a medicine containing poison, which two conflicting decisions, combined with the clause in the Companies Act which prohibits a company from being formed to do anything which they could not do as individuals—distinctly infringed in the use of the titles—would form a pretty three-cornered legal tangle, which a smart counsel might make good use of to the benefit of the last man usually considered—the registered chemist. I will again take the risk which I have often incurred, at the hands of superficial observers, of being considered as a traitor to the craft, and say most emphatically that it is incompatible with the best interests, the future prospects, and the dignity of registered chemists for the Pharmaceutical Council to take any notice of the Board of Inland Revenue's apprenticeship concession to unregistered persons. We had a severe enough lesson on the Poisons Commission of even the appearance of evil in the apparent connection of the Pharmaceutical Council with an association for the protection of prices. Anything which may be construed into an attempt to secure direct advantages or business monopolies is dangerous for a society which has the administration of an Act which was passed for the welfare of the public, and the statutory limitations of that Act can only indirectly accrue to the advantage of those persons who comply with its regulations in the discharge of clearly-defined duties for the protection of the public. From the first appearance of this medicine stamp innovation it would have been wise for chemists and the Society to have observed a perfectly neutral attitude. Some good may have been done if the present condition of affairs can be made the stepping-stone to an enactment compelling all makers of advertised remedies to divulge their exact composition. It would be better still if all "patent medicines" could be wiped off the face of the earth, and in this, I believe, I shall find some chemists in agreement with me—that is, so far as "patents" are concerned which are not on the P.A.T.A. list. It is hard to get a show for abstract principles against concrete pence. The medicine stamp controversy—a red-herring on the scent of higher game—is at best an example of three-halfpenny wisdom and pound foolishness.

Batley, March 1, 1904. R. Broadhead.

The Pharmacist as an Optician.

As I am inundated with letters from all parts of the country from chemists referring to your report of my paper, and asking me for fuller particulars, I would take it as a favour if you would permit me to inform all those chemists who are interested in optics that the whole of my paper is published in the February number of *The Dioptric Review*, particulars of which may be had on application to Mr. Sutcliffe, 17, Shaftesbury Avenue, London.

Glasgow, February 29, 1904. Robert Tocher.

, Mr. Tocher's paper will probably be printed in full in an early issue of the *Pharmaceutical Journal*.—[Ed. *P.J.*]

Fluke Disease in Sheep.

I find that already with two farmers in this neighbourhood fluke disease has been rife. I understand the following recipe was found most efficacious in my father's flock in Leicestershire after the rainy season of 1879:—One ounce of podophyllum root in half a gallon of water, boiled well, or simmered before the fire. Two tablespoonfuls two successive mornings, to be taken cold, and repeat the doses at the end of a week. If the loss of sheep which occurred before can be prevented, and the above recipe is really a good one, the wider it is known the better.

Malvern Link, March 1, 1904. Thomas Allen, M.A.

"Pharmacy" and "Pharmacist."

I fail to see what grievance there can possibly be in this matter. The chemist who calls his business place a pharmacy is surely within his rights. The Major man has no further examination in dispensing or practical pharmacy. I am one of the "humbler" brethren, and advertise my place as a pharmacy. On the facia my name appears, also my Parliamentary title of "chemist and druggist." My examination and member's certificates are framed and hang in the pharmacy. There is not the slightest intention of posing as a pharmaceutical chemist. The public do not know, and do not want to know, these nice little distinctions. Will the "exalted" brethren who disapprove of a chemist and druggist's establishment being designated a pharmacy kindly suggest a more suitable description? I shall object to "the Minories"; the doctors of the place might possibly object to "the dispensary." If a chemist and druggist used the word "pharmacist," that would be a very clear usurpation of the rights of the more exalted ones. How fatuous and puerile to raise such a discussion! That the "exalted ones and wise" should lower their prestige after this manner is one of those things which passeth all understanding.

February 28, 1904. "Humilitas" (284/31).

In reply to "Another Pharmacist," I am quite sure that it is legal for any person to use the word "pharmacy." As a suggestion to improve matters, perhaps the best thing would be to do away with both the so-called Minor and Major, and have one examinaion for registration under the Acts of 1868 and 1852, but make it illegal for any company to assume a title under the latter Act. A pharmacist is, after all, a dispenser, and he obtains this simply on passing the Minor, as dispensing is not included in the Major.

March 2, 1904. "Unity" (286/31).

I have read with interest the correspondence these last three weeks upon the rights of a Major man. Whilst agreeing with some of "Pharmacist's" statements, I cannot fall in with his idea that the word "pharmacy" is the exclusive right of a pharmaceutical chemist. If he will take a broader view of the matter, and think what "pharmacy" means, he must, I think, admit that the word is the right of the whole profession, since, as "Mere M.P.S." shows, it designates that branch of chemistry which both Major and Minor men have served their apprenticeship to and made their profession. "Pharmacist" wishes for a distinctive badge: what better can he have than "Pharmaceutical Chemist," and which is infinitely better than a mere name to his shop? If the general public take such little notice of the individual's title, is it likely they will notice how he styles his shop? Undoubtedly, many more Minor candidates would pass on to the Major Exam. if they could see that they would be amply repaid for their trouble, but does not the same apply to the Minor and would-be apprentices? Our aim at present, I think, should be to get an acknowledged distinction between "companies," "unqualified," and the qualified chemist, and then settle such differences as suggested by "Pharmacist."

March 2, 1904. "Only a Minor" (286/33).

Referring to "Pharmacist's" letter, I should like to ask: Is the Minor certificate of the Pharmaceutical Society a licence to practise pharmacy? Does the Pharmacy Act say that the place where the Major man practises pharmacy is a "pharmacy," and the place where the Minor man practises pharmacy is not a "pharmacy"? If the Minor has not a right to use the name, I should like to know, as I call my place "pharmacy," and thus distinguish it, I think, somewhat from the shop of the unqualified man. If I have no right to do so I should be sorry to continue; if I have, then it cannot be unjust. We (Minor men) have been requested to join the Pharmaceutical Society, and "Pharmacist" says "now that the Minor man can boast his M.P.S." The physician and surgeon practises at his surgery; so does the L.S.A. at his surgery. The Major man practises his art at his "pharmacy." The Minor man practises his art—where? He passes the examination in pharmacy, receives the Pharmaceutical Society's certificate, practises pharmacy, but it appears to be wrong to say that he does his work in a "pharmacy." For it to be lawful for a man to practise "pharmacy," but unlawful for the same man to say he does so in a "pharmacy" seems strange. It is quite just to give a man the reward of his labours, and I understand the Major man's title to be pharmaceutical chemist, but I (and I suppose others who call their place a "pharmacy") did not understand that he was the only man to have a "pharmacy." I should be pleased for the Major man to be a "Fellow," or to have some further distinguishing title (if pharmaceutical chemist does not go far enough), but let him not blame other men unless they are acting illegally.

"ANOTHER CHEMIST AND DRUGGIST" (284/22).
February 29, 1904.

As "Pharmacist" in his second letter expresses my own opinion exactly, I should like to ask "Another Pharmacist" where the question of right appears in connection with the term "pharmacy"? If it were secured solely to pharmaceutical chemists by Act of Parliament, I should acknowledge the legal right; but when one sees the indiscriminate use of the term in advertisements, in trade journals, and in ordinary conversation, it certainly seems ridiculous for anyone to cavil at this natural use of the King's English. I, personally, have every respect for "those who have spent their brains" in gaining the higher diploma. It is for this reason that I advocate giving such a distinctive title to "Major" men, that laymen would at once apprehend the distinction. At present, the "man in the street" is unable to comprehend the subtle distinction between a pharmaceutical chemist and a "dispensing chemist." If such titles as "first-class pharmacist" and "second-class pharmacist" were used, the meanest intellect would grasp the difference, and, I venture to think, the number of candidates for the Major Examination would enormously increase.

March 1, 1904. "CHEMIST AND DRUGGIST" (286/12).

Have you space to spare for another letter on the above interesting subject? "Another Pharmacist" says it is a question of right. Precisely; and by what right are pharmaceutical chemists to monopolise the title of pharmacy for their shops? Would "Pharmacist" and "Another Pharmacist" kindly suggest by what name we "humbler members of the craft" may call our places of business? Must we say "chemist's shop," as do certain firms who advertise pills? Has not the whole idea of an exclusive right to the title of pharmacy by pharmaceutical chemists arisen out of a wrong construction being put on the latter title? Pharmaceutical chemistry, if it be permissible to use such a term, and pharmacy are totally different subjects, or, if preferred, sciences. Pharmaceutical chemistry may, and does, tell you the constituents of certain drugs and what reaction takes place when certain substances enter into combination, but it is only a knowledge of practical pharmacy that will enable you to make ung. hyd. ox. rub. as it ought to be made, or a decent sample of paraffin ointment. The Major man has undoubtedly sole right to the title of pharmaceutical chemist; whether he has legally the sole right to pharmacist has not yet, as far as I know, been proved. If otherwise, I am open to correction, and in any case do not wish for the title unless by taking the Major. As I am stranded in a foreign country without a Latin dictionary handy it is impossible to look up the word, but the next best thing is perhaps to quote Italian: Drug, *farmaco;* pharmacy (*e.g.*, chemist's shop), *farmacia;* chemist and druggist (qualified), *farmacista.* Our word pharmacist, therefore, is not an abbreviation of pharmaceutical chemist by dropping out seven letters from the first word and four from the second, and therefore a synonym, as some would have us believe, but is directly derived from an older language, and merely indicates one who follows the profession of pharmacy. But, given that pharmaceutical chemist may carry with it, exclusively, "pharmacist," it does not follow that "pharmacy" is to go as well. Any man that on a certain eventful day has successfully passed the ordeal of the Minor subjects, which include pharmacy, has the right to carry on the business of a pharmacy, and to call it such, without infringing in the slightest degree the privileges of those who, by taking an advanced examination, are entitled to the title fixed by law; and if such title is not sufficiently distinctive for the public to discriminate, it is simply an unfortunate choice of words. May I say, in all friendliness, that any overstepping and usurping of legitimate (note the word) privileges is more on the part of "Another Pharmacist" than on that of those he condemns.

San Remo, February 29, 1904. "INTERESTED" (286/13).

The 'P.J.F.' and the Benevolent Fund.

A very nice opportunity of expressing approval of the 'P.J.F.' presents itself to my ideas—viz., that all of us who wish to be practical in this way should send, say, a shilling postal order to the Editor for the Benevolent Fund. No doubt most of those who have secured this valuable book at the reduced fee would be glad thus to testify their thanks. This plan is, at any rate, devoid of complex details, and would bring immediate results. The nimble shilling, although it may be despised on account of its small proportions, is nevertheless a very welcome visitor to the island of distress (where we are all liable to be cast), especially when it comes in numerical force.

Poplar, E., February 29, 1904. C. H. FENTIMAN.

*** The idea conveyed in this letter is excellent, and we shall be pleased to receive and acknowledge all contributions sent.—ED. *P.J.*]

Opinions on the Pharmaceutical Journal Formulary.

The following expressions of opinion are representative of the thousands which have been received this week by the Editor:—

It does you great credit. It is a splendid companion, and useful in settling a difficult problem.

Selby, February 25, 1904. GEO. BROWN.

It is excellent. It cannot be too highly praised, and the whole body of chemists is deeply indebted to the Editor for such a work. Sure to exceed all expectations.

J. HERBERT ANDREW, Ph.C.
Bollington, near Macclesfield, February 25, 1904.

The 'Formulary' is A1, and no chemist, once seeing it, would be without one.

W. Dennis, F.C.S.

Jarrow-on-Tyne, February 25, 1904.

It is, at the price, a most marvellous compilation, and far and away exceeds the expectations of subscribers, both in appearance and abundance of valuable information.

Liverpool, February 25, 1904. E. R. Banner.

It is an invaluable addition to the dispensing chemist's library of technical books.

Swansea, February 25, 1904. F. Bonnett.

It is a most useful work, and will be a great boon to chemists. It is a unique compilation, and should be much appreciated.

Sevenoaks, February 25, 1904. R. Barrat.

It is very well got up and printed, and is a wonderful collection of recipes.

Herne Hill, February 23, 1904. A. Peel.

It will prove a "mine of wealth" to the practical pharmacist. It should be a direct incentive to making one's own preparations, and in that way a powerful instrument in meeting present competition; in addition to which its help in maintaining the friendship between Somerset House and ourselves cannot be overestimated. Personally, I am delighted with the volume.

Catford, S.E., February 24, 1904. Chas. Flint.

Even apart from its original aim, it will be of the utmost value as a book of reference to the average chemist, and not without value for those who have many of the works drawn upon, because of its convenience. A perfect encyclopædia a friend called it.

Thomas Hatfield Dyson.

London, W.C., February 24, 1904.

The book is a most valuable mirror of fact as to the likenesses and the diversities of our trade specialties, and it will tend to conserve in various ways some of the most important business interests of Pharmacy

Marylebone, N.W., February 24, 1904. J. C. Hyslop.

It is a splendid collection of formulæ. It will be a most valuable adjunct to any pharmacy.

Derby, February 29, 1904. A. H. Bell.

It is excellently arranged, and must have entailed a great deal of work and trouble to you and your staff, to whom our thanks are due.

Edinburgh, February 29, 1904. A. Clark.

It is a veritable "Vade Mecum." There is much to be learnt from it, and the man who does not profit from its careful perusal must be terribly deficient. Sincere congratulations on your most successful enterprise.

Mayfield, February 29, 1904. W. F. Crowther.

It will be of inestimable value to the chemists of Great Britain. It is wonderfully well arranged and classified, the type very clear and distinct, nicely and neatly bound, and, moreover, a very convenient size indeed for the desk or laboratory counter. Please accept my heartiest congratulations and thanks.

Royston, Herts, March 1, 1904. Edwin A. Morgan.

It will be most useful, and far exceeds my anticipations. I consider it reflects great credit, and those who have not subscribed to it have missed a great chance.

Forest Hill, S.E., February 25, 1904. W. L. Clarke.

It will prove itself a great advantage to most chemists. It is exceedingly well got up, and the compilers are worthy of much praise.

Percy Bagnall.

Ashton-under-Lyne, February 25, 1904.

It is a monument of patience, labour, and gigantic energy to have produced such a work in so short a time. It should prove simply invaluable to all chemists and druggists, and would be folly indeed if a single one of them missed securing such a treasure.

Sheffield, February 25, 1904. Geo. Carr.

So far as I can judge by a hasty survey, it is a thoroughly practical and most meritorious production.

Lincoln, February 25, 1904. W. E. Bell.

It is a wonderful book for the price at which it has been supplied, and both the recipes and the legal information will be of much service to chemists in business. Thanking you for all the trouble you have had in connection with it.

London, N., February 25, 1904. John T. Wallis.

Your subscribers have great reason to be thankful that such a valuable book has been placed in their hands on such easy terms.

Elmer Pettinger.

Hampstead, N.W., February 25, 1904.

It is a wonderful work for the money spent. I most heartily congratulate you upon your success.

Hornsey, N., February 25, 1904. John H. Frost.

It fills a much-needed want. It is an exhaustive recipe book. Sections 12 to 14 will prove almost indispensable to the chemist.

Glasgow, February 29, 1904. John Christie.

First, it is beautifully turned out. Second, it is most comprehensive and complete. Third, it promises to be the most generally acceptable and useful collection of information ever offered to pharmacy.

Northwich, February 27, 1904. J. W. Deakin.

It is a very valuable addition to the chemist's trade library.

London, S.W., February 22, 1904. A. W. Hall.

For the general run of pharmacists it is the most valuable work I have yet come across. The puzzle is to find not what it does, but what it does not contain.

Buxton, February 27, 1904. R. Wright.

By its publication the Pharmaceutical Society has shown its ability and willingness to grapple with and overcome every difficulty by which we may be faced in the future. I sincerely trust that every registered chemist will speedily realise that only by joining the P.S. will he be able to work out his own salvation and that of his craft.

Leeds, February 27, 1904. James Robert Kirk.

It will prove of great use. I am agreeably surprised at the variety of its contents; it is a valuable book of reference.

Dunstable, February 27, 1904. Joseph Flemons.

It is exceptionally good value, and ought to be the right-hand companion of every chemist. It is also well arranged for reference.

Blackburn, February 27, 1904. Daniel Yates.

It is a most excellent work. This proof that you are really taking an interest in the ordinary chemist should bring a considerable accession to the membership of the Pharmaceutical Society.

Leeds, February 27, 1904. J. H. Beacock.

It is an excellent book and splendidly arranged, as well as containing useful information in a condensed form. I'm sure I shall find it indispensable.

Keighley, February 27, 1904. A. S. Dean.

As an edition of an up-to-date collection of recipes it would be difficult to excel, and reflects great credit on the Editor who compiled such an extensive volume.

Edinburgh, February 27, 1904. Alex. G. Simpson.

It is just the book chemists have been wanting, apart from lifting them from the difficulties of the Medicine Stamp Act.

Salop, February 28, 1904. George Dunn.

It will be one of the most useful and up-to-date publications for chemists all through the United Kingdom.

Droylsden, February 25, 1904. H. R. Attenborough.

The united thanks of chemists are due to the Editor and compilers of this most valuable work.

Blackpool, February 25, 1904. D. J. Bailey.

In every way meets the requirements for which it has been published.

Poplar, February 24, 1904. C. H. Fentiman.

It will prove a most valuable book both to chemists and students, and contains useful hints for doctors as well in writing prescriptions, etc.

Bristol, February 25, 1904. Wm. Barry.

It is perfectly invaluable.

Pontefract, February 26, 1904. F. Craven.

It is excellently got up, and will prove a great boon to the trade.

Hexham, February 29, 1904. Gibson and Son.

It is of excellent value, and just what we require at this perplexing stage.

Bath, February 29, 1904. W. R. Edwards.

It is excellent, and forms a lever towards consolidation.

Haywards Heath, February 29, 1904. R. O. Hayes.

The volume reflects great credit on the Editor and compilers, and will be of much use to the possessors.

Stranraer, February 27, 1904. James C. Dorman.

It is a valuable addition to pharmaceutical literature, and an achievement which is worthy to be handed down to future generations as a monument of industry, forethought, and enterprise on the part of those responsible for its appearance. It contains much information for many minds.

John Gibson, Ref D., F.C.S.

Hexham, February 29, 1904.

Containing such a valuable collection of recipes, it is the most useful book of its kind ever published.

Jersey, February 25, 1904. John T. Baker.

A splendid reference book, and quite worth the published price of 21s. You are to be congratulated by the whole trade on your great efforts to cope with the difficult position in which we were placed, and the successful issue to which you have brought it. Kindly accept the thanks of one who appreciates your strenuous efforts.

Halifax, February 29, 1904. William Bottomley.

BIRTH.

Ralph.—On February 21, the wife of William Ralph, Pharmaceutical Chemist, Lee, S.E., of a daughter.

DEATHS.

Bostock.—On February 26, Thomas Henry Bostock, Chemist and Druggist, Darley Dale. Aged 42. Mr. Bostock had been connected with the Pharmaceutical Society since 1885.

Burgess.—On February 27, William Burgess, Chemist and Druggist, Stourbridge. Aged 61. Mr. Burgess had been a member of the Pharmaceutical Society since 1869.

Cadby.—On February 25, Samuel Kittle Cadby, Chemist and Druggist, Margate. Mr. Cadby was for many years in business in High Street, Margate, but we understand the executors do not intend to continue the business.

Hackforth.—On March 2, Frederick Hackforth, Chemist and Druggist, Leyland. Aged 80. For upwards of forty years Mr. Hackforth carried on a successful business as chemist and druggist, but eighteen months ago, owing to declining health, he gave it up. Mr. Hackforth was for many years a member of the Leyland Urban Council, and among other offices held by him was that of overseer, while he was one of the trustees of the late Miss Alice Rawlinson's dole.

Gibbs.—On February 22, Christopher John Gibbs, Chemist and Druggist, Weymouth. Aged 37. Mr. Gibbs was found dead in an arm-chair in the dining-room of his residence 1, Royal Crescent, and it was ascertained that death was due to prussic acid poisoning. At the inquest it was stated that he had been in business as a chemist in King Street, and was in monetary difficulties, which had weighed heavily upon him. He had struggled to make both ends meet, but during a fit of temporary insanity took poison.

Sieveking.—On February 24, Sir Edward Sieveking, Physician Extraordinary to the King. Aged 88. Sir Edward gave the Inaugural Sessional Address to the students of the School of Pharmacy in 1890; he was also a familiar figure at the Annual Dinners of the Pharmaceutical Society.

Smith.—On February 20, William Backwell Smith, Chemist and Druggist, Gosport. Mr. Smith had been dispenser to the Hospital Dispensary at Gosport, and the Portsmouth Hospital Committee has decided that the firm of Messrs. W. B. Smith and Son shall be continued as dispensers.

Tice.—On March 2, Richard Tice, Chemist and Druggist, Dalston Lane, N.E. Aged 59.

Thomas.—On February 23, William Thomas, Chemist and Druggist, 105 and 107, Talbot Road, Bayswater. Aged 54. Mr. Thomas had carried on business at that address for about twenty-five years. He was a prominent Freemason, being a past-master. He had not been well for about a fortnight, but his death was not anticipated. He expired suddenly from the effects of heart failure. The funeral took place at Finchley Crematorium.

Calendar for the Week (March 6—12, 1904).

Days of M	Days of W	Events of the Week.	Sun Rises	Sun Sets
6	**S**	**Third Sunday in Lent.**	6.37	5.45
7	M	Dewsbury and District Chemists' Association, at 8.30 p.m.—Annual Meeting.	6.35	5.47
		Society of Chemical Industry, Burlington House, London, at 8 p.m.—Ordinary Meeting.		
8	Tu	Pharm. Soc. G.B., 17, Bloomsbury Square, London, at 8 p.m.—Evening Meeting.	6.32	5.49
		Bradford and District Chemists' Association, at 9 p.m.—Conversational Evening		
		Huddersfield and District Chemists' Association, at 8.45 p.m.—Ordinary Meeting.		
9	W	☾ Last Quarter, 1.1 a.m.	6.30	5.51
		London Chemists' Association (South London Branch), at 3.30 p.m.—General Meeting		
		Manchester Pharmaceutical Association, Owen's College.—"Dispensing Notes." By J. Grier.		
		Newcastle-on-Tyne and District Chemists' Association, at 8.30 p.m.—Ordinary Meeting.		
		Nottingham and Notts Chemists' Association, at 9.30 p.m.—"The Preparation of Serums and Vaccines." By T. Maben.		
		Sheffield Pharmaceutical and Chemical Society, at 9 p.m.—"The Nutritive Value of Patent Foods." By J. Evans.		
		Thames Valley District Chemists' Association, at 7.30 p.m.—"Radium and Polonium." By F. H. Glew.		
10	Th	Chemists' Assistants' Association, 73, Newman Street, London, at 8.30 p.m.—"The Microscope as a Hobby." By W. Neale Ellis.	6.27	5.53
		Hartlepools and District Chemists' Association, Grand Hotel, at 8.30 p.m.—Ordinary Meeting.		
		Leeds Chemists' Association, Fairburn's Restaurant, at 8.30 p.m.—Smoking Concert in Aid of the Benevolent Fund.		
		London Chemists' Association, Holborn Viaduct Hotel, at 3.30 p.m.—General Purposes Committee.		
		Midland Pharmaceutical Association, Birmingham University, at 8.30 p.m.—Ordinary Meeting.		
		West Ham and District Chemists' Association, at 3 p.m.—Annual Meeting.		
11	F	Royal Institution, Albemarle Street, London, at 9 p.m.—"The Motion of Viscous Substances." By Professor Trouton.	6.25	5.55
12	S		6.23	5.57

REPLIES TO CORRESPONDENTS.

Information required by readers will be published in this column as early as possible, but the Editor cannot undertake to reply by post, even though stamped addressed envelopes accompany the queries. Replies will, in all cases, be referred to the sender's initials, and the registered number added in each instance should be quoted in any subsequent communication on the same subject. When formulæ are given without definite weights and measures, it should be understood that the solids are to be weighed and liquids measured. Plants for recognition should be addressed to the "Curator, 17, Bloomsbury Square, London, W.C.," accompanied by a stamped, directed envelope for reply. No notice can be taken of anonymous communications.

Label for Powder (J. W.—286/2).—Your proposed label will not incur liability.

'P. J. F.' (W. N. J. L.—107/20).—Yes, such a reference as you give will suffice.

Label for Ointment (A. H. B.—108/3).—It will doubtless be considered to render the packages liable to duty.

Jelly (E. B. T.—107/34).—The coloration was probably due to the presence of some impurity, and perhaps caused as you suggest.

Hasselby's Silvering Fluid (F. A. A.—107/2).—This can be obtained from the maker, Mr. T. J. Hasselby, at 115, London Road, St. Leonards-on-Sea.

Medicine Containing Morphine (J. W.—107/31).—Wholesale transactions of the kind you mention are not interfered with by the Pharmacy Act.

Proprietary Rights (H. B.—107/30).—It is probable that an injunction might be granted in such a case, but a solicitor should be consulted on the point.

Winter Fluid (J. H.—283/3).—We regret that the matter should have been overlooked, but fail to see how your trade mark right is encroached upon.

Composition of Liquid (L. H. S.—107/28).—It appears to contain peppermint and eucalyptus oils, but we are unable to say anything definite about its composition.

Mixture (E. A. B.—107/22).—We see no reason why a precipitate should form, unless you use a concentrated infusion containing something which affects the solubility of the salts.

Cough Elixir (W. D. and S.—108/8).—(1) If you have given the names of all the active medicinal ingredients, the label will not incur liability. (2) There is no need to mention the dose, in order to secure exemption.

Doses for Children (E. A. B.—107/21).—(1) Calomel: 6 months, $\frac{1}{6}$ to $\frac{1}{3}$ grain; 1 year, $\frac{1}{4}$ to $\frac{1}{2}$ grain; 2 to 3 years, $\frac{1}{3}$ to $\frac{2}{3}$ grain; 4 to 8 years, $\frac{1}{2}$ to 1 grain. (2) Grey Powder: 6 months, $\frac{1}{2}$ grain; 1 year, 1 grain; older children, 1 to 3 grains, according to age.

Formulary (A. W. P.—280/6).—(1) Anyone is at liberty to use any formula and to quote the reference number. (2) You may vary the name so long as the recipe is absolutely identified. (3) A slight variation such as you mention would not make any difference.

Denatured Spirit, Etc. (107/33).—(1) Alcohol rendered unfit for use as a beverage, as in the case of methylated spirit. (2) The second word is probably misspelt. (3) The first is petroleum spirit; the other is the chief constituent of benzol, a product of coal-tar oil. (4) See formula for Liquor Peptopapaini, P.J.F. (5) You should have received the book by this time; if not, please write again.

PUBLICATION RECEIVED.

Revue des Medicaments Nouveaux. By C. Crinon. 11th Edition. Pp. 432. Price 4 francs. **Paris: Rueff** et Cie., Editeurs, 106, Boulevard Saint-Germain. 1904. From the Publishers.

LETTERS, NEWSPAPERS, QUERIES, and other COMMUNICATIONS have been received from Messrs. Allan, Allen, Allison, Andrew, Antcliffe, Aplin, Armitage, Armour, Atkinson, Bagnall, Bagshaw, Bailey, Baker, Bane, Banner, Barrat, Barrie, Baston, Bayley, Beacock, Beal, Beilby, Bell, Berry, Betty, Bickley, Birkbeck, Birnie, Black, Bolton, Boorne, Bowe, Braithwaite, Brand, Brisley, Broadhead, Brodribb, Brooks, Brown, Bullock, Bush, Butterfield, Cadby, Campkin, Carr, Caspbell, Chambers, Chappell, Charlesworth, Cherrett, Chesterton, Christie, Churchill, Clarke, Clarkson, Coates, Coles, Collitt, Cooper, Corfe, Cornhill, Crabtree, Craven, Crawshaw, Creath, Crofts, Crombie, Crowther, Crozier, Cummings, Cutcliffe, Davies, Davis, Deakin, Deane, Dennis, Denny, Denton, Dester, Dewhurst, Dickens, Dier, Dobbin, Dodsley, Doig, Donald, Dowzard, Dudderidge, Dunn, Dunning, Dyson, Edwards, Ellis, Emery, Ensor, Evison, Errington, Esam, Evans, Farener, Featherstone, Fentiman, Fereday, Ferren, Field, Fieldsend, Finlayson, Flemons, Flint, Flood, Forster, Franklin, Frost, Fry, Gadd, Galbraith, Gardiner Gardner, Garry, Gibbs, Gibson, Gill, Gilmour, Gittoes, Gladholm, Gledhill, Goldfinch, Goodess, Goodman, Gower, Gradidge, Gregory, Griffin, Gross, Grossmith, Hall, Hallaway, Hankinson, Hanksworth, Hardcastle, Harrop, Hart, Hayes, Heaton, Henborough, Hearle, Henshaw, Hick, Hill, Hindle, Hodgson, Holland, Holt, Hornsby, Horton, Hussey, Houfe, Hudson, Hughes, Hunt, Hyslop, Ingall, Ingle, Isaac, Izon, Jackson, Jarvie, Jenner, Johnstone, Jones, Judge, Keene, Kenworthy, Kimbell, Kirk, Kirkby, Kirke, Kirkland, Knowles, Lloyd, Long, Lucas, Lyon, Macfarlane, Mason, Matthews, McDonald, McGregor, Mellor, Middleton, Millard, Monkhouse, Morgan, Nash, Nice, Onion, Owen, Parker, Patterson, Peck, Peel, Pettinger, Philip, Philpotts, Plumley, Poole, Pope, Powell, Power, Priest, Prosser, Ragg, Randall, Richardson, Rigden, Righton, Rigsby, Robertson, Rogers, Rose, Rossiter, Rutter, Ryall, Sage, Sankey, Sargeant, Selle, Senior, Shepley, Simpson, Sinca, Skipworth, Smith, Staton, Steele, Steggles, Steven, Stewardson, Stooke, Sumners, Sutcliffe, Sweetman, Thacker, Thomson, Tocher, Tonkin, Town, Tupholme, Turner, Tweedie, Waddingham, Wallis, Wass, Wearsley, Weddell, Wharton, White, Wilcock, Wilkins, Williams Winter, Wood, Woolley, Wright, Yates.

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The Journal circulates widely in the United Kingdom, France, Germany, Austria, Italy, Russia, Switzerland, Canada, the United States, South America, India, Australasia, South Africa, etc. It is supplied regularly to the majority of the Chemists and Druggists in business in England, Scotland, and Wales, and to the whole of the members of the Pharmaceutical Society of Great Britain. Orders for Advertisements or for Copies of the Journal should be addressed to the Publishers, 8, Serle Street, London, W.C.

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CHANGES OF ADDRESS.

Instructions from Members of the Pharmaceutical Society, with reference to the transmission of the Journal, should be sent to the SECRETARY, 17, Bloomsbury Square, London, W.C.

The Pharmaceutical Journal Office.

Thursday, March 10, 1904.

Pharmaceutical Legislation and its prospects are the chief topics of the week. The Prime Minister has informed Mr. O'Malley, M.P., that a Government Bill for the amendment of the Pharmacy Act is in preparation.

The Pharmacy Bill, meanwhile, has been "blocked" by Mr. Harwood, Mr. Devlin, and, of course, Mr. Alexander Cross. The Bill is "down" for second reading on March 21. A lucid explanation of its objects has been given to the chemists of Brighton and District by Mr. Michael Carteighe. As a result, members of Parliament who sit for Sussex constituencies are likely to have their attention drawn to the measure.

Medical Members of the House of Commons have formed an unofficial Public Health Committee. One of the first subjects which the committee may be expected to consider is the Pharmacy Bill, for a communication has been sent by the Council of the Pharmaceutical Society asking for medical support in the House, and several medical members have already sent favourable replies.

Organisation continues to figure prominently on the programmes of local associations. Mr. Lord Gifford has urged the necessity for improved organisation on the North-East Lancashire Chemists' Association, and another article from the pen of "An Ordinary Pharmacist" on the same subject appears in this issue.

At Headquarters the events of the week have been a successful Evening Meeting on Tuesday, and the preliminary meeting to arrange for the Annual Dinner of the Pharmaceutical Society, which has been fixed for May 17.

A New Aspirant to the honourable office of Councillor of the Pharmaceutical Society has come forward in the person of Mr. F. Pilkington Sargeant, of Leeds, whose candidature has the approval of the Leeds and District Chemists' Association.

Dr. Stevenson's Report on the Examinations of the Pharmaceutical Society is colourless this year. The Government Visitor seems to have become tired of enlarging on the obvious necessity for improvements in pharmaceutical education.

The Determination of the Strength of Liquor Sodii Arsenatis is the subject of an article contributed by Mr. W. A. H. Naylor. The article furnishes one more example of the excellent work which pharmacists are doing to improve the quantitative tests of the British Pharmacopœia.

Letters of Approval of the 'P.J.F.' still pour into the Editorial Office. One or two of the medical journals are hinting disapproval of the book, being apparently under the impression that it is an encouragement to "counter-prescribing." But no copies of the book have yet been sent for review to those or other journals, and criticism based on lack of knowledge is inexcusable.

A Supplement to the 'P.J.F.' is in course of preparation, in the form of a few pages of recipes which, for various reasons, it appears desirable to include in the work. An endeavour will be made to include in those pages any recipes which members of the Pharmaceutical Society may submit prior to March 26, provided they do not bear too close a resemblance to recipes already in the book.

Medicine Stamp Matters have not sensibly developed since last week. With regard to the negotiations between the Council of the Pharmaceutical Society and Somerset House, no information can at present be published.

The "Tabloid" Appeal Case is to be heard next week, possibly on Monday. Perhaps its importance to the community is responsible for the unusual promptitude which seems to have marked the officials of the Law Courts in fixing a date for the proceedings.

Bad Writing on physicians' prescriptions is always with us. During the past week it has been written of at some length in medical and lay journals.

Mr. Fentiman's Suggestion—that chemists who approve of the 'P.J.F.,' should send a contribution to the Editor for the Benevolent Fund—has been adopted by several correspondents, some of whom have sent more than the humble amount suggested.

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THE GOVERNMENT AND THE PHARMACY ACTS.

In this and recent issues of the *Pharmaceutical Journal* will be found quite a catechism of Parliamentary questions and answers on matters relating to Pharmacy law. Sir Thomas Dewar, Mr. Remnant, and Sir Albert Rollit have called the attention of Ministers to the failings of the law or of custom with regard to the sale of mineral acids and the dispensing in public institutions. The answers given have been more or less satisfactory. Of more interest, however, and possibly of more importance than the rest, is the answer given by the Prime Minister on Monday, the 7th inst., to a question which had been addressed to him by Mr. W. O'Malley. The question, as we announced last week, was—

> Whether the First Lord of the Treasury will consider the advisability of adopting for Great Britain a measure similar to the Ordinance lately promulgated for the Orange River Colony, which prohibits a firm, co-partnership, or company, carrying on the business of a pharmaceutical chemist in the dispensing of medicines or the compounding of poisons unless the directors are qualified persons.

Mr. Balfour, in reply, stated that

> The subject is under consideration in connection with a Bill for the amendment of the Pharmacy Act, which is in preparation.

Chemists and druggists in general, and the Council of the Pharmaceutical Society in particular, may well wonder if the Prime Minister's statement really means that the Government contemplates the introduction of a Pharmacy

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Bill. More than two years ago the Council of the Pharmaceutical Society was clearly given to understand by the Privy Council that, when the Committee on Poisons had reported, a Bill might be expected, and that the Society, as the statutory body most directly affected, would be consulted previous to its introduction. In a subsequent letter, dated February 16, 1903, written in reply to a communication from the Council of the Pharmaceutical Society after the publication of the Report of the notorious Committee on Poisons, the Clerk to the Privy Council practically confirmed the assurance already given. In face of those letters, and of the fact that no communication on the subject has lately been received at Bloomsbury Square from the Privy Council, it would really seem that the answer of the First Lord of the Treasury was given without the knowledge of the Privy Council officials. No alternative conclusion seems to be possible, for it is quite inconceivable that the Privy Council would deliberately "fool" the Society. It would, however, be satisfactory, in view of the introduction for the second time of the Pharmaceutical Society's Bill, if the courtesy involved in giving more explicit information of the Government's intentions were officially extended to the Society.

Since March, 1903, the situation has materially altered. At that time the Report of the Committee on Poisons had not received the telling condemnation of the British Medical Association. Nor had the prosecution of a member of the Committee for a gross breach of the provisions of Section 17 of the Pharmacy Act been at that time brought to a successful issue. The recent promulgation of the Orange River Medical and Pharmacy Ordinance, which provided the peg on which Mr. O'Malley hung his question, must, one would think, have had some effect in counteracting the arguments of those who prate of the "vested interests" of limited companies which, through an acknowledged flaw in the Pharmacy Act, are able to sell poisons without all the restrictions which are imposed on individuals. There would thus seem to be good ground for anticipating with confidence that, if any Government Pharmacy Bill should be introduced at all—which is still, as has been seen, a matter of considerable uncertainty—it will be distinctly more favourable to the claims of qualified chemists and druggists than at one time seemed probable.

Meanwhile, medical members of the House of Commons have received an appeal from the Council of the Pharmaceutical Society to consider carefully the Pharmacy Bill now before the House. The hon. gentlemen are reminded that the Bill is designed to remedy a condition which affects prejudicially not only the public but the vital interests of every individual who has to pass a professional and statutory examination as an essential preliminary to the practice of his calling—whether that calling be medicine, dentistry, or pharmacy. The appeal is based upon public as well as professional grounds, and each representative of medicine in Parliament has been urged to use the weight of his influence with his colleagues at Westminster so that the misconceptions and lack of knowledge in reference to the objects the promoters of the Bill have in view may be removed. It is hoped that Sir Michael Foster and his medical friends in the House may be able to assure those who view the Pharmaceutical Society through Camlachie spectacles that the proposals embodied in the Pharmacy Bill are reasonable ones, and are very much called for by the present state of the law relating to pharmacy. At the moment of going to press we learn that the medical members of Parliament have replied to the letter from the Council in a manner entirely favourable to the aspirations of that body.

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DEATHS BY POISONING IN SCOTLAND.

The deaths by poisoning in Scotland during 1901, according to the Registrar-General's report for that year, numbered 117, a decrease of 25 on the figures of the preceding year. The figures for the last four years recorded are given below:—

Year.	Accident.		Suicides.		Total.
	Male.	Female.	Male.	Female.	
1898	75	39	17	3	134
1899	71	52	8	13	144
1900	78	47	12	5	142
1901	54	41	8	14	117

There is thus a sensible diminution in the number of accidental cases of poisoning, and an increase of five in the number of suicides by poisoning, The following table shows the poisons which were the cause of accidental death:—

Poison.	Males.	Females.	Total.
Alcohol	—	1	1
Ammonia	3	3	6
Anæsthetic	1	—	1
Carbolic Acid	4	4	8
Carbon Monoxide	1	—	1
Carbon Dioxide	2	—	2
Chloral Hydrate	1	—	1
Chloral Hydrate and Potassium Bromide	1	—	1
Chloroform	6	7	13
Coal Gas	4	7	11
Conium	2	1	3
Hydrochloric Acid	1	—	1
Hydrocyanic Acid	1	—	1
Mercuric Chloride	1	—	1
Morphine	2	—	2
Nitric Acid	—	1	1
Opium	14	10	24
Phosphorus	1	—	1
Ptomaines	1	—	1
Salt of Sorrel	1	2	3
Sewer Gas	1	—	1
Sodium Hydrate	1	—	1
Sulphuric Acid	—	1	1
Weed Killer	—	1	1
Kind not stated	5	3	8
Accidental deaths	54	41	95

The poisons used by suicides during the same period were as follows:—

Poison.	Males.	Females.	Total.
A. B. C. Liniment	—	1	1
Ammonia	—	1	1
Arsenic	1	—	1
Carbolic Acid	2	5	7
Coal Gas	1	—	1
Hydrocyanic Acid	1	—	1
Mercury Nitrate	—	1	1
Opium	3	2	5
Oxalic Acid	—	1	1
Salt of Sorrel	—	2	2
Kind not stated	—	1	1
Suicide	8	14	22

NOT DEAD, BUT SLEEPETH.

The question as to the desirability or otherwise of medical dispensing has had a good innings. Initiated in the columns of the *Pharmaceutical Journal* in July of last year, the subject has not ceased to interest. Although the proposal to add to the Medical Acts Amendment Bill clauses prohibiting medical practitioners from dispensing has been rejected, it must not for a moment be supposed that the question is disposed of for all eternity. True, though the horse is not exactly dead, it will take a deal of flogging to bring it on to its legs again, and there can be little doubt that for the present we are not likely to hear any more of it. But in due season the matter will, no doubt, be brought forward again with better prospects of a more satisfactory hearing. In the meantime some of our medical contemporaries seem to desire to scotch the thing for all time—to kill the horse entirely, so to speak. Others, on the contrary, are more moderate in their criticisms. The *Lancet*, whilst finding it "impossible to withhold a certain degree of sympathy from the proposal," gives a number of reasons why it considers it impracticable to make it illegal for doctors to dispense. Of these objections, one which is put forward as a weighty argument against the change refers to the capital invested in dispensing practices. It is also asserted that the proposed change would press too hardly on the rank and file of the profession. It is not intended to comment on these two objections, nor, for that matter, even to dispute them; but it should be pointed out that, at any rate as regards the former, no reasonable person would suggest any proceedings which could in any way be considered unjust. "The conditions are not yet ripe for such an innovation," says the *Lancet*, and with that view but few will be disposed to disagree.

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NO REPAYMENT BY SOMERSET HOUSE.

In our issue of February 20 (see page 213) some particulars were given of a claim addressed to the Board of Inland Revenue by Messrs. Cummings Brothers, Dundee, asking for repayment of a compounding penalty paid for an alleged infringement of the Medicine Stamp Duty Acts. Messrs. Cummings have now received a letter which shows that the Board maintains its position, and still declines to refund the money, in spite of the fact that the judgment in the Glyn-Jones case was given since the penalty was originally paid. The letter in question is worded as follows:—

> The Board of Inland Revenue having had under further consideration your application for a refund of the penalty paid by you, and accepted by them, in 1891, as a condition of settling your case out of Court, I am directed to acquaint you that they abide by their previous decision not to make any repayment.
>
> The Board direct me to explain that where a judicial decision is given which modifies the interpretation previously placed on a provision in the Stamp Acts, it is their invariable practice, whether the new interpretation be to the advantage or the disadvantage of the Revenue, to hold that it neither requires nor authorises them to reopen cases which have been already decided in accordance with the interpretation previously placed on the Statutes. This practice obtains except only in cases where in view of an anticipated reference to the Courts a settlement has been made on the understanding that it shall be revised in the event of the Courts giving a new reading to the law.
>
> I am, etc.,
>
> London, March 2, 1904. E. E. Stoodley, Sec.

THE 'P.J.F.' AND MEDICAL OPINION.

Indicating the 'Pharmaceutical Journal Formulary,' the *Lancet* says:—"An enormous number of private formulæ employed by druggists has recently been collected and published by a contemporary to free them from the tax imposed upon patent medicines. For these formulæ to be worth protecting against taxation necessarily implies that they are frequently employed. Clearly they are not likely to be prescribed by medical men." The facts that a number of copies have already been supplied to medical practitioners and that physicians of the highest standing have expressed opinions as to the usefulness of the book to members of their profession seem to prove that the recipes in the 'P.J.F.' are likely to be prescribed by medical men. The *Medical Press* devotes to the 'P.J.F.' an editorial note, from which the following is extracted:—"By recent legal decisions it appears that so long as the ingredients of a medicine, pill, or powder are printed on the outside of the bottle or box, or published in a well-known book of reference, the Government cannot claim stamp duty; whereas if the vendor does not choose to let people into the wonderful mystery, he must pay his penny-halfpenny. When the article is priced at a shilling or two, he generally prefers to keep the secret locked in his own bosom; but if he only expects a few pence for his preparation his profits are seriously curtailed if he has to pay the Inland Revenue authorities a penny-halfpenny out of them. To relieve the dispensing chemist of this disadvantage, the *Pharmaceutical Journal* has just brought out a book of 10,000 recipes. By putting on the label of any bottle or box dispensed the cabalistic symbols, 'P.J.F.,' followed by the reference number, the chemist will evade the obligation to pay stamp duty. The Formulary will be 'a well-known book of reference' in the eye of the law, as (*sic*) the dispenser will find it save him a great deal of trouble." Our medical contemporaries are in accord with regard to the usefulness of the book to chemists; they also appear to be thoroughly cognisant of the reasons why the volume was published, namely, to meet the requirements of the Inland Revenue authorities.

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THE PHARMACEUTICAL SOCIETY'S ANNUAL DINNER.

A general meeting of those interested in the annual dinner of the Pharmaceutical Society was held on Wednesday, March 9, at 16, Bloomsbury Square, London, the President in the chair. It was decided that the dinner should be held at the Hôtel Métropole, on Tuesday, May 17, at 6.30 for 7.0 p.m. The following gentlemen were appointed as a committee to make the necessary arrangements:—The President, Vice-President, and Treasurer, Messrs. I. Bourdas, J. W. Bowen, M. Carteighe, A. E. Ekins, W. F. Gulliver, John Humphrey, Wm. Parsons, R. A. Robinson, and Charles Umney. Mr. Richard Bremridge will, as usual, be the honorary secretary of the Dinner Committee. The expenses which are not covered by the money received for tickets will again be borne by a number of stewards, and it was reported at the meeting that some eighty gentlemen, including a number of the younger generation of pharmacists, had consented to act in that capacity.

SPURIOUS VIRGINIAN PRUNE BARKS.*

BY HORACE FINNEMORE, A.I.C.,
Pharmacist to Guy's Hospital.

During the last summer there was delivered to the Pharmaceutical Department of Guy's Hospital in the ordinary course of business 14 lb. of Cortex Pruni Virginianæ in No. 20 powder, a sample of which did not yield any odour of benzaldehyde when moistened with water. Throughout the present paper this bark is called **A**. On comparing this with a small parcel of whole bark labelled "Opt.," which had been in stock more than three years, one was struck with the fact that this also was devoid of aromatic taste, and in appearance and structure differed from a bark answering the description of the British Pharmacopœia. This seemed of sufficient interest to warrant further investigation, so the following description of this whole bark (here called B) is given.

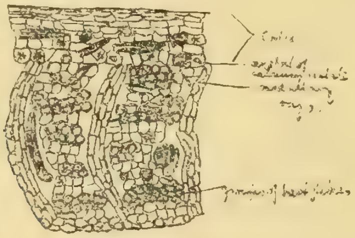

Fig. I.—Transverse Section of B.

Characters of Whole Bark (B).—The majority of the bark is stem bark; colour varying from reddish brown to greenish brown, devoid of the thin, papery cork; lenticels less numerous than in the official variety, but much larger in size, in the large pieces being composed of doubly-convex patches of cork 1 in. in length. Fracture fibrous, especially in the inner bark. A smooth transverse section exhibits wavy medullary rays. Taste bitter and astringent, but not aromatic; no odour of the bitter almond is developed upon maceration with water. Having thus seen that the above whole bark differed in its macroscopic characters from the official variety, it seemed advisable to try and find suitable tests capable of distinguishing substitutes in the powdered condition from the official bark. The microscopic examination of B was therefore undertaken with this end in view.

Microscopic Characters of B.—On the outside of a transverse section is the epidermis composed of flattened cells, next is the cortex, measuring about one-fourth of the width of the bark, containing more or less flattened and irregular parenchymatous cells with numerous crystals of calcium oxalate in stellate masses and sclerenchymatous fibres scattered irregularly throughout, many of these being cut longitudinally in such a transverse section of the bark. Wavy medullary rays, generally three to four cells wide, are present in the bast. Bast fibres, some isolated, others in groups, are present on each side of the space between the medullary rays. The medullary rays resemble those of all cherry barks in the ease with which they split away from the adjoining tissue. No stone cells of irregular shape were found either in a cross or longitudinal section. In the latter the long bast fibres were seen.

Portions of the bark were then treated with a mixture of nitric acid 1 oz., water 1 oz., potassium chlorate 40 gr., for about fifteen hours at the ordinary temperature, and portions teased out with needles and examined under the microscope. There were present ordinary parenchyma and sclerenchymatous fibres of great length. (Fig. II.)

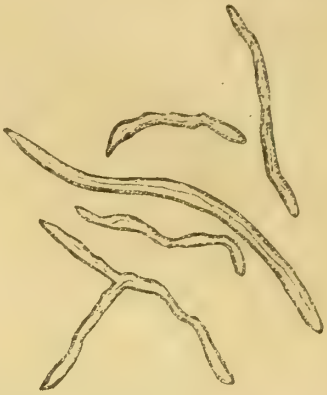

Fig. II.—Isolated Fibres from Bark B.

A small portion of genuine Virginian prune bark when similarly treated showed a marked difference in the sclerenchyma; in this it was in the form of stone cells of irregular shape. No fibres as in the above were present. (Fig. III.)

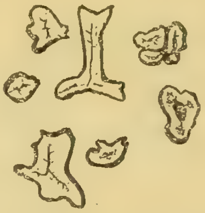

Fig. III.—Isolated Stone-cells from Genuine Bark.

It may be noted that there is no difficulty in recognising sclerenchyma in a preparation so treated without the use of reagents, as it appears more translucent than the other elements.

Having thus obtained in the difference between the sclerenchyma a means of distinguishing the genuine from the spurious, this test was applied to the bark in the powdered form. Each was reduced to a fine powder in the mortar, and a small portion was placed on a slide and covered with a solution of phloroglucin, then with strong hydrochloric acid, and the slide examined. In the genuine the characteristic stone cells are stained bright pink, while the false bark shows its characteristic fibres in the same way, as will be seen in the slides exhibited.

The powdered bark (A), the cause of the present investigation, was next examined in the same way, and this shows the characteristic fibres which we have seen are present in the above spurious bark but entirely absent from the genuine. The bark is therefore not genuine, and from the similarity in the fibres and also in the taste, probably corresponds to the bark B.

Professor Bastin, in 1895 (*American Journal of Pharmacy*), described five varieties of the American cherry barks. From a comparison of the sections now prepared it was impossible to definitely decide the botanical source of these barks. The whole bark most nearly resembled *Prunus avium*, but they are not identical.

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* Communication to the Pharmaceutical Society of Great Britain read at an Evening Meeting in London, on Tuesday, March 8, 1904.

The powder obtained from these spurious barks are lighter in colour than the genuine and are softer to the touch. Syrups are exhibited made from the same, and are darker in colour than syrup made from the genuine. They are also devoid of the characteristic aromatic odour and taste.

The above results are interesting as pointing to the use occasionally of a *Prunus* other than *Prunus serotina* (the official variety). This is borne out by the analyses of Virginian prune preparations by Hawkins ('Year-Book of Pharmacy,' 1889, 491). Certain of these contained no hydrocyanic acid.

From these experiments it seems advisable to recommend that the following be introduced into the very excellent monograph of Pruni Virginianæ Cortex: "When the powdered bark is covered with a solution of phloroglucin and then with hydrochloric acid no abundance of long sclerenchymatous fibres should be observed under the microscope."

A SUPPOSED BEILSCHMIEDEA BARK.*

BY ELSIE S. HOOPER.

Burroughs Scholar.

This bark was sent over by the late Dr. Dymock to Mr. E. M. Holmes. It was stated to be the bark of *Beilschmiedea fagifolia*, var. *Dalzelii* (Lauraceæ), and was said by the native doctors to be a tonic febrifuge, antispasmodic, and expectorant in asthmatic cough. The bark occurs in simple quilled pieces, about 8 in. long and ⅛ in. thick. It is light brown in colour and shows numerous transverse lenticels, from ¼ in. to ½ in. long. Internally it is lighter in colour and quite smooth. The fracture is short, and the cut surface, examined with a lens, shows wavy medullary rays, extending about half way across the surface.

The powder of the bark is strongly sternutatory, and when mixed with water produces much frothing.

Microscopical Examination.

A.—Transverse Sections (See Fig. 1).

Cork (See Fig. 1 and Fig. 2; I.).—This is composed of three to four rows of thin-walled brick-shaped cells. The cells contain dark brown contents, which give a dark blue coloration with ferric chloride.

Cortex.—Next to the cork is a wide cortex. The outer portion of the cortex is composed of about eight rows of tangentially elongated collenchymatous cells, the inner portion of rounded parenchyma. Groups of large sclerenchymatous cells are frequent. These cells are rounded in outline, with thickened lignified walls, which are pierced with numerous pits. The cells vary in size from 3μ to 7·5μ in either direction. The walls show delicate striations. Prismatic crystals are present in large numbers all through the cortex. These crystals are insoluble in acetic acid, but soluble in hydrochloric acid, and consist of calcium oxalate. Tannin is also present.

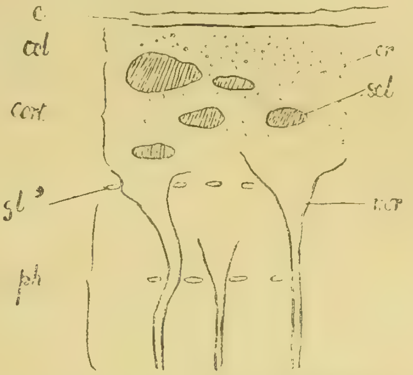

Fig. 1.—Diagrammatic Sketch of Transverse Section of the Bark.—*c*, cork; *col*, collenchymatous outer cortex; *cort*, cortex; *cr*, crystals; *scl*, sclerenchymatous cells; *gl*, gland; *m.r.*, medullary ray; *ph*, phloem.

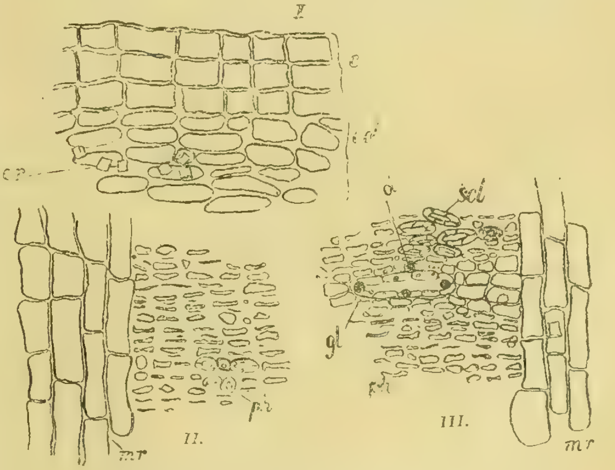

Fig. 2.—Transverse Sections of Bark.—I. Outer layers of cortex; *c*, cork; *col*, collenchyma; *cr*, crystals of calcium oxalate; II. and III., portions of phloem; *m.r.*, medullary ray; *scl*, sclerenchyma; *ol*, secretion; *gl*, gland; *ph*, phloem.

Phloem (See Fig. 2).—This tissue, which occupies nearly half of the section, is composed of cells with thickened cellulose walls, and is traversed at intervals by well marked medullary rays. The cells of the phloem are greatly compressed tangentially, the lumen being often reduced to a slit (the length of the cells varies from 1·0μ to 3·0μ). The walls give a blue coloration with chlor-zinc iodine. The medullary rays are wide towards the cortex, but narrow down till they are three to four cells wide. They are composed of thin-walled cells with wavy margins. The cells are longer than they are broad, with their long axes at right angles to those of the neighbouring cells of the bast tissue. A few crystals of calcium oxalate were found in the medullary rays, and starch was also present. Sclerenchymatous cells occur in the phloem usually arranged in a tangential row between two medullary rays. These sclerenchymatous cells are smaller than those previously noted in the cortex, and have a wider lumen and a regular rounded outline. They vary in size from 1μ to 4μ in either direction. Bast fibres are present but are not lignified. They stain blue with chlor-zinc iodine. Two well marked regular rows of oil-glands are present in the phloem. The outer row occurs at the commencement of the primary medullary rays, and the inner one at the beginning of the secondary medullary rays. They appear as oval spaces, bounded by small cells containing oily contents, which stain red with tincture of alkanna. Their length varies from 10μ to 13μ, and the width from 2μ to 3μ, the longer axes being placed tangentially.

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* Communication from the Research Laboratory of the Pharmaceutical Society of Great Britain, read at an Evening Meeting in London, on Tuesday, March 8, 1904.

B.—Longitudinal Sections (See Fig. 3).

In these sections the cork and collenchyma present the same characters as in transverse section.

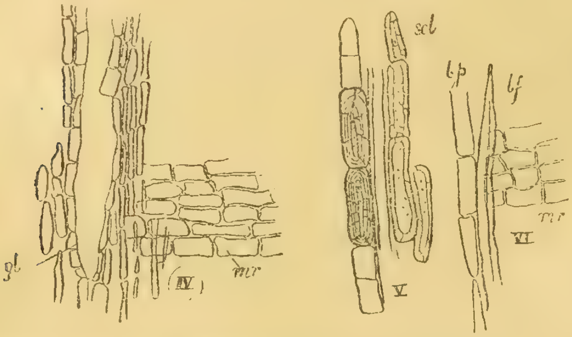

Fig. 3.—Longitudinal Sections.—*gl*, Gland; *m.r.*, medullary ray; *scl*, sclerenchyma; *b.p.*, bast parenchyma; *b.f.*, bast fibre.

In *Radial Section* the oil-glands appear to be very long, some being as long as 25μ, and stretching right across the field of the microscope. The medullary rays cross the bast parenchyma and fibres at right angles, and are many cells deep. The stone cells are longer than they are broad and measure on an average 12·5μ by 3·8μ.

Elements of the Bark (See Fig. 4).

Some strips of bark 1 in. long and $\frac{1}{8}$ in. wide were cut, and an attempt was made to tease out the elements after treatment with potash; but, since this reagent did not prove satisfactory, they were macerated in Schulze's solution. In this disintegrated material the following elements were noted:—

(1) Groups of cork cells, yellow in colour. They occurred in plates composed of cells of a regular polygonal shape, and vary in size from 5μ to 10μ in either direction.

(2) Collenchymatous cells, both separately and in groups.

(3) Bast-fibres, which had a narrow lumen.

(4) Masses of cambiform tissue with much pitted walls.

(5) Groups of parenchymatous cells from the cortex.

(6) Stone cells, varying from 3μ to 7·5μ in length, and 1·5μ to 5μ in width.

The Powder (Fig. 4).

The bark, in No. 30 powder, was mounted and examined in various media. When mounted in water or glycerin, small starch granules were noticed, as they stained blue when iodine water was added. They were, however, too small to note their particular shape. Many cubical crystals of calcium oxalate were present. In order to be able to see the elements more clearly some of the powder was mounted in chloral hydrate, and the following characteristic elements were noticed:—

(1) Sclerenchymatous cells, with branching pits and striations.

(2) Groups of cork cells.

(3) Many rounded cells containing granular protoplasmic contents; these were cells from the cortex.

(4) Bast-fibres and bast parenchyma were observed similar to that in the macerated material. All the elements noticed in the sections were identified in the macerated and powdered bark.

The histological characters of this bark are not those characteristic of a Lauraceous bark, and would lead one to suppose that the bark is not yielded by the plant to which it has been ascribed (by the late Dr. Dymock). The two chief characteristics which point to this conclusion are the presence of so many large prismatic crystals of calcium oxalate, and the presence of secreting glands instead of oil cells.

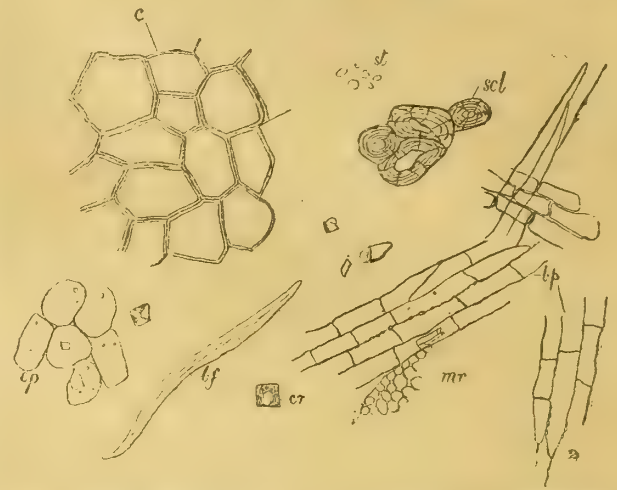

Fig. 4.—Elements of the Bark.—*c*, Cork; *st*, starch; *scl*, sclerenchyma; *cp*, cortical parenchyma; *b.f.*, bast fibre; *cr*, crystal; *m.r.* medullary ray; *bp*, bast parenchyma.

Chemical Examination.

The small quantity of the bark available for chemical examination, amounting to 25 oz., was ground up and used in the form of No. 30 powder. As the bark had a slight aromatic odour, it was first examined for the presence of a volatile oil, and 100 Gm. was distilled with steam. Much frothing occurred, and a minute quantity of a solid aromatic substance collected in the receiver. This was removed by shaking out with ether, and the yellow crystalline residue obtained after removal of the ether amounted to 0·05 Gm.; the quantity, however, was far too small to admit of further examination. The bark, after distillation with steam, was destitute of odour. Numerous crystals, insoluble in water, were observed in the distilling flask, and these on chemical and microscopical examination proved to be calcium oxalate.

Experiments were then made with the object of ascertaining whether an alkaloid was present, in view of the fact that laurotetanine has been isolated from members of the natural order Lauraceæ, to which *Beilschmiedea* belongs; the results, however, were negative. Greshoff's method (Filippo, *Archiv. Pharm.*, 1898, **236**, 605) was followed, and 300 Gm. of bark macerated and percolated with 90 per cent. alcohol containing 5 per cent. of acetic acid, but no evidence could be obtained of the presence of an alkaloidal constituent. It should be mentioned that after removal of the alcohol by distillation and extraction of the syrupy residue by dilute hydrochloric acid, evidence was obtained of the presence of glucose and of an uncrystallisable bitter substance—probably a sapogenin—which was soluble in water and alcohol, but insoluble in ether and chloroform.

In view of the frothing of the aqueous extracts of the bark, the remaining quantity at disposal was examined by Greene's method (quoted by Kruskal in Kobert's *Arbeiten Pharmakol. Inst. Dorpat*, No. VI.) for the isolation of saponins. One hundred grammes were boiled with five successive quantities of a litre of water, the decoction evaporated to dryness with 15 Gm. of magnesia, and the dry and powdered product extracted with boiling absolute alcohol. The alcoholic filtrates on cooling deposited a white, flocculent, bitter substance, which, when dried, gave all the reactions of a saponin—for example, it frothed with water, was coloured violet by sulphuric acid, dissolved in alkalis, and was precipitated from the alkali solution by a mineral acid. The amount of crude saponin isolated was 0·47 Gm., but proved to be too small for purification for the purpose of analysis.

The chemical investigation, incomplete as it is, confirms the conclusion drawn from the histological examination, that the bark is not derived from a species of *Beilschmiedea*, or from a tree belonging to the natural order Lauraceæ.*

NOTE ON THE OFFICIAL SODIUM ARSENATE AND LIQUOR.

BY W. A. H. NAYLOR, F.I.C.

The object of this note is to prove that the process described by me (*Pharm. Journ.* [3], **10**, 441) is applicable to the Liquor Sodii Arsenatis, B.P., and also to show the amount of lead acetate required to precipitate 1 Gm. of anhydrous sodium arsenate.

The process can be carried out simply in the following manner:—A bottle with a wide neck and capable of holding about 50 C.c. is placed in a jar about an inch taller than the bottle. In the bottle the liquor sodii arsenatis is placed (10 C.c.). In the jar dilute hydrochloric acid is placed, and by the addition of marble during the process the bottle is kept in an atmosphere of carbon dioxide. 5 C.c. of 20 per cent. hydriodic acid solution are added to the arsenic solution, together with a little starch mucilage. The iodine as it is liberated is titrated by N/10 sodium thiosulphate. After the iodine colour has disappeared it is advisable to wait fifteen minutes before reading the burette. The titration may also be conveniently carried out in an atmosphere of coal gas by using a wide-mouthed bottle, closed by a cork bored with three holes. Through one hole the end of the burette passes, and through the others the inlet and exit tubes for the coal gas. The burette should be as far removed from the other tubes as possible. 1 C.c. of thiosulphate = 0·0093 Gm. anhydrous sodium arsenate. The jar used should be of as light a colour as possible inside, so that the iodine colour can be easily seen. The hydriodic acid is conveniently prepared by dissolving 25 grains of potassium iodide in 80 minims of water, and adding 20 minims of hydrochloric acid (1·16) to the solution. The sodium arsenate used was analysed gravimetrically with the following results:—

1. Weight of Na_2HAsO_4 taken = 0·7126 Gm.
Weight of $Mg_2As_2O_7$ obtained = 0·5970 „
As = 40·53 per cent.
2. Weight of Na_2HAsO_4 taken = 1·0112 Gm.
Weight of $Mg_2As_2O_7$ obtained = 0·8463. „
As = 40·52 per cent.

The theoretical percentage of arsenic is 40·33. The sample may therefore be taken as pure.

When titrated as described above it gave 99·84 per cent. of Na_2HAsO_4. Some samples of Liquor Sodii Arsenatis were then titrated, 10 C.c. being used for each titration.

Sample.	Na_2HAsO_4.	Mean.
1.	1·004 0·973	.... 0·988
2.	1·01 0·977	.... 0·993
3.	0·90 0·93	.... 0·915
4.	1·02 0·986	.... 1·003
5.	0·874 0·847	.... 0·860
6.	0·967 0·976	.... 0·971
7.	0·967 0·958	.... 0·962
8.	0·958 0·958	.... 0·958

No. (1) was a specially prepared sample, the rest were trade samples.

The Pharmacopœia states that 1 Gm. of sodium arsenate dissolved in 50 C.c. of water and 1 C.c. of acetic acid should require 2·03 Gm. of lead acetate for complete precipitation. Barrie[1] states that 3·05 Gm. of lead acetate are required to precipitate 1 Gm. of anhydrous sodium arsenate. He used plain water as a solvent as lead arsenate is somewhat soluble in acetic acid. This point was investigated, and it has been found that the apparent discrepancy recorded above is due to acetic acid being used in one case and not in the other. In the presence of the Pharmacopœia proportion of acetic acid 2·03 Gm. of lead acetate precipitate 1 Gm. of sodium arsenate, while in the absence of acetic acid, 3·05 Gm. of lead acetate are required. It is to be noted that the official instructions do not embody a definite statement as to the form in which the lead acetate is to be added to the acidified solution of the arsenate. It may be assumed that the weighed quantity of lead acetate in the form of crystal may be thrown into the solution or it may be first reduced to powder. It may not be assumed that the lead acetate may be dissolved in a portion of the acetic acid and water prescribed for the dissolution of the alkaline arsenate. The two following experiments show that the result obtained is practically the same whether the lead acetate be used in the form of fine powder or in solution—

(1) 1 Gm. of sodium arsenate was dissolved in 50 C.c. of water and 1 C.c. of acetic acid, 2·03 Gm. of lead acetate in fine powder were then added and the solution shaken. After fifteen minutes the solution was filtered, the precipitate washed and the arsenate estimated in the filtrate. The amount found calculated as sodium arsenate was 0·026 Gm.

(2) 1 Gm. of sodium arsenate was dissolved in 25 C.c. of water and 1 C.c. acetic acid, and 2·03 Gm. of lead acetate dissolved in 25 C.c. of water were added. The arsenate in solution was estimated as before, 0·0209 Gm. were found.

It is stated by Barrie[2] and in the Research List of the British Pharmaceutical Conference, 1903, that a process is wanted for the better assay of sodium arsenate and the Liquor Sodii Arsenatis. The figures here adduced show that this process meets the requirement.

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* See report of remarks by Mr. E. M. Holmes, at page 365.

[1] *Chemist and Druggist*, May, 1900, p. 884.

[2] *Pharm. Journ.* [4], **18**, 85.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN.

EVENING MEETING IN LONDON.

TUESDAY, March 8, 1904, at 17, Bloomsbury Square, London, the **President**, Mr. S. R. Atkins, in the chair.

In opening the proceedings, the **President** expressed his appreciation at the great revival of interest which had recently been shown in the evening meetings. Those meetings were instructive and had a direct bearing on the pharmaceutical work of the Society. From correspondence which had been received he had every reason to believe that the educational meeting held a short time ago would bear good fruit. There would be one more social function this Session, on May 18, when there would be an exhibition of apparatus and appliances, and a departure from the ordinary procedure which would give special interest and value to the meeting. He would, however, now introduce Mr. H. Finnemore, Pharmacist to Guy's Hospital. Mr. Finnemore had been a Bell Scholar and a prizeman at the School of Pharmacy, and now, he was glad to say, retained his loyalty to the School and the Pharmaceutical Society, and showed it by coming that evening to read a paper.

Mr. **Horace Finnemore**, Ph.C., A.I.C., then read a paper on

Some Spurious Virginian Prune Barks.

The communication is printed in full at page 361.

The **President** thanked the author for his paper, which was of value and importance. When any galenical was official, it was necessary that they should be able to distinguish absolutely between the genuine and spurious drugs from which it might be made.

Mr. E. M. **Holmes** congratulated Mr. Finnemore on the success of his investigations. The efficacy of drugs in hospitals affected not the few but many, and it was important that they should have in the dispensaries of such institutions men like Mr. Finnemore, who had been thoroughly well trained, and whose scientific knowledge enabled them to conduct investigations of that kind. He gathered that the "feel" of the powder first aroused suspicion; that led to a study of the anatomy and histology of the bark, which enabled Mr. Finnemore to protect the public against the use of an inferior drug. It was not the first case in which men from the School of Pharmacy had thus distinguished themselves. The genuine bark was distinguished by its short fracture, and the false bark by i fibrous fracture; also, the genuine powder was harder to the touch, owing to the stone-cells which it contained.

Professor **Greenish** said that some years ago he came across some Virginian prune barks differing from the official, and he sent them to Professor Bastin, with the result that a paper, referred to by Mr. Finnemore, was published on the subject in the *American Journal of Pharmacy*. This investigation showed once again the necessity for being most particular in framing the official description of a genuine drug, so as to exclude the possibility of substitution. In the present instance the drug had escaped the vigilance of wholesale houses and was only discovered through Mr. Finnemore's alertness. The fracture of the bark and the physical characters of the powder sufficed to distinguish the true from the false, but those were subjective tests and not easily defined. The powders, however, were easily distinguishable under the microscope, were in fact more easily distinguishable than the entire drugs, and it was not difficult to frame a description based on the microscopic characters which would exclude the particular substitute in question and all others.

Mr. R. A. **Robinson** thought that the Pharmacopœia Committee of the General Medical Council would b greatly indebted to such workers as Mr. Finnemore for pointing out that the official tests were not sufficient to distinguish between true and spurious drugs. Here was a case showing clearly that pharmacists should co-operate in framing the tests of the Pharmacopœia. That was a point to fix on, and it should be pressed home on the authors of the Pharmacopœia.

Mr. E. M. **Holmes**, rising by permission a second time, said that at one time Pruni Virginianæ Cortex was thought to be derived from *Prunus virginiana*, instead of *P. serotina*, which was now official. Thinking that the substitution of a false bark might arise from a confusion between the two species, he wrote to Professor Rusby, in America, and had received from that gentleman a bark which he thought to be *P. virginiana*, but the species occurring in the United States were rather difficult to distinguish, and he could not say for certain whether the specimen actua was *P. virginiana*.

Professor **Greenish** added that the botanical origin o the drug was of comparatively small importance if the had in their hands the bark which they wished to use Their duty as pharmacognosists was to ensure that they described their drug so accurately that no other drug could be substituted for it.

The **President**, in calling on Mr. Finnemore to reply to the observations which had been made, referred to that gentleman's predecessor at Guy's Hospital, Mr. Henry Collier, who was well known both in that house and at meetings of the British Pharmaceutical Conference.

Mr. **Finnemore** expressed his indebtedness to Mr. Holmes and Professor Greenish for help in his investigations, and to Mr. Wallis for preparing the lantern slides with which the paper was illustrated. The unauthenticated *P. virginiana* from America had proved, on microscopical examination, to be *P. pennsylvanica*.

The **President** expressed disappointment at the absence, through illness, of Miss Hooper, Burroughs Scholar, who had prepared a paper to be read that evening. He was sure that all present sympathised with Miss Hooper, and hoped for her speedy recovery. It often happened that when there was a function which one specially wished to attend, illness prevented it. He was glad to have a paper communicated by a lady student of the School of Pharmacy. It would not be the first time that a lady had read a paper at an evening meeting in London.

Professor Greenish then read the paper, prepared by Miss Elsie S. Hooper, Ph.C., on

A Supposed Beilschmiedea Bark.

The paper is printed in full at page 362.

The President said that their best thanks were due to Miss Hooper. Although the results seemed to be negative, yet negative results were of value and importance, and often led to positive results.

Discussion.

Mr. Holmes said the bark which had been so carefully investigated by Miss Hooper was presented to the Museum some years since by the late Dr. Dymock, who could not succeed in identifying it, but supposed it to belong to the genus *Beilschmiedea*. Professor Wynne and Professor Greenish having kindly promised to give any help they could towards investigating unnamed drugs in the Museum, this bark seemed a promising subject, since Dr. Dymock had sent sufficient for a preliminary investigation, and stated that it was of medicinal interest. He could not find either at Kew or the Imperial Institute any bark exactly resembling it, nor could the gentlemen in charge of those collections find anything identical with it. As a last resource, therefore, he sent a piece of the bark to Dr. H. Solereder, one of the greatest European authorities on the histology of plants, and had that morning (March 8) received the following reply:—"I am very glad to let you know that the bark from Bombay that you have sent me belongs surely to the Pittosporaceæ, and in regard to the native country (India) to the genus *Pittosporum*." The anatomical characters which had made possible the determination of the bark were the following:—The occurrence of schizogenous relatively small secretory ducts in the pericyle and bast, the separation of calcium oxalate in the form of columnar crystals, which occurred as well as the commoner crystals, the absence of bast fibres, the characteristic collenchymatous formation of the soft bast as well as the thin-walled cork cells with a large lumen, the medullary rays consisting of several rows of cells, and the scalariform sieve-plates of the sieve-tubes. The bark of *P. floribundum* was stated by the authors of 'Pharmacographia Indica' (I., 154) to yield a principle similar to the glucoside Pittosporin obtained by Rummel from *P. undulatum*, and also an aromatic yellow resin or oleo-resin. The frothing of the decoction, noticed by Miss Hooper, seemed to indicate that the glucoside was a saponin, which would account for the usefulness of the bark in bronchitis. The work which Miss Hooper had conducted left no doubt in his mind that the bark was, in fact, *Pittosporum floribundum*, and it was most creditable to her and to the School.

Mr. Holland, of the Kew Museum, confirmed Mr. Holmes' remarks. That afternoon he had compared the bark with the Kew specimen of *Pittosporum floribundum* under a lens, and the two specimens appeared to be almost identical. *P. undulatum*, an Australian species, was very similar, but *P. floribundum* was the chief or only variety collected in India.

Professor Wynne said that as the work had been conducted on the assumption that the bark had been satisfactorily identified as a *Beilschmidea*, it was necessarily somewhat disappointing to find that it turned out to be something different. Mr. Holmes' statement as to the constituents of the *Pittosporum* was interesting, as they corresponded very closely indeed with those found by Miss Hooper, who had isolated a glucoside, a resinous substance, and a small quantity of an aromatic oil. He was sure that Miss Hooper would wish him to thank Mr. Wallis and Professor Greenish for their assistance in the preparation of the paper and the lantern illustrations.

Professor Greenish remarked that they had begun the investigation with the idea that the bark was Lauraceous, and on the assumption that it had been identified as a *Beilschmiedea*. But very soon they found, instead of irregular oil-cells, concentric rings of oil-ducts, and, instead of a ring of sclerenchyma, scattered sclerenchymatous cells. The identification of a bark was often a matter of great difficulty, much more so than in the case of leaves. When he last saw Miss Hooper before her illness, he suggested that the bark might belong to the Anacardiaceæ, Leguminosæ or the Pittosporaceæ. He confessed that, so far as he could then see, Anacardiaceæ seemed the most likely, as in that Order they found oleo-resin ducts, calcium oxalate in prisms, some tannin, and sclerenchymatous tissue. But the oil-ducts in that Order did not present the regular arrangement found by Miss Hooper. In Pittosporaceous barks, the oil-ducts in concentric rings were a very characteristic feature. He had now, when he considered the histological features and the chemical constituents, no doubt that the bark was that of a *Pittosporum*, but he was a little sceptical whether Mr. Holmes was right in referring it to *P. floribundum*, until he had a chance of comparing authentic specimens. In reply to Professor Wynne, Professor Greenish said that Pittosporaceæ was not one of the thirty Natural Orders in which a saponin had been recognised. From Miss Hooper's paper it was evident that Pittosporaceæ must now be enumerated as one of the Orders containing a saponin.

The President again thanked the authors for their papers, and the meeting then adjourned to the Examination Hall, where there was an exhibit of recent additions to the Museum and Library. Among the Museum specimens were *Ipomœa orizabensis*, described in last week's issue at page 326, and the new oils of Calumba Root and Mother of Thyme, mentioned at page 216.

Exhibition of Apparatus.

Messrs. A. Gallenkamp and Co., Limited, exhibited Dr. Walker Hall's "Purinometer," an apparatus for the clinical determination of the total urinary purins; also a small water turbine and a useful laboratory filter press. They showed also several Soxhlet condensers, and double surface condensers.

ABSTRACTS—SCIENTIFIC AND TECHNICAL

A REVIEW OF CURRENT WORK IN PHARMACOPEDICS AND ALLIED SCIENCES

Nitrogen Determination by the Kjeldahl Method.

In a recent paper by Kutscher and Steudel (*Zeits. Physiol. Chem.*, **39**, 12), doubt was cast on the value of the Kjeldahl method for the determination of nitrogen in various organic substances such as creatinine and uric acid. R. B. Gibson has conducted a number of experiments which show that when due care is exercised to procure a proper decomposition and oxidation of the substances analysed, uniformly satisfactory determinations can readily be made. For substances of unknown structure, however, the results furnished by the Kjeldahl process should not be accepted without verification by other methods.—*Journ. Amer. Chem. Soc.*, **26**, 105.

Atomic Weights.

The International Committee on Atomic Weights, which now includes Professor Henry Moissan, recommends in the table of atomic weights for 1904 two changes only from those of 1903. The atomic weight of cæsium has been altered to 131·9 (H=1), and that of cerium to 139·2 (H=1), in accordance with recent determinations by various workers. The values for lanthanum and iodine are still matters of controversy. The Committee suggests that there is need for the "re-determination" of the atomic weights of mercury, tin, bismuth, antimony, palladium, phosphorus, and silicon. A warning is issued against the use of glass vessels in determining atomic weights by processes involving the use of strong acids. An investigation into the relative merits of ordinary glass, and the so-called quartz glass is considered most desirable.—*Proc. Chem. Soc.*, **19**, 2.

Rapid Determination of Boric Acid in Borax.

The usual method of titrating boric acid in the presence of glycerin depends upon the fact that solutions containing boric acid are neutral to methyl orange but acid to phenol-phthalein, and very distinctly so in presence of glycerin. K. Jacobi has found that if glycerin is added to a solution of borax the solution becomes acid towards phenol-phthalein, and on titration the neutral point corresponds with the formation of a meta-borate, $Na_2B_2O_4$. In practical effect the reaction is:— $Na_2B_4O_7 + 2NaOH = 2Na_2B_2O_4 + H_2O$. The method is as follows:—Dissolve 2 to 4 Gm. of borax in water, add excess of glycerin, a few drops of phenol-phthalein, and titrate with seminormal sodium hydroxide. Deduct the correction for the glycerin from the number of C.c. used, and multiply by 0·0175. The product must be doubled to give the amount of boric acid present. Carbonates interfere with the end-reaction.—*Journ. Amer. Chem. Soc.*, **26**, 91.

The "Spike" Disease of Santalum Album.

Frédéric S. Mason, who, a short time ago, contributed an article to the *Pharmaceutical Journal* on the threatened extinction of the *Santalum album* in Southern India (*P. J.* [4], **16**, 756), writes to say that the Mysore Government is now taking the matter up very seriously. A commission of experts has been over the ground, and hope to be able to issue a report which will have some practical bearing on the cure of the "spike" disease. The plant is threatened with extermination in a comparatively short time, unless some means can be found to prevent the disease spreading by means of the subterranean suckers, with which the sandals prey on adjacent trees.

Asthma Powder.

Sir James Sawyer has published two formulas for fuming inhalations which he has used with marked success in cases of bronchial asthma. One powder consists of potassium nitrate, 1 part; powdered anise fruit, 1 part; powdered stramonium leaves, 2 parts. The alternative formula contains less anise fruit, with the addition of small quantities of black tea, lobelia, and oil of eucalyptus.—*Midland Medical Journal*, **33**, 34.

Gold Fluoride.

Victor Lenher finds that, although gold is so frequently found accompanying fluorspar in nature, in ordinary conditions a direct compound of gold and fluorine, as gold fluoride, does not exist. Gold oxide was found to be absolutely unacted on by hydrofluoric acid, even when they were boiled together for weeks, either alone or mixed with nitric acid. Nor was gold fluoride produced by double decomposition when solution of silver fluoride and gold chloride were mixed. Instead of an interchange of halogens, the reaction took place according to the equation—

$$AuCl_3+3AgFl+3H_2O=3AgCl+Au(OH)_3+3HF$$

It is evident that, even if formed, gold fluoride would be instantly decomposed by contact with water. Attempts to effect the double decomposition by means of anhydrous solvents have failed, no solvent common to both salts, in which neither was decomposed, having been found.—*Journ. Amer. Chem. Soc.*, **25**, 1,136.

Phaseolunatin, the Cyanogenetic Glucoside of Phaseolus lunatus.

In a communication to the Royal Society, W. R. Dunstan and F. H. Henry describe the cyanogenetic glucoside phaseolunatin $C_{10}H_{17}O_6N$, which they have isolated from the seeds of *Phaseolus lunatus*, collected in Mauritius. It crystallises in colourless needles, soluble in water. When hydrolysed by emulsin, or by boiling with dilute acids, it splits up into dextrose, acetone, and hydrocyanic acid, thus:—

$$C_{10}H_{17}O_6N + H_2O = C_6H_{12}O_6 + (CH_3)_2CO + HCN.$$

When warmed with alkalis, it combines with two molecules of water, forming phaseolunatinic acid and ammonia,

$$C_{10}H_{17}O_6H + 2H_2O = C_{10}H_{18}O_8 + NH_3,$$

and this acid is converted, by dilute acids, into dextrose and α-hydroxy-isobutyric acid,

$$C_{10}H_{18}O_8 + H_2O = C_6H_{12}O_6 + C_3H_5{\cdot}OH{\cdot}COOH.$$

Phaseolutin is therefore a dextrose ether of acetone-cyanhydrin, and its constitution may be represented by the formula $(CH_3)_2C(CN)-O-C_6H_{11}O_5$. It therefore differs from amydalin, dhurrin, and lotusin, the other known cyanogetic glycosides, since it contains an aliphatic nucleus, whereas the others are aromatic compounds. Under cultivation, a white variety of *Phaseolus lunatus* is obtained, which contains no phaseolunatin, and therefore yields no prussic acid. In this the bean shows an analogy to the well-known sweet and bitter varieties of the almond. The amount of hydrocyanic acid obtained from the active beans was found to vary between 0·041 per cent. in light brown beans to 0·088 per cent. in a dark brown variety.—*Chem. News*, **88**, 15.

Urea in Plants.

Max Bamberger and A. Landseidl record the existence of urea in two Tyrolese fungi, *Lycoperdon bovista* and *L. gemmatum*. As much as 3·5 per cent. was found to be present This is the first record of urea being isolated from a member of the vegetable kingdom.—*Bull. Soc. Chim.*, **32**, 85, after *Monats. für Chem.*

THE NUTRITIVE VALUE OF PATENT FOODS.*

BY J. EVANS, A.I.C.

In bringing before you to-night this paper, it seems incumbent on me to offer some justification for the choice of my subject. The pharmacist has many calls made upon him in his daily routine for various meat preparations, infants' and invalid foods, etc., and he is often asked his opinion on the respective merits of the various preparations. This will suffice to form my excuse for offering to you a paper on the nutritive value of patent foods.

The last few years have witnessed such an amazing increase in the number of food preparations placed on the market that one can almost say that we live in the age of patent foods.

The improvement in the processes of manufacture, the great increase of knowledge regarding the physiology of nutrition, the chemistry and relative food value of alimentary substances have contributed largely to the number and variety of patent foods. Commercial rivalry also adds to the number, each manufacturer claiming his particular preparation to contain those constituents which are of most nutritive value and to be free from those that are of no nutritive value.

Classification of Foods.

In attempting a general classification of food it is usual to examine in the first place the various definite compounds which can be isolated by chemical analysis from the different substances used as food. The chief alimentary substances found in food are proteids, carbohydrates, fats and mineral matter. Any article of food, even the most elaborate product placed on the market for the use of infants and invalids, can be shown by chemical analysis to contain one or more of the above-mentioned constituents, otherwise it is not a food.

Foods may also be classified into organic and inorganic and into nitrogenous and non-nitrogenous substances.

Arranged in tabular form we have:—

Organic	Proteids	—Nitrogenous
	Carbohydrates	Non-Nitrogenous
	Fats	
Inorganic	Mineral Matter	

PROTEIDS.

The proteids are complex compounds containing the elements carbon, hydrogen, oxygen, and nitrogen, with sometimes sulphur and phosphorus in small quantities. White of an egg is a familiar instance of a proteid or albuminous compound. Most proteids, with the exception of peptones, coagulate under the influence of heat or other agencies in the same way that the white of an egg, the typical proteid, does. Little is known chemically of these proteids, but physiologically they are known to be the real nutritive or flesh-forming principles. When these proteids undergo the process of digestion, a very complicated series of changes takes place, which may be stated in a simple manner to be as shown in the following table. These products of the digestive process, up to the stage when peptones are formed, are also highly nutritive substances, and since they are in a partly or wholly digested condition, and are thus ready for assimilation, they are supposed to have an enhanced value, and to be specially useful for the foods of invalids and infants. After the peptone stage, however, the proteid molecule breaks up, ammonia, leucine, tyrosine, and other non-proteid bodies being formed. These proteids are quite useless from a nutritive point of view.

CARBOHYDRATES.

The carbohydrates contain the elements carbon, hydrogen, and oxygen, the hydrogen and oxygen being in the proportion in which they occur in water. They may be tabulated into three groups, according to their chemical composition:—

Glucoses ($C_6H_{12}O_6$).	Saccharoses ($C_{12}H_{22}O_{11}$).	Amyloses ($(C_6H_{10}O_5)_n$).
+Dextrose (grape sugar)	+Sucrose (cane sugar)	Starch
—Lævulose	+Maltose	
+Galactose	+Lactose (milk sugar)	Dextrin

The physiological function of the carbohydrates is that of serving as a source of potential energy. They are not true tissue formers, but it has been shown by physiological experiment that the greater the quantity of carbohydrate and fat which is supplied along with the proteids the less does the proteid tend to be wasted in supplying energy, and the more of it there is available for tissue forming. The carbohydrates can only be assimilated as glucoses, hence the saccharoses and amyloses must be converted into glucoses before they can be utilised. There are in the alimentary canal various ferments that are capable of converting the amyloses and saccharoses into glucoses. In some of the patent foods (farinaceous) the starch has been completely converted into maltose or dextrin, in other foods the starch is converted into the soluble form during the preparation of the food for use by means of the malt or pancreatic ferment which they contain. We may speak of such foods as partly digested.

FATS.

The fats contain the elements carbon, hydrogen, and oxygen, the hydrogen being largely in excess of the proportion in which it occurs in water. They are composed of glycerol in combination with the higher fatty acids. Like the carbohydrates, their physiological function is that of serving as a source of potential energy. Fats in the process of digestion undergo two changes, (1) a chemical, (2) a physical change. Under the influence of the ferment steapsin of the pancreatic juice the fat splits up into glycerol and the fatty acids. Much the same sort of reaction occurs when a fat is saponified, the final product being glycerol and a compound of the base with the fatty acids—namely, a soap. The physical change that fats undergo in the body is that of emulsification.

MINERAL MATTER.

Certain of the inorganic salts, such as phosphates, sulphates, and chlorides of sodium, potassium, calcium, and magnesium are present as an essential part of all natural food substances, and these salts are required by the body to a small but definite amount. They are eminently the bone formers present in foods. Thus, milk contains a small portion of salts in an assimilable form, and these are taken up and used by the organism. The presence, therefore, of these salts in foods is desirable, and they, to the extent indicated, are of definite food value; but it is not to be supposed that the addition of insoluble inorganic salts, such as calcium phosphate, to a food substance necessarily enhances the value of the food to any considerable extent, since it is doubtful whether the salts in this insoluble form can be absorbed to more than a trifling degree by the tissues of the living organism. Foods and food adjuncts containing additions of this kind are thus, physiologically speaking, mistakes. Coming now to our subject proper it will be convenient to classify patent foods according to the sources from which they are derived.

FOODS DERIVED FROM MEAT.

Fresh lean beef contains about 20 per cent. of proteid matter and 75 per cent. of water, the remainder consisting of fat, meat bases, and mineral matter. By the complete desiccation of meat a powder is obtained, consisting of 80 per cent. of proteid matter and 20 per cent. of fat, meat bases, etc. Since we have in this dry product all the nutriment of the original meat, because it is the meat itself, and not an extract, by no possible means can we further concentrate to any material extent the nutritive value of this dry product.

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* Read at a meeting of the Sheffield Pharmaceutical and Chemical Society, on Wednesday, March 9, 1904.

Extracts of meat are usually prepared by heating finely-chopped lean beef with eight to ten times its weight of water, for a period sufficient to dissolve out the soluble ingredients. Fat is next removed, as a preparation containing it would tend to become rancid. The liquid is finally evaporated to the desired consistency. It is quite evident that in extract of meat prepared according to these directions there cannot be any appreciable quantity of proteids, since these bodies would coagulate during the heating, and would thus be in an insoluble form. Extracts of meat prepared according to such a process consist mainly of meat bases, extractives, and mineral matter.

The following table shows the composition of some of the commercial extracts of meat* :—

—	Liebig's Co.'s Extract.	Bovril Fluid Beef.	Bovril for Invalids.
	Per Cent.	Per Cent.	Per Cent.
Water	18·35	38·10	21·16
Meat fibre, etc.	traces	8·40	8·47
Gelatin Albumin Albumoses Peptones	9·45	3·84	8·19
	(not more than traces of peptones)		
Meat bases	29·67	12·04	16·13
Non-Nitrogenous extractives	18·85	19·75	29·23
Mineral matter	23·68	17·87	16·82

Professor Mallet, of America, has shown that the meat bases are eliminated by the kidneys unchanged, therefore they are of no nutritive value. They are only of use in so far as they stimulate the appetite. In order to impart to these preparations a nutritive as well as a stimulative value, meat fibre, albumin, and in some cases more or less peptonised albumin, are added, but, as Mr. A. H. Allen has pointed out, the amount of these constituents present in such a quantity of the extract as is usually taken is too insignificant to give it any appreciable value as nutriment.

It is a well-known fact that about 34 lb. of meat are required to produce 1 lb. of meat extract of the usual consistency, and this shows that the greater portion of the nutritive matter of the meat is lost to the extract. In judging the nutritive value of meat preparations it should be borne in mind that desiccated meat contains 80 per cent. of nutritive proteid matter. With regard to the nutritive value of these preparations, Mr. A. H. Allen ('Com. Org. Analysis,' Vol. IV.) says the statements that meat extracts, meat essences, and fluid beefs contain the nutritive matter of thirty, forty, or fifty times their weight of fresh meat are unjustifiable. Preparations still containing nearly half their weight of water, but of which a tablespoonful is said to be equal in nutritive value to a full meal of fresh lean beef, and meat lozenges and tablets weighing less than a gramme, one or two of which are alleged to suffice for a meal, are evidently quite inefficient for their pretended purpose as a concentrated form of food. The true nature and value of meat extracts is now becoming more generally recognised. As we have shown that they are of little real nutritive value, and are only of use in stimulating the appetite, they are food adjuncts rather than true foods.

Meat Powders.

These are essentially proteid preparations. In most of them the native proteids have been converted into the soluble form through the agency of enzymes, acids, etc. The products aimed at in these predigested foods are the albumoses. The presence of much peptone is very objectionable, on account of its bitter taste and its tendency to produce irritation of the intestinal canal, and thus causing diarrhœa. The preparation known as somatose is an artificially digested meat albumin containing, according to A. R. Tankard ('Comm. Org. Analysis,' Vol. IV.): Water, 14·25; alkali-albumin, 21·83; coagulable albumin, 3·4; albumoses, 33·96; peptones, 3·06; meat bases, 2·62; ash, 5·30; and difference, 15·58 per cent. This preparation contains over 60 per cent. of nutritive proteid material in a partly digested condition. It is claimed that it is free from the disagreeable taste and tendency to cause vomiting and irritation of the digestive canal sometimes occasioned by true peptones.

Dr. Hutchison states that if given in large quantities it is apt to produce diarrhœa, and for that reason its use is seriously restricted in practice.

Milk Foods.

Taking infants' foods first of all, the normal food for a child is its mother's milk, and every manufacturer, in preparing a substitute, seeks to produce a food which resembles as nearly as possible the chemical composition of human milk. For a substitute one naturally looks to the milk of other animals. The following table shows the average composition of human and cow's milk :—

	Human Milk.	Cow's Milk.
Water	87·6	87·4
Proteids	2·2	3·5
Fats	3·7	3·6
Lactose	6·2	4·8
Mineral Matter	0·3	0·7
	100·0	100·0

In human milk it will be observed that there is a high proportion of milk sugar and low proportion of casein and mineral matter, as compared with cow's milk. There is strong reason to believe that few of the constituents of human milk are identical with those of cow's milk, though closely analogous. The proteids differ from those of cow's milk by not giving a curd with rennet, and by giving a much finer precipitate with acids. The fat of human milk contains only 1·5 per cent. of volatile fatty acids, while the fat of cow's milk contains about 10 per cent. The sugar is identical with that of cow's milk. It has, however, been found that cow's milk, suitably modified, is an excellent food for infants. The following types of infants' foods may be distinguished :—(1) So-called humanised milks. They are prepared from unconcentrated cow's milk, modified in such a manner as to closely resemble human milk. Preparations of this type are manufactured on a large scale by many dairy companies. The Aylesbury Dairy Company of London prepare two modifications, having the following composition :—

	No. 1.	No. 2.	Human Milk.
Proteids	1·33	2·23	2·2
Carbohydrates	4·70	5·22	6·2
Fat	4·05	3·67	3·7
Mineral matter	0·49	0·58	0·3
Total solids.	10·57	11·70	12·4

(2) Concentrated foods prepared from cow's milk, with various modifications, and requiring the addition of water only to be ready for use. Belonging to this class are the Allenburys' foods (Nos. 1 and 2), Horlick's malted milk, and Nestlé's milk food.

The following table shows their composition, as well as that of desiccated human milk :—

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* Analyses by Allen and Tankard ('Com. Org. Analysis,' Vol. IV.).

* Analysis by Fresenius (supplied by makers).

† Analysis by Hutchison ('Food and Dietetics').

—	Allenburys' No. 1.	Allenburys' No. 2.	Horlick's Malted Milk.	Nestlé's Milk Food.	Desiccated Human Milk.
Moisture	1·82	2·24	3·7	5·5	—
Proteid	10·70	10·23	13·8	11·0	17·7
Carbohydrates	66·61	68·78	70·8	77·4	50·0
Fat	16·79	14·94	9·0	4·8	29·8
Mineral Matter	4·08	3·81	2·7	1·3	2·4

As compared with desiccated human milk the fat in these preparations is low. In the Allenburys' food the carbohydrates are in the soluble form; in Horlick's food as maltose and lactose, when prepared for use; in Nestlé's food as starch, maltose, and lactose.

Malted Foods.

Unlike the foregoing milk foods, which are complete in themselves, these require the addition of cow's milk in their preparation for use. Savory and Moore's, Benger's and Allenburys' malted foods are representatives of this class. They are composed chiefly of wheat flour (sometimes baked) and malt. The general method of preparation for use is as follows:—About 1 oz. of the food is rubbed into a smooth paste with cold water; then, whilst stirring, add half a pint of boiling milk and water (equal parts). When prepared according to such directions, as a rule all the starch is not converted into the soluble products of maltose and dextrine. It is a well-known fact that the diastase of malt exerts a peculiar action on the casein of milk, which prevents it curdling; but, although the casein is rendered more digestible, its high proportion in cow's milk remains unchanged, while dilution, though correcting the proportion of casein, increases the deficiency in fat. Moreover, infants below the age of six months are unable to digest starch; hence, a preparation containing unaltered starch is unsuitable for children under that age.

Benger's food, though included in this group, contains pancreatic extract in place of malt. The enzymes of pancreatic extract possess proteolytic as well as amylolytic properties. Another class of infants' foods are the farinaceous foods pure and simple. They possess no advantage over the ordinary cereal preparations, such as oatmeal. As a food for young infants they are quite unsuitable, as the whole of the starch is unaltered.

Casein Preparations.

A number of soluble casein derivatives have been introduced under fancy names—*e.g.*, nutrose, a neutral compound of casein with a fixed alkali; Plasmon, a preparation largely advertised, and one familiar to most of you, is casein rendered soluble with sodium bicarbonate. According to Coblentz, Plasmon contains:—Moisture, 10·7; proteids, 81·3; fat, 0·7; mineral matter, 7·2.

Such preparations possess many advantages; they are easily digested and completely absorbed, they can be added to the ordinary diet, and they are tasteless and odourless. As a source of enriching the diet in nutritive material they are extremely useful on account of the high proportion of proteid they contain.

Foods of Vegetable Origin.

Cereal foods intended for the use of infants have been, for the sake of convenience, described under the class of infants' foods. During the last few years various cereal preparations, known as breakfast foods, have been placed on the market. They are mostly of American origin, and are found in the form of flakes or granules.

These preparations are largely advertised, and the manufacturers make exaggerated claims regarding their properties; in fact, the statements read something like the claims made for a patent medicine. The following table shows the compositions of some of these preparations:—

	A	B	Wheat.
Moisture	5·57	3·06	10·10
Proteids	12·20	12·63	11·10
Carbohydrates (soluble)	6·38	10·91	—
Carbohydrates (insoluble)	69·34	68·32	73·0
Fat	0·87	0·85	1·7
Mineral matter	2·76	1·71	2·4
Fibre	2·88	2·52	1·6

The manufacture of the foods causes a loss of water to some extent and a corresponding gain in proteids and other constituents, but otherwise their food value is practically the same as that of ordinary cereals. Many of these breakfast foods claim that they are predigested, or, in other words, that the starch has been converted into the soluble form of maltose or dextrine, but the above figures show that the soluble carbohydrates are present only to a limited extent.

DISPENSING METHODS.*

BY JAMES GRIER, PH.C.

Exactly a year ago I had the pleasure of reading a paper before this Association on "Dispensing Problems." It dealt with the problems or difficulties which arise in the ordinary way of business, and can only be solved by the pharmacist who combines a good practical experience in dispensing with a sound theoretical knowledge of what might be termed the "pharmaceutical sciences." The object of the paper was to show that the dispensing of medicines carries a serious responsibility with it, and ought not to be undertaken by an untrained or even by a half-trained person; indeed, the whole literature of pharmacy, both here and abroad, is a refutation of the statement that any uneducated person is able to dispense medicines, and the clause in the Bill now before Parliament to confine the dispensing of physicians' prescriptions to properly trained pharmacists is a necessary one in the interests of the public safety. The object of the present paper and practical demonstration is to show that there is something more in dispensing than the mere filling up of bottles from stock mixtures—which appears to be what some medical men understand by dispensing—that, in short, dispensing is an "art," which requires a special training on the part of those who practise it. In order to illustrate my paper in a practical manner, I suggested holding this meeting in the Pharmaceutical Department of the Owens College, so that I might have the use of the apparatus in that department. The College authorities, including the Principal, the Dean of the Medical School, and the Professor of Materia Medica and Therapeutics, readily granted my request—an act of friendliness which I am sure is appreciated by the members of this Association. I have also great pleasure in informing you that Professor Greenish has sent me some useful and interesting apparatus, thus demonstrating in a very practical manner what the Pharmaceutical Society can do for those pharmacists who associate themselves together for their mutual improvement and the advancement of their calling. Our thanks are also due to Messrs. Christy and Co. for the loan of a "Rapid Fire" suppository machine, and to Messrs. Allen and Hanburys, Ltd., for the loan of a "Duplex" tablet machine.

Medical Men and Chemists.

In the present stupid condition of affairs in this country, whereby medical men play at dispensing and dispensing chemists play at counter-prescribing, all real progress in the art of dispensing is blocked, and the general public suffers by being deprived of the services of a body of men specially trained to serve it. On the one hand, the medical man who does his own dispensing must of necessity limit himself to a greater or less extent to a certain number of drugs and to a certain number of easy forms of administration, for he has neither the time nor the training to enable him to dispense his medicines in the form of tablets, pastilles, capsules, cachets, suppositories, bougies, or pessaries, to say nothing of pill-making and pill-coating. If he prescribes these at all they must of necessity be the products of some factory, made up to some stock formula, which may or may not suit the peculiar needs of the patient. On the other hand, the pharmacist who has to pass a searching examination in dispensing finds in too many cases he has laboured in vain. His skill is uncalled for; through want of practice he not only becomes less skilled, but has no incentive to devise new methods of administration or improvements in apparatus, and in all too many cases finds himself compelled to make a living by counter-prescribing. As a result, we find all the new and elegant forms of medication are either of American or Continental origin, and the medical man is exploited by the representatives of non-British or quasi-British firms, who offer him suggestions and write books for his edification. And, as if to add insult to injury, the chemist is vilified in the lay, medical, and even the pharmaceutical Press as a pirate and substitutor.

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*Read before the Manchester Pharmaceutical Association, on Wednesday March 9, 1904.

What is this Substitution?

What, after all, is this charge of substitution? Simply this, that for D. Y. and Co.'s "oids" A. and L.'s "ets" are supplied, both being composed of exactly the same drug, of equal purity, strength, dose, and therapeutical effect, and made by firms of equal repute. Compared with the wholesale substitution which goes on in doctors' surgeries, this kind of substitution is as the "electron" to the "mighty atom." For is it not common knowledge amongst us that the tinctures and other preparations used by medical dispensers, even the aromatic spirits of ammonia, are "aqueous," not pharmacopœial? Has not a book appeared recently which tells us how it is done? Are we not there told that "It is becoming more and more the practice of the up-to-date dispensing practitioner to use concentrated tinctures, liquid extracts or liquors, which are in every way superior to the unstable (?), unstandardised B.P. tinctures"?—that "pill-rolling and pill-coating, the making of emulsions, capsules, etc., are subjects in which he is not interested at all"? But, according to the book, he is interested in one thing—the making of money out of his patients by substitution, for great pains are taken to show him how he can save 50 per cent. on his drug bill. Sixteen ounces of a certain fluid extract, he is told, are equal to 16 pints of B.P. tincture, thereby effecting a saving of 15 pints 70 per cent. alcohol, or 62s. 8d. by substitution.

The book has a strong Yankee flavour, one well-known American firm being mentioned eight times. Apparently British pharmacy does not exist, and the B.P. is a dead letter. "Fluid extracts," we are told, "are official in the U.S.P., and are slowly but surely finding their way into our own. The 1 in 10 liquors of the 1898 B.P. are practically not used by the dispensing practitioner, and infusions are 'quickest' (?) made from liquid extracts U.S.P." To ease the conscience of the medical man he is assured that "he can be absolutely certain that the aqueous tinctures made from such fluid extracts are equal in therapeutic value to tinctures made by B.P. processes." But worse is to follow, for in another book, entitled 'Everybody's Medical Guide,' the man in the street is shown how he can dose himself, and dispense with the services of the medical man altogether. The remedies recommended in nearly every case appear under the proprietary names of a certain firm, although the firm's name does not itself appear—a very clever piece of advertising indeed. Such is the humiliating position to which we have been brought by the stupid and unreasoning jealousy which exists in this country between medical men and pharmacists. The question naturally arises, Can nothing be done to bring about a better state of things? Something has been, and is being, done, but much more can be done if we go about it in the right way. Notwithstanding recent events, I am firmly convinced that pharmacy as an art will yet be restored in this country. The new Medical and Pharmacy Ordinance of the Orange River Colony is a hopeful augury for the success of our own Pharmacy Bill. The increasing interest taken in the subject by many medical men and by the general public, the resolution carried unanimously by the medical students of this College that "dispensing by doctors and prescribing by chemists are both undesirable," are all distinctly hopeful signs.

What Pharmacists Can Do.

But is there nothing which we pharmacists ourselves can do in this matter? Let me explain my meaning. During last winter session, at the request of Professor Wild, I gave a demonstration at one of the meetings of the Manchester Medical Society on the preparation of tablets, cachets, capsules, lozenges, pastilles, scale and effervescing compounds, etc., with the aid of the apparatus from the pharmaceutical department. Most of those present were quite surprised to find that it was within the power of the ordinary pharmacist to exhibit medicines in these forms, and that there was actually in existence apparatus for the purpose. Can pharmacists not do more than they are doing to impress on medical men that they are capable of dispensing medicines in these forms, or must it sorrowfully be admitted that in most cases, if the pharmacist received a prescription for 2 oz. granular effervescent antipyrin, B.P.C., he would order it from the nearest wholesale house and keep the patient waiting its arrival? If so, then Mr. Kirkby is right when he says that "the average pharmacist of to-day is educated up to the public demands and examined beyond them, except in so far as concerns the compounding of medicines," and that "he is not yet in such a position as will enable him to demand that the compounding of medicines shall be entirely committed to him and taken out of the hands of the medical profession."

In the *Pharmaceutical Journal* of October 25, 1902, there is an interesting communication on this very subject by Mr. Chas. T. Allen, Kilburn, N.W. He urges pharmacists to exhibit greater "art" in pharmacy, and to pay more attention to "apparatus," mentioning the fact that the German "apotheker" is compelled by law to have an efficient supply of apparatus on the premises. If every pharmacist, he says, endeavours to present to the prescriber as many forms of medication as possible instead of relying on the time-honoured "mixture" and "pill," he might be more often successful in directing the thoughts of his local practitioners to himself and his art. At the same time, he would be the means of checking the prescribing of "proprietaries," the proprietors of which he regards as the enemies of true pharmacy. At another meeting of the Medical Society I arranged, by request, an exhibition of new drugs and medicinal preparations, including a large selection of preparations from the B.P.C. Formulary, the whole being exhibited in the Museum of Materia Medica. To nearly every medical man present it was a revelation that there was actually in existence a book, issued under the authority of pharmacists, giving a list of preparations which could be prescribed in place of the more expensive proprietary articles they were in the habit of ordering. The greatest interest was shown both in the preparations and in the formulæ, and I am convinced that if the proposed "Compendium" of medicines now in course of preparation by the

Pharmaceutical Council is produced on right lines, it will do a great deal towards bringing about more friendly relations between medical men and pharmacists.

The Pharmaceutical Compendium.

It would be a great gain to enlist the interest and co-operation of the medical profession in the "Compendium," and it is, therefore, earnestly to be hoped that it will not be a mere collection of formulæ, which might lay it open to the charge of encouraging counter-prescribing, but a work which will be of real value both to the physician and the pharmacist. With that end in view, I would suggest the inclusion of formulæ and descriptions of processes for the exhibition of medicines in more elegant forms than pills, powders, and mixtures. The B.P. gives formulæ for four ophthalmic discs and one tablet, but gives no directions for their preparation, and one has to pick up this information from outside sources. If, as is already done in the case of the B.P. lozenges, formulæ and processes for the preparation of tablets, capsules, eye discs, pastilles, and even rubber plasters were given, such a work would represent a distinct advance in the history of British pharmacy. Representing the highest art of the pharmacist, it would be, in fact, a "supplement" or "extension" of the Pharmacopœia, which future compilers of that work would consult. Work on these lines would be more to the credit of pharmacy than counter-prescribing, which can only be regarded as so much mis-directed energy. An object-lesson of the truth of this statement was supplied in this district by the "Jackson's Febrifuge" case, which afforded the Manchester Press an opportunity of holding the prescribing chemist up to public ridicule.

THE STUDENTS' COLUMNS.

BOTANY (5).

Foliage Leaves and Their Relation to Light.

A leaf has been defined as a vegetable appendage borne upon a stem or axis from which it differs in its structure and organisation. Before dealing with the actual structure of leaves, however, it will be well to consider briefly their general relations with regard to sunlight and their connection with the work of nutrition for the plant. All foliage leaves, so called to distinguish them from the highly-coloured leaves of which flowers are composed, possess a characteristic green colour; so universal indeed is this colour that one invariably associates it with plants and particularly with leaves. In a previous lesson it was pointed out that this colour is due to a green colouring matter called chlorophyll which is diffused through the plastids found in the cells of the leaf, and it was stated then how this chlorophyll in the presence of sunlight is able to decompose the carbon dioxide present in the atmosphere and to retain the carbon, and with it build up the complex organic substances of which the plant body is composed. Now when a plant or seedling grows away from the influence of sunlight, chlorophyll is no longer formed, and a pale yellow pigment is secreted in the plastids instead. To this pigment the name of "etiolin" is given; while plants thus affected by darkness are said to be "etiolated." It is easy to recall a few cases proving the intimate relations which exist between the non-formation of chlorophyll coincident with the absence of the sun's rays. Potatoes sprouting in a dark cellar put out shoots quite colourless; while in other cases, even when leaves have developed the green colour, they lose it if deprived of light. The gardener is able to produce the white stalks of celery which are brought to the table simply by heaping up earth around the growing plant, thus shutting off the light from the growing shoots; while everyone knows the pale, sickly appearance of grass that has been covered for some time with a board or roller. Obviously, then, the green colour found in working foliage leaves depends upon light for its existence.

Another fact to be observed in reference to foliage leaves is that in almost every case it is a flat, expanded organ—one, in fact, that will expose a very large amount of surface in comparison with its mass. Now, leaves are inserted on various parts of the stem and branches, and they receive different names accordingly. Some arise from just above the surface of the ground, while others arise upon the whole distance of an upright stem. All leaves are inserted upon the stem in some particular definite arrangement, and in every case the ultimate aim is to ensure that each and every leaf will be provided with the greatest possible degree of illumination, and that no single one shall shade its neighbour more than is possible. To these precise arrangements of the leaves upon the stem the term "phyllotaxis" is applied, and although nowadays the student is not expected to attach very great importance to the study of the diverse ways in which Nature has provided that every leaf shall get its full share of sunlight, yet it is interesting to study the main types of such arrangements. In Green's 'Manual of Botany,' vol. i., pp. 81 *et seq.*, a lucid explanation of these various types will be found, and the student will easily get a firm grasp of the subject by obtaining the leafy branches of any of the common trees in his neighbourhood and carefully noting the particular arrangement in each. It may, however, be interesting to mention here a few familiar devices by which shading is minimised, if not absolutely avoided. When a plant is in the habit of producing a cluster or rosette of leaves at the base of the stem, some provision must be made, or evidently the leaves must overlap one another. But this seemingly unfavourable light arrangement is obviated by the lowest leaves of the rosette being the longest, while the inner ones become gradually shorter, so that all the leaves have at least a part of the surface exposed to light, and to make this provision still more effective, we find that the overlapped base of these leaves is much narrowed, while the apex is broad. Perhaps the most complete fitting together of leaves is to be seen in the case of some ivies. Here the individual leaves fit together almost like pieces of a mosaic, and this process involves a wonderful arrangement of twisting and elongated petioles or stalks.

Another very striking effect which sunlight has upon a growing plant will be familiar to everyone. When a plant is grown in a window—the common geranium will be remembered by all—it bends its stem towards the illuminated side, while the leaves will place themselves in such a position as to present their upper surfaces at right angles to the incident rays. This influence of light upon the position of leaves and other organs is known as "heliotropism" (Gr., *helios*, sun; *trope*, a turn), while the advantages thus secured are obvious, for the leaves are in this way placed in the most favourable position for the action of the chlorophyll in decomposing the carbon dioxide. On the other hand, too intense an illumination may result in the destruction of the chlorophyll, and in cases where this is likely to occur we find other changes taking place. Many plants which normally have their leaves so arranged as to expose their upper surfaces to the incident rays are found under bright sunlight to place them so that their edges and not their surfaces receive the light. This phenomenon we term "paraheliotropism."

Functions of Leaves.

In view of these various kinds of adjustments, by which Nature secures the necessary amount of illumination for each leaf, let us revise the functions of foliage leaves.

Once more let the student carefully revise the main features of photosynthetic assimilation—in other words, the constant absorption of carbon dioxide, the fixation of the carbon, and the giving off of free oxygen. A simple experiment may perhaps serve to fix it effectually upon the memory. Submerge any living leaf in a beaker full of water, and then stand it in the sunlight. Numerous bubbles will be seen to be given off from the whole of the leaf surface, and this gas, if collected in sufficient quantities to be tested, will be found to be oxygen. If now the beaker is carried into a dark place, the bubbles will cease to rise, although as soon as it is brought back again into the sun bubbles will again appear. Thus clearly do we see how essential is light.

Another feature to observe is that the working leaf is constantly giving off moisture. Green plants contribute a very large amount of moisture to the air in the form of water vapour, the water having been absorbed by the root hairs, as explained in a previous lesson. This escape of moisture from the surface of all actively growing leaves is known as "transpiration," and it may be demonstrated very easily by inverting a small bell jar over any small active plant; very soon moisture will condense on the inner surface of the glass, while enough may perhaps collect to trickle down the sides of the glass. Transpiration is also much increased by light, rising to many times its original amount when a plant is transported from darkness into sunshine, the increased light making the stomata open more widely.

THE REORGANISATION OF PHARMACY (3).

BY AN ORDINARY PHARMACIST.

A Lesson in Dynamics.

The reader who has read and digested my previous articles will have gathered, I take it, that the organisation of the British Medical Association is thoroughly well adapted to protect the interests of medical men, but that the societies and associations of chemists and druggists are, upon their present basis, signally unlikely to effect a similar purpose. It must not be assumed that a system modelled exactly on that of the British Medical Association would necessarily be the most suitable for pharmacy. Possibly, if it were necessary to begin at the very beginning, the model could, with advantage, be very closely imitated. But, in the Pharmaceutical Society and the local associations, we have much existing machinery, nearly sufficient, indeed, to supply all our wants, if the parts can be made to fit one into another and the wheels to run with the greatest possible driving-force and the minimum of friction. And without adhering too closely to the specification, those who labour in the pharmaceutical workshops may well endeavour to emulate the chief engineers of the medical profession by producing a machine sufficiently powerful to shatter any obstacle, and to bring to bear on politicians a pressure which, although not measurable in terms of horse-power, shall be none the less effective.

Geographical Problems.

I should like to see the existing local associations throughout the country become in fact Divisions of the Society, the Central Council being responsible for their geographical demarcations. In the English provinces this task would present little difficulty, owing to the fact that there is practically no overlapping of districts among the associations, whilst most towns and villages are sufficiently near the headquarters of an association. In London, Scotland and Wales the problem is different, but should not be by any means impossible of solution. The Western Chemists' Association, the northern and southern branches of the London Chemists' Association respectively, the Thames Valley, North Kent, and West Ham Associations might remain with a little, but a definite, readjustment of "territory"—and consequently of their membership—as Divisions of the Pharmaceutical Society. The whole of Scotland could probably be divided into three parts. One would embrace Edinburgh and the south-east; of the second Glasgow would be the natural headquarters, while a third "Division" might be formed to include Aberdeen and the North of Scotland in general. It would be well, if it were found workable, to have more decentralisation in Scotland, but the chemists of that country are, as it seems to me, too much scattered for a more minute sub-division of districts. Similarly, the southern counties of Wales might rally round the Divison of the Society which would naturally replace the Cardiff Association; while it should be possible to arouse North Wales to combine as the second Division in the Principality.

Catholicity of Interests.

Every member of the Pharmaceutical Society would, by virtue of that association, be the member of his territorial Division, and every member of a Division would be a member of the Society. The Divisions would have the entire management of their own affairs, and would receive back from the Society, for working expenses, a portion of the subscriptions which they remitted to Bloomsbury Square, for I would charge the Divisions with the task of gathering in subscriptions to the Society and to the Benevolent Fund. The Divisions could carry out programmes not greatly different from those which find favour now among those associations whose ambition reaches beyond the "minutes of the last meeting and correspondence." Thus, the Birmingham, Liverpool, Manchester, Edinburgh, and Glasgow Divisions could hold, if they wished, scientific "evening meetings," in addition to the meetings for political and social purposes. In other places meetings of a Division of the Pharmaceutical Society might, without any loss of dignity, consider local trade items, or protest against "cash-on-delivery," or form a buying section. Let the whole system be on a broad and comprehensive basis.

Federations and Branches.

The formation of "Branches," corresponding with those of the British Medical Association, would not be a matter of great difficulty. A North British Branch and a West Riding Federation already exist; a Metropolitan Counties Branch would arise naturally from the union, for certain purposes, of the London and District Divisions already recounted, and a little judicious grouping of districts in other parts of the country would complete this section of the scheme. I would, however, not call upon the Branches for anything in the nature of regular meetings or routine duties. Nor would there be any need for the formation of Branch Councils, such as those of the association which I have taken as a model. The associations, or, rather, "districts," comprising a Branch would only be required to act in concert in cases of political emergency and in the election of representatives to the Central Council and to the annual meeting of the Pharmaceutical Society. Otherwise, each Division would be the live and working body. It will be seen that the proposals which I have ventured to put forward involve the abolition of the Federation of Local Associations, and the absorption of the British Pharmaceutical Conference. The scheme, again, finds no place for the present Divisional Secretaries of the Pharmaceutical Society. But the secretary of the "Division"—there might be more than one secretary in each of the larger and more active Divisions—would represent the Society in his district, and much of his work could well be performed by paid resident or visiting officers of the Society. These would be able to save expenses in very many directions, and would entail little additional expense on the Society as a whole. On this subject, as well as on a method for securing real co-operation between the Divisions in spite of the absence of a "federation," I propose to enlarge subsequently.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN.

LIBRARY, MUSEUM, SCHOOL, AND HOUSE COMMITTEE.

At a meeting of this Committee, held on Wednesday, March 9, 1904, the following reports were presented:—

Attendance in Museum.

	Total.	Highest.	Lowest.	Average.
February	519	38	10	21

Donations to the Museum.

Dr. C. Symes, Liverpool:—Six specimens of Native Medicines from West Africa.

Professor H. H. Rusby, New York:—Specimens of the Bark of *Prunus pennsylvanica*, Linn.

Mr. A. J. Cownley:—Specimen of Pilocarpine from Guadeloupe Jaborandi.

Mr. W. A. Knight, London:—Twenty-four Microscopic Slides of Official Drugs and Thirteen Photographs of Sections of Official Drugs.

Donations to the Herbarium.

The Curator:—Specimens illustrating the following genera of ferns: *Acrostichum*, *Allantodia*, *Asplenium*, *Cheilanthes*, *Davallia*, *Gymnogramme*, *Marattia*, *Mohria*, *Nothochlæna* *Nephrolepis*, *Oleandra*, *Pellæa*, *Polypodium*, *Pteris*, *Schizæa*, *Trichomanes*, and *Woodwardia*.

Inquiries.

Fourteen specimens of seeds and six specimens of drugs were sent for identification and eight botanical inquiries had been replied to.

Duplicates Distributed.

Specimens of duplicates and duplicate drugs had been distributed to the North British Branch, Dr. A. Voigt, of Hamburg, and Professor H. H. Rusby, New York; The Museum, Kew Gardens; Mr. J. C. Umney, Mr. W. A. Knight, and Mr. P. E. F. Perrédès. A collection of dried specimens of British Plants had been sent to the North British Branch.

One hundred and sixty copies of the Museum Report had been distributed during the past month. Application for copies had been received from the United States, India, Jamaica, and Holland.

Investigations.

An investigation of the comparative histology of Eucalyptus Leaves had been undertaken by Mr. C. T. Allen.

Attendance in Library.

	Total.	Highest.	Lowest	Average.
London Library, February	431	27	5	17

Circulation of Books.

	Total.	Town.	Country.	Carriage Paid.
London Library, February	234	128	106	£1 0s. 2d.
Edinburgh Library, February	343	221	122	9s. 4d.

Donations to the Library in London.

Dr. P. Carles, Bordeaux:—Extraits des Organes Animaux et Extraits des Organes Végétaux, 1903.

Kaiserliche Leopoldinisch-Carolinische Deutsche Akademie der Naturforscher:—Nova Acta, Bd. 80-81, 1903.

Mr. O. Wallis, London:—Nineteen vols. of the British Association Reports; 16 vols. of the 'Year-Book of Pharmacy'; Sundry vols. and numbers of the Chemical Society's Journal (unbound); Jourdan's Pharmacopée Universelle, 1828; Thomson's Health Resorts of Britain, 1860; 24 vols. of the *Pharmaceutical Journal*.

Mr. F. M. Bailey, F.L.S., Brisbane:—Contributions to the New Guinea Flora, 2 pamphlets; Contributions to the Queensland Flora, 3 pamphlets.

Royal College of Physicians, London:—List of Fellows, etc., 1904.

Radcliffe Library, Oxford:—Catalogue of books added during 1903.

The Editor:—Pharmaceutical Journal Formulary, 2 copies.

Ecole Supérieure de Pharmacie de Paris:—Thèses by MM. Boutron, Bretet, Débourdeaux, Defacqz, Esnault, Javillier, and Morelle.

Jardin Impérial Botanique de St. Pétersbourg:—Acta Horti Petropolitani, tom. 21, fasc. 3; tom. 22, fasc. 1.

Messrs. E. R. Squibb and Sons, Brooklyn:—Ephemeris of Materia Medica, vol. 7, pt. 2.

The Editor of the *Chemist and Druggist*, London:—Pharmaceutical Formulas, vol. 2.

Donations to the Library in Edinburgh.

Mr. H. W. Gadd, Exeter:—Drugs, Their Production, Preparation, and Properties, 1904.

The Editor:—Pharmaceutical Journal Formulary, 1 copy.

The Editor of the *Chemist and Druggist*, London:—Pharmaceutical Formulas, vol. 2.

Purchase of Books.

The Committee authorised the purchase of the undermentioned books:—

For the Library in London.

Ball, Text-book of Astronomy. To replace worn out copy.

Green, Manual of Botany, 3rd edition, 2 copies.

Vierteljahresschrift fur Praktische Pharmazie.

For the Library in Edinburgh.

Greenish and Collin, Anatomical Atlas of Vegetable Powders, 1904.

Green, Manual of Botany, 3rd edition.

REPORT ON THE EXAMINATIONS IN LONDON.

Government Visitor's Report for 1903-4.

Report on the Examinations held by the London Board of Examiners of the Pharmaceutical Society of Great Britain during the year ended March 31, 1904.

To the Lords of the Council,

My Lords,—

I have the honour to report that I attended on twelve occasions the examinations of the London Board of Examiners of the Pharmaceutical Society of Great Britain, held during the months of April, July, and October, 1903, and January, 1904.

Minor or Qualifying Examination.

There was an increase in the number of candidates who presented themselves for this examination, as compared with the preceding year, the increase being from 1,096 to 1,151, or 5·2 per cent. There was also a slightly better result, 371 candidates having passed, or 32·2 per cent. It is satisfactory to find the proportion of failures continuing to decrease.

Analysis of Failures (780).

	Candidates who Failed.	Percentages of Failures.
Chemistry (oral) alone	36	4·6
Practical Chemistry alone	166	21·3
Practical Pharmacy and Dispensing alone	181	23·3
Botany alone	30	3·8
Materia Medica alone	26	3·3
Pharmacy alone	22	2·8
Reading and Writing Prescriptions alone	54	7·0
In more than one subject	133	17·0
Failed to obtain the aggregate number of marks for a pass	132	16·9
	780	100·0

As usual, there was a very large rejection in the practical portions of the examination, the failures in practical pharmacy and dispensing being very high, whilst, on the other hand, there was more success than of late in practical chemistry. My often expressed opinion, that the training of the future chemist and druggist is too often defective, remains unshaken.

Modified Examination.

One candidate presented himself for this almost obsolete qualifying examination, and passed.

Major Examination.

Seventy-three candidates only presented themselves for this examination, as compared with eighty-three in the preceding year. It is regrettable that so few qualified chemists and druggists attempt this excellent examination. Of the seventy-three candidates forty-two, or 57·5 per cent., passed, and thirty-one, or 42·5, failed.

Analysis of Failures.

	Candidates.
Chemistry and Practical Chemistry alone	5
Physics alone	1
Botany alone	5
In more than one subject	11
Failed to obtain the aggregate number of marks for a pass	9
	31

The standard of the examinations has been fairly maintained, and the conduct of the examinations deserves a word of praise.

February 29, 1904. Thos. Stevenson.

PHARMACEUTICAL SOCIETY OF IRELAND.

MEETING OF THE COUNCIL.

Wednesday, March 2, 1904, at 67, Lower Mount Street, Dublin, Mr. W. F. Wells, Vice-President, in the chair.

Recent Deaths.

A letter was read from the widow of Sir E. M. Hodgson, expressing her thanks for the vote of condolence passed by the Council.

Mr. P. L. White, J.P., of Glasgow, wrote thanking the Council on behalf of himself and his family for the kind resolution of sympathy on the death of Mrs. White.

The Society's Calendar.

Letters were read from the National Library, the Pharmaceutical Society of Great Britain, the General Medical Council, the British Pharmaceutical Conference, and other bodies, expressing thanks for the gifts of the Society's Calendar.

Amendment of the Pharmacy Acts.

The Vice-President said that the Committee of the whole Council met at 6 o'clock on the evening of February 3, when the question of the amendment of the Pharmacy Acts was very fully considered, and the meeting then adjourned to a future date.

New Members.

On the motion of Mr. Beggs, seconded by the Vice-President, the following were elected to membership of the Society:—Mr. J. B. Robinson, Ph.C., Duncavin Medical Hall, 137, Antrim Road, Belfast; Mr. A. S. Scott, Ph.C., 13, Cameron Street, Belfast; Mr. S. S. Badger, Ph.C., Magherafelt. Mr. A. E. Welsh, Ph.C., Lisburn, was proposed for membership.

APRIL EXAMINATIONS.

Applications for admission to the following examinations should be lodged with the Registrar by eleven o'clock a.m., *at latest*, on the dates mentioned, viz.:—

Thursday, March 24	for the Preliminary Examination.
Monday, March 28	for the Pharmaceutical Assistan Examination.
Tuesday, March 29	for the Registered Druggist Examination.
Wednesday, March 30	for the Pharmaceutical Licence Examination.

SCHOOL OF PHARMACY STUDENTS' ASSOCIATION.

ORDINARY MEETING.

Friday, March 4, 1904, at 17, Bloomsbury Square, London, Professor Wynne in the chair.

Miss Nora Renouf read a paper on

Glucosides.

Miss Renouf first described the manufacture of salicin, as the preparation of that substance might be said to represent the typical method for the isolation of glucosides in general. Attention was drawn, by the aid of experiments, to the more striking chemical reactions of glucose, and to the fact that the sugar can be directly obtained from salicin. The other products obtained from glucosides are usually hydroxy-compounds of the type of "carbolic acid" and hydroquinone. Most glucosides are neutral bodies, but a few, including solanin—a glucoside found in the leaves and shoots of the young potato—are basic, and some, like that occurring in the madder root, are acid. Glucosides, as a rule, are not decomposed by pure water, even on boiling under pressure, but dilute acids readily effect hydrolysis. Alkalies may also bring about the decomposition, baryta water being better adapted to the purpose than caustic alkalies, which may act on the sugar liberated. The disappearance of a glucoside, such as salicin, in the plant itself is due to the action of an enzyme. Experiments which led to the preparation of this paper showed that when the plant enzyme and the glucoside are brought into contact in the presence of water decomposition ensues, the same products being formed as those produced on the lecture table, but at the ordinary temperature. On heating salicin with acid, glucose and, instead of saligenin, a yellow resinous substance, which proved to be saliretin, were obtained. 1 Gm. of salicin was placed in a small flask with 50 C.c. of a 2 per cent. solution of sulphuric acid, and boiled under a reflux condenser for two hours. After boiling for about ten minutes, the solution turned milky, and greenish oily globules began to appear. As the globules increased, the milkiness became less noticeable, and at the end of two hours a resinous substance had collected at the bottom of the flask. Dissolved in alcohol, evaporated, and dried in a steam-oven until the weight was constant, 40·31 per cent. of saliretin (calculated quantity 40·2 per cent.) was found. The filtrate yielded 62·24 per cent. of glucose (calculated quantity 62·9 per cent.) when determined by Fehling's reagent, and 63·2 per cent. when determined with the polarimeter. As to the constitutional formula of glucosides, it may be assumed that the particular arrangement of the glucose formula which causes it to reduce Fehling's solution is wanting in salicin, but is restored when that substance undergoes decomposition. Recent investigations have shown that glucosides are reserve materials, not simply waste products. The glucosides may take a more or less active share in the nutritive processes of plants, but, as an enzyme is generally found accompanying the glucoside, it is most probable that it is the simpler products of decomposition which the plant utilises. Surely it is a fair inference that if not only a glucoside, but the one enzyme which will hydrolyse it in the presence of water are secreted by the plant, both are to be used for the production of materials required in metabolic changes. That glucosides act as reserve food material is shown by the fact that more of the glucoside is generally to be found in the plant in the autumn than in the spring or early summer. Again, there is evidence in the fact that means exist to prevent hydrolysis by the agency of enzymes. It is found that the enzyme is carefully kept out of contact with the glucoside, until the precise moment at which the latter is required, by being stored in different parts of the plant, or, if in the same part, in a different layer of cells. Thus, emulsin is found in cherry-laurel leaves, which contain also the glucoside laurocerasin. So long as the leaves remain intact no decomposition takes place, for the emulsin is stored in the endodermis of the veins, while the laurocerasin is distributed throughout the parenchyma. Immediately the leaves are crushed and mixed with water the odour of hydrocyanic acid may be detected. It was at one time thought that only the sugar in the glucoside molecule was utilised by the plant, but there is every reason to believe that other decomposition products may be of even greater importance. Possibly the production of hydrocyanic acid from amygdalin, laurocerasin, and other glucosides may have been responsible for the view that glucosides are waste products, glucose being supposed to have for its function the rendering innocuous of the cyanogen radicle, just as ferric hydroxide provides a means of eliminating hydrocyanic acid from the animal system in cases of cyanide poisoning. That view is untenable, if only on the ground that the plant has a supply of enzyme ready to reproduce hydrocyanic acid. A more reasonable view is that the latter substance is actually needed by the plant. Treub found in one of the Bixaceæ that hydrocyanic acid existed in quantity in the conducting tissue of the bast and pericycle of the adult axis; also in the parenchyma of the leaves and in the seeds. Tracing the acid upwards through the axis by means of longitudinal sections, it can be found to extend throughout its whole length, but to disappear at a little distance from the growing point. Exactly the same facts are noticed in the case of sugar, and the fate of the acid must therefore be similar to that of sugar. That the acid is used, and not merely transported from the leaves, may be shown by cutting sections through the conducting tissue of the petioles, when removal by transport becomes impossible. The mode in which hydrocyanic acid may be utilised by the plant was discussed.

A short discussion took place in which Miss Caws, Messrs. Stuart Hills, Wallis, Cart, Cole, and Thomson joined. A point having arisen during the discussion with regard to the constitution of glucose, the Chairman rose and spoke enthusiastically of the brilliant work of Fischer in elucidating the structure of this substance and its isomers. He also gave a brief account of the present state of knowledge with regard to the action of enzymes on glucosides and other substances, quoting Fischer's remark that the connection between the structure of the enzyme and of the fermentable substance must be as close as that between a lock and its key. In many cases enzymes which can decompose one optical isomer are unable to act upon the other, although chemically the two are indistinguishable.

At the conclusion of the meeting a hearty vote of thanks was accorded to Miss Renouf.

GT. YARMOUTH PHARMACEUTICAL ASSOCIATION

ORDINARY MEETING.

Thursday, March 3, 1904, at 156, King Street, Mr. Shearman in the chair.

The Committee reported that they had made arrangements for the annual dinner to be held at the Star Hotel on Thursday, March 10, at seven p.m.

A communication from the P.A.T.A. was left over to be considered at the next meeting.

BRIGHTON ASSOCIATION OF PHARMACY.

SPECIAL MEETING.

Thursday, March 3, 1904, at the Old Ship Hotel, Brighton, Mr. W. H. Gibson, F.C.S., President, in the chair. There was a very large attendance of chemists from Brighton, Eastbourne, Worthing, and other towns.

In his preliminary remarks, the Chairman referred to Mr. Carteighe's past services to pharmacy, in connection with Parliamentary affairs, education, and benevolence.

Mr. Michael Carteighe then gave an address on the subject of

The Pharmacy Bill.

For nearly forty years, he said, he had been, in one capacity or another, an officer of the Pharmaceutical Society, and he was therefore familiar with the circumstances which attended the passing of the Pharmacy Act, 1868. As a young man he had been pressed into the service of pharmacy, and had acted as lieutenant to George Webb Sandford, to whose pertinacity the passage of the Bill of 1868 was due. In those days the Society had to fight tooth and nail, and its Bill was much mutilated, Section 17, in particular, being greatly modified in the Houses of Parliament. After it was passed, it was soon found that no provision had been made for the proper conduct of branch shops or of businesses owned by corporations. It was, indeed, never contemplated that combinations and corporations as owners of drug businesses would represent the normal condition of pharmacy in the future. The Bill now before Parliament introduced what was quite

A New Principle.

It provided that every shop in which poisons were sold should be registered, and that the actual responsible man in charge of that shop should be qualified. If a qualified assistant in charge of a branch shop should move, he would be required to inform the Registrar of his new address. Now, what was sauce for the goose was sauce for the gander. If it be required that the branch shops of a corporation should be registered, with the name of the registered man in charge, the same must also be required in the case of branch shops owned by individuals. And both these requirements were met by the provisions of the Bill. Another clause sought to prevent the sale of poisons by hucksters, say, from a barrow on the sea-front at Brighton. That clause provided that no "place" unless separately rated to the poor should be registered as an open shop where alone poisons might be sold. Another innovation was the proposed extension to the dispensing of physicians' prescriptions of some of the requirements for the sale of poisons with regard to the registration of premises. It might require just as much skill to dispense correctly a comparatively innocuous mixture as it required to dispense the most potent alkaloids. He knew of a man—unqualified—who carried on a dispensing business and always left the poisons out. That was a distinct source of danger to the public, and must be provided against. Again, at present, when poison was sold in neglect of the conditions imposed by the Act, it was almost impossible in practice to get at the owner of the business. He could only describe it as an act of immorality for a person or a corporation to employ unqualified boys or girls to take charge of shops where poisons were sold. The master or the corporation should be the responsible body, and the Pharmacy Bill would have the effect of securing that. Then with regard to education. In England, both in pharmacy and other callings, it had been found necessary to put examination in the forefront, rather than

The Actual Training

which should precede it. True, there was the stipulation that a candidate for the Minor must have passed three years in a place where prescriptions were dispensed. But that certificate could be honestly signed by a master even when the apprentice had not received three years' real training at all. Now, did they not all agree that the three years' training was a good thing. He himself went through the drudgery, and was all the better for it. In fact, without it he would never have known his business, just as some medical men to-day did not know their profession. It was the need for three years' real training that was at the bottom of all the demands for a curriculum. The Council of the Pharmaceutical Society had no power to insist, like the engineers could insist, on deftness and skill, or, as the Germans said, on the use of fingers and head conjointly. If a man presented his signed certificate of three years' training, the Council had no power to go behind it, or to inquire into the nature of the training. There were now in pharmacy men of some note who undertook to train apprentices, but had never been properly trained themselves. But if young men were properly trained, did they not think that the "personal equation" would come into play, that the men would have some loyalty and would not go to the limited companies? Let the young men be compelled to attend lectures, perform some practical chemistry, physics, and botany in some place approved by the Council. If this were done, and certificates of attendance at such classes were obtained, very little examination would be necessary. The only reason why they had to rely on examinations now was that they could not test the training at school. As the oldest member of the Board of Examiners, or, rather, as the man who had examined more candidates at the pharmaceutical examinations than anybody else, he was profoundly sorry that the present system was so utterly inadequate.

After referring to the system of "leaving certificates" now under consideration by the Board of Education and the universities, Mr. Carteighe proceeded to say that the clauses which he had discussed so far all concerned the safety of the public without regard to the protection and the rights of the qualified chemist and druggist. He now came to

Clause 7,

which provided for both. When conditions and restrictions were imposed on individuals, it was only equitable that they should apply also to a limited company; it was only fair that those who were responsible for the direction of the business of a company which carried on the business of a chemist should themselves have passed through the mill of education and examination. It was asked sometimes, "Why require a qualification on the part of the person who merely finds the money?" The answer was simple. An individual who found the money for a chemist and druggist's business must be qualified; why not a number of individuals who managed a company? It was never intended, in the Pharmacy Act or any other, that the servant should qualify the master. If they allowed that in the case of a corporation, what objection could there be to allowing any "person," say the crossing-sweeper who might have £500 left him, from setting up in business without a qualification, being covered perhaps by a qualified assistant, but being himself responsible for the direction and conduct of the business? Now, it was an open question whether the Bill was worth proceeding with if Clause 7 were dropped. With Clause 7 would go the principle enunciated in the preamble of the 1868 Act. In spite of the opposition, he was not despondent, because he thought the Legislature and the public would come to recognise that chemists had some claim on them. Chemists and druggists were indeed tradesmen, but they were something more. He always told people that he did not mind what they called him, but he preferred to conduct his business in the way in which a professional man would conduct it. Most of them, he supposed, like himself, had assistants employed all night and on Sundays, in order to be ready to relieve the sick if called on. It would pay him in Bond Street much better to open at ten o'clock and close at six. But it was a part of the pharmacist's duty to supply the wants of the sick, and however inconvenient, they never shirked that obligation. In order, however, to obtain the sympathy of the public in a practical form they must

Make Themselves Felt,

and must, in concert with the parent body, the Pharmaceutical Society, educate members of Parliament and the public in general. "The public don't understand the position, but when once it is explained to him, the generosity of the Englishman—and of the Irishman, too—will make him unwilling to lose the individual who has qualified himself and put himself to trouble in order to be ready to meet the demands of those in sickness or pain." Would they, then, do all they could to influence their representatives in Parliament? The Council wanted chemists and druggists in the county to write sensible letters to their members of Parliament, asking them to consider the Pharmacy Bill. If they could get members to read and think over the Bill for five minutes only, something would have been done. Every branch of industry, almost, had formed trade unions; all classes, almost, were now represented in the House of Commons. If chemists did not exercise at least the pertinacity shown by the grocers, they could not expect to achieve their objects. But with all there must be some discretion. The Federation of Local Associations—he said it with all respect to the able men who were its officers—had shown some disposition to run a little too violently. All the direction must come from the same source. To compare it with the latest phase, there could only be one Army Board. One must take care that local associations and bodies like the Federation did not, for want of judgment, move off before the right time. In conclusion, Mr. Carteighe made a brief reference to the Orange River Pharmacy Ordinance and to the question about to be asked in the House of Commons by Mr. O'Malley (see p. 357).

In reply to questions by Mr. Savage, Councillor Yates, and others, Mr. Carteighe said that individual letters to members of Parliament were preferable to a joint memorial. The name of the registered man in charge of a shop must, according to the Bill, appear on the front of the shop.

Mr. Savage moved, and Councillor Yates seconded, a hearty vote of thanks to Mr. Carteighe, which was heartily given.

Mr. Carteighe, in reply, referred to his previous visits to Brighton and to the absence of the President of the Pharmaceutical Society, who would doubtless have been with them but for his recent illness, from which he had now happily recovered.

On the motion of Mr. Padwick, seconded by Mr. Beck, a resolution was passed expressing the sympathy of the Association with Mr. Atkins in his recent illness and the members' pleasure to hear of his recovery.

Other Matters.

In the course of the remainder of the evening Mr. Savage spoke on the subject of the suggested visit to Brighton of the British Pharmaceutical Conference in 1905, and appealed to the members present to come forward with suggestions. As many as possible, he remarked, should attend the Conference at Sheffield this year.—The President (Mr. Gibson) referred to Mr. Carteighe's visit to Brighton on the occasion of the very successful Conference in 1872.

The President and Mr. R. A. Cripps both spoke on behalf of the Benevolent Fund. They, and other members, freely expressed the opinion that a great mistake had been made in relieving divisional secretaries of the work of collecting subscriptions.

The healths of the President and Mr. Carteighe respectively were enthusiastically drunk with musical honours. On this, as on many previous occasions, the members of the Association were indebted to Mr. Gibson for generous hospitality. The meeting as a whole was certainly the most successful, in point of numbers and enthusiasm, of any that has recently been organised by the chemists of Brighton.

TEES-SIDE CHEMISTS' ASSOCIATION.

GENERAL MEETING.

Thursday, March 3, 1904, at the Albany Restaurant, Middlesbrough, Mr. R. R. **Bainbridge**, of Stockton, presiding.

Scales and Balances.

The **President** moved that with regard to the proposed arrangement for maintenance and repair of members' scales, the Secretary should ascertain the number of members wishing to enter into the arrangement, and that Messrs. Avery, of Birmingham, should be asked to quote a price per member per annum.

Mr. **Gregory** seconded the motion, which was carried *nem. con.*

Mr. E. D. Owen, the Middlesbrough Secretary, was unable to attend through illness, and a vote of sympathy was passed with him.

Co-operative Buying.

The question of Co-operative Buying was introduced, and the **President** explained that by buying in bulk they might assist those members who could not separately take a large stock direct from the makers.

Mr. **Brackenbury** read a letter he had received from the Secretary of the Lincoln Association, which gave a capital account of the working of their buying section and the advantages accruing.

Other letters were read by the Stockton **Secretary** (Mr. Finlayson) giving the experience of the Bradford and Hull Associations.

The P.A.T.A.

A letter was read from the P.A.T.A. drawing attention to the recent resolution with regard to the buying of P.A.T.A. articles and re-sale in small quantities under P.A.T.A. prices.

The **President** insisted that they must not commit themselves to any breach of P.A.T.A. rules.

Mr. **Finlayson** moved, and Mr. **Gregory** seconded that separate buying sections be formed for Middlesbrough and Stockton, and that they leave out the buying of P.A.T.A. articles. This was agreed to.

Distribution of Disinfectants.

The question of gratuitous distributions of disinfectants by the various Town Councils was brought up by Mr. **Brackenbury**, who pointed out the danger of giving carbolic acid to the public in any sort of container that might be handed in. It was agreed to call the attention of the Corporations to this matter.

Apprenticeship.

The Secretary was also instructed to write to the head-masters of the local Secondary Schools, pointing out that many boys who applied for apprenticeship could not be taken on because of their lack of general education, and suggesting that those wishing to become chemists should be trained in the necessary subjects.

CHEMISTS' ASSISTANTS' ASSOCIATION.

ORDINARY MEETING.

Thursday, March 3, 1904, at 73, Newman Street, London, the **President**, Mr. A. B. Britton, in the chair. Mr. W. C. **Vincent** delivered a lecture on "Bird's Nests and Flowers," in the course of which he gave instructions

How to Colour Lantern Slides.

Mr. Vincent recommends anyone with a taste for coloured flower studies, who only has his evenings to devote to this hobby, to colour his slides by hand rather than by the trichromatic process. He gave the following hints, which those who think of trying their hand at the work will find useful:—

(1) Flowers should be as fresh as possible, and arranged in natural positions.

(2) There must be no movement during exposure.

(3) A full exposure should be given, when the pyro-soda developer will be found to give a plucky negative with plenty of detail.

(4) Chromatic plates should be used, and subjects in which red and yellow predominate should be over-exposed, whilst blue and violet colours should be under-exposed. This will permit of the yellow screen being dispensed with.

(5) Contrary to all general rules, a white background may almost invariably be used.

In colouring the lantern-slides, the materials are few and simple, and no artistic skill is required, as in painting flower studies. The necessary qualifications are patience, care, good eyesight, and an elementary knowledge of colours. The outfit consists of a retouching desk, or a substitute, such as a converted printing-frame, two or three fine sable brushes, and the various aniline dyes in solution—green, blue-green, yellow, magenta, brown, blue, and violet. A piece of opal glass is used to reflect light from beneath the slide to be coloured, and the colours are carefully applied in a very weak solution. It is far easier to apply several washes of colour than to remove any surplus solution, although if a slide is spoilt all colour may be removed by soaking face uppermost in a dish of water for a few hours. While any shade of green may be produced by mixing small quantities of green and yellow or blue-green and green with water upon an opal plate, with some of the colours it will be found easier to apply alternate washes of two colours—*e.g.*, magenta and yellow give a beautiful scarlet, blue and magenta a good purple, etc. An important point to remember is to adapt the colouring to the type of lantern. If an oil lamp is employed, it stands to reason that a greater proportion of yellow must be used, as the tendency with a yellow light is always to cut out yellow from the green, thereby causing the foliage to have too bluish an appearance.

The lecture was illustrated with numerous examples of slides coloured by the author, to whom a vote of thanks was accorded before the meeting terminated.

BLACKPOOL AND FYLDE CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Friday, March 4, 1904, at the Palatine Hotel, Blackpool.

A letter was read from Mr. M. Taylor, of Bolton, thanking the Association for the vote of sympathy passed on the death of Mr. John Taylor. Letters were also read from the Secretary of the Federation of Local Pharmaceutical Associations, mentioning the good work being accomplished, such as sending a circular letter to each member of Parliament, inviting support for the Pharmacy Bill. The balance-sheet showed that funds were wanted.

Mr. **Laurie** suggested the Association join the Federation, as it appeared to be working in the right direction.

Mr. **Greenwood** and others supported the suggestion, considering the finances of the Blackpool Association were so satisfactory.

On the proposal of Mr. **Turver**, seconded by Mr. **Boothroyd**, it was unanimously decided to send the 10s. 6d. subscription.

Owing to the lateness of the hour the paper by Mr. Turner on "The Relation between Pharmacy and Medicine," was postponed to Friday, 11th.

NORTH-EAST LANCASHIRE CHEMISTS' ASSOCIATION.

ANNUAL DINNER.

Thursday, March 3, 1904, at the White Bull Hotel, Blackburn, Councillor T. **Critchley**, President, in the chair. Letters of apology for absence through indisposition were read from Alderman Harrison (Sunderland), Mr. E. Evans, jun. (Liverpool), Mr. G. S. Woolley (Manchester), Mr. W. Rutherford, M.P., and Mr. John Humphrey (Editor of the *Pharmaceutical Journal*).

Before the toast-list was entered upon the **Chairman** made brief, but sympathetic reference to the loss the Association had sustained during the year by the lamented deaths of Mr. Walter Farnworth, in the year of his mayoralty, and Mr. Hezekiah Haworth, who also met with a fatal accident.

Alderman **Shorrock** proposed the toast of

The Pharmaceutical Society.

He said he well remembered that when the Pharmacy Act was passed in 1868 chemists and druggists looked forward with hopefulness. But it was an old saying that a coach and four could be driven through any Act of Parliament, and since their Act had been broken into their experience had not been so happy as they had hoped. If the Act had been carried out according to its spirit, its principle, they would now be in a far better position; but he gathered that the Council was doing all it possibly could to further the progress of a Bill which was calculated to achieve the object with which the old Act was promoted. He had been a member of the Society ever since the date of the Act, and he must say that for a very long time he had the impression that the Council were not doing all they ought to have done to maintain the interests of chemists under the Act. Within the last ten years, however, there had been an alteration, and they had managed to get into the Council men who really had the business at heart, and who had brought about such an amount of discussion as to convince the vast majority that the best thing they could do was to support them to their utmost. One such was Mr. Gifford, whom he hoped to see persevere in his good work with the energy he had shown in the past. That gentleman's latest proposal for the appointment of an organising official to visit the various towns and try to increase the prosperity and popularity of the Society was one which they would heartily support.

Mr. R. **Lord Gifford**, who responded, explained that it had been hoped that Alderman Harrison would have been able to reply for the Society. He believed sincerely that the Society, as represented by its Council, was worthy of the cordial manner in which the toast had been received. They were at present trying by all the means in their power to further the interests of chemists individually and as a profession. Possibly, as Mr. Shorrock had said, they were not, many years ago, so closely in touch with the craft in the various parts of the country as they ought to have been; but the Council was now much more in sympathy with the country. He had been interested that week in the question of organisation. He thought organisation was a duty they owed not only to themselves, but the public. They were brought into being by public necessity, and therefore a duty was placed upon them to insist upon taking their due and proper place. It must be altogether an evil that their profession should be exploited by capital for the sake of gain. The Pharmaceutical Society was an organisation which aspired to get into touch with the members throughout the country through divisional officers; to keep in touch with members of Parliament in every division of the country, and with Parliament itself, and with the ultimate masters of them all, the general public, for whom the trade existed. Admirable, however, as the system was, it was not yet as complete as it might be, and he had proposed that there should be an Organising Committee, with an organising secretary at its disposal, whose duty it should be to see to the organisation in every direction and keep the Committee in touch with the feeling and circumstances of every district. At present the endeavours of the Council was to represent their interests through Acts of Parliament and amendments to them. But they had an educational side, and a School at Bloomsbury Square which was a type of what a technical establishment should be. Seeing how thoroughly the old order of things had passed away, he thought it the absolute duty of members to support the Council; and not only was it a moral duty, but their personal interests dictated that course. He sincerely advised young people in business to aim at high things, and not to be led away by immediate personal gains—the scientific development of themselves and their business was the key to success. The drug trade was better regarded by the public to-day than it had ever been. The public had a better appreciation of what was meant by a qualified chemist, which was in itself a matter for congratulation, and the time was gradually approaching when the public would insist upon going to specially qualified people for special requirements. And to hasten that day there was nothing that could be more effective than organisation.

Mr. T. R. **Parkinson** proposed the toast of

The North-East Lancashire Association,

remarking that those who agitated for the old Act would have regarded as incredible the harmony and unity which now existed among chemists, mainly as the work of the Pharmaceutical Society.

The **Hon. Secretary** (Mr. Jos. Hindle), in reply, said he thought the Association had justified its existence. "What Lancashire says to-day England says to-morrow," and that was true not only in politics, but in pharmacy, for what they had insisted upon as an Association had practically become an accomplished fact in the high councils of the Pharmaceutical Society. As an Association they did more than, or, at least, as much as, any association for the up-keep of the Society. Only two chemists in Blackburn were not members of the Society. There had been an idea abroad that the Pharmaceutical Council was not alive to the interests of present-day chemists, but he regarded that as a libel. They were alert enough, but being supported by such a shameful minority of the chemists of the country, they could not help to get what the trade itself was not unanimous about. Even the Bill at present before Parliament did not receive undivided support. The work of the Association had been carried forward on somewhat different lines, politics being tabooed in favour of social meetings. Their numbers had not decreased—if one dropped off, they got two in his place, and there was little fear that the Association would not keep up its prestige. Mr. Hindle concluded with an eloquent appeal on behalf of the Benevolent Fund.

Other Toasts.

The other toasts included "The Medical Profession," proposed by Mr. W. Holt, and responded to by Dr. Cunliffe; "The Visitors," proposed by Mr. E. Highton and responded to by Mr. J. E. Parker; "The President," given by Mr. A. C. Oldfield; and "The Artistes," proposed by Dr. Crinan, Mr. Jonas Hindle responding.

ABERDEEN PHARMACEUTICAL ASSOCIATION.

ANNUAL MEETING.

Wednesday, March 2, 1904, in Robert Gordon's College, Mr. Wm. Giles, President, in the chair.

The annual reports were read and adopted, and a motion by Mr. W. F. Hay, to the effect that the minutes of the annual general meeting be read at the next ordinary meeting of the Association for approval, was carried by a majority of one.

Annual Reports.

Mr. John Black, Hon. Secretary, read his report for the past year, in which he recorded that the past year had shown no diminution in activity or interest in the affairs of the Association. The membership was the largest in its history, and the attendance at the meetings showed a better average than formerly. He suggested for consideration the advisability of having special meetings during the year, when papers might be contributed, or questions of interest to pharmacists discussed.

The Treasurer's report for the year 1903-4 showed a balance in hand of £38 13s.

The reports of the Secretary and Treasurer were received and adopted.

Report of Education Committee.

The report of this Committee showed that the competition for the Association's Scholarship took place in May, the papers being set and the practical work arranged by Mr. Gilbert Simpson and Mr. James F. Tocher. The successful candidates were Benjamin Christie and Charles Coutts. The Committee had under consideration the remit given at the last annual meeting, with regard to the examination of the Pharmaceutical Society, and a report was prepared by them, and submitted and adopted at the quarterly meeting of the Association, in December. The Committee had also a remit to revise the conditions attached to the two scholarships given by the Association. In view, however, of the early introduction of the Scotch Education Bill, which might be of such a nature as to materially alter the present arrangements for technical education, the Committee did not think it needful to go into any extensive revision of the rules meantime. A scheme might possibly be brought under the notice of the Association by the Committee for having the classes put under the Evening School Continuation Code.

The report was adopted.

Office Bearers for 1904-5.

President, William Giles; Vice-President, A. L. Bruce; Secretary, J. Black, 295, Rosemount Place; Treasurer, James Paterson.

STOCKPORT CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Wednesday, March 2, 1904, at the Albert Hall, Stockport, Mr. Wm. Dodge in the chair.—The Secretary's and Treasurer's reports were read and adopted.

It was proposed, seconded and carried unanimously: "That the meeting supports the principle of the Pharmacy Acts Amendment Bill now before Parliament, and that a copy of the said resolution be sent to the Council of the Pharmaceutical Society."

DEWSBURY AND DISTRICT CHEMISTS' ASSOCIATION.

ANNUAL MEETING.

Monday, March 7, 1904, at Church House, Dewsbury, Mr. R. Gledhill, President, in the chair. There was a fair attendance.

Annual Report.

The Secretary (Mr. G. Walker) read the report which congratulated the members on the successful working of the Association and the increased attendance at the meetings. The membership was the same as last year, twenty. The 'Pharmaceutical Journal Formulary' had been received with considerable approval, and several members had contributed valuable recipes. A scheme of co-operative buying had been started, and it was proving beneficial to the members.

The Treasurer (Mr. G. N. Gutteridge) reported a balance in hand of 5s. 9d., as against 7½d. a year ago, the receipts during the past year having amounted to £8 10s. 1½d.

The reports were adopted.

Election of Officers.

The following were elected officers for the ensuing year:—President, Mr. J. Rhodes; Vice-Presidents, Mr. J. Day and Mr. R. Broadhead; Treasurer, Mr. G. N. Gutteridge; Secretary, Mr. G. Walker.

All the officers were thanked for their services during the past year.

Presentation to the Secretary.

Mr. Walker, in recognition of his services as Secretary for three consecutive years, was presented by the President, on behalf of his colleagues, with a gold mounted black ebony walking-stick with ivory handle. Several complimentary speeches were made, and Mr. Walker, in appropriate terms, acknowledged the gift.

The Pharmacy Bill and Federation.

A letter drawing attention to the new Pharmacy Bill was read from the Federation of Local Associations, asking for the co-operation of the Dewsbury Association in approaching local members of Parliament. The Association was also asked to consider the question of joining the Federation again, but no resolution was passed.

Local Events.

Mr. Barker and Mr. Broadhead were appointed delegates to the dinners of the Wakefield and Bradford Associations respectively, and Mr. W. Wilson, of Chickerley, was admitted a member of the Association.

Chemists and The P.A.T.A.

Mr. W. S. Glyn-Jones had sent a letter, enclosing the following resolution passed at a recent Council meeting:—

> The Council of the P.A.T.A., having had its attention drawn to the purchase by chemists of P.A.T.A. articles for re-sale to other chemists at less than the P.A.T.A. minimum wholesale prices, desires to call the attention of the trade to the fact that such arrangement constitutes a breach of P.A.T.A. regulations.

Mr. Glyn-Jones pointed out that from the discussion which took place it was clear that the local associations had not looked at the matter from the P.A.T.A. point of view, and he expressed the hope that if the Association had a buying committee it would see that it was only fair to confine its attention to non-protected articles.

It was agreed to discuss the letter at the next meeting.

Stores and Dividends.

Attention was directed to the question of paying dividends by co-operative stores, and Mr. J. Day proposed the following resolution, which was seconded by Mr. Broadhead and carried:—

> The Dewsbury and District Chemists' Association desire to call the attention of "patent" medicine proprietors to the unfair practice carried on by the co-operative stores in regard to allowing dividends in some cases of 15 per cent. off patents on the protected lists. The Association is of opinion that these stores should be compelled to sell these articles at net prices, and in the event of their refusing the supplies should be cut off by the proprietors.

HUDDERSFIELD CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Tuesday, March 8, 1904, Mr. Walshaw in the chair.

Local Events.

The Hon. Secretary read a letter from Mr. J. Judge, Secretary of the Wakefield Chemists' Association, inviting a representative of the Huddersfield Association to the annual dinner of the Wakefield Association, and it was stated that the Chairman had been appointed to attend on the date named—Wednesday, March 23.

There was another letter, this being from the Bradford Chemists' Association, referring to the dinner to be held on Tuesday, April 12, and in it Mr. T. S. Priestley, Hon. Secretary, enclosed an invitation.—The meeting decided that Mr. Jackson or Mr. Hatfield should represent the Association at Bradford.

The P.A.T.A. and Co-operative Buying.

Mr. W. S. Glyn-Jones wrote, enclosing a resolution to the effect that the purchase by chemists of P.A.T.A. articles for re-sale to other chemists at less than P.A.T.A. minimum wholesale prices constituted a breach of the P.A.T.A. regulations. The very foundation of the P.A.T.A. scheme was that they should have the active co-operation of the wholesalers in preventing goods reaching the cutters. If it was only the retail profit which was to be protected they could not fairly ask the co-operation of the wholesale houses. In conclusion, it was hoped that if the Huddersfield Association had a buying committee they would see that it was only fair that they should confine their attention to non-protected articles.

The Chairman said the matter did not affect the Huddersfield Association, because they had no buying committee. He thought most of the associations which had such committees confined themselves to non-protected articles.

Mr. Spurr, on the other hand, thought it was chiefly in protected articles. The operation was only to oblige the members mutually, and it could be hardly considered in the form of a sale. He regarded it as simply an exchange of stock.

The Hon. Secretary was directed to reply that the Huddersfield Association had no buying committee.

The Pharmacy Bill.

In a letter from the Federation of Local Pharmaceutical Associations reference was made to the Pharmacy Bill, and the members were asked to urge their member of Parliament to support the measure.

The Hon. Secretary was directed to write to Mr. J. Woodhouse, M.P., on the subject. It was also intimated that the influence of Sir James Kitson, M.P., of the Colne Division, and of other representatives would be sought.

The Suggested Appointment of an Organising Secretary.

The Chairman adverted to the proposal of the appointment of an Organising Secretary of the Pharmaceutical Society, and he commended the idea as a very good one. He suggested that they should pass a resolution in endorsement of that movement. The suggestion of the Chairman was carried into practical effect.

Protection and Business Methods.

Mr. Broadhead read a paper by Mr. W. R. Maud, of Pontefract, upon protection and improved methods of business among chemists. The author stated that there was a time when the retail chemist was considered strong enough to stand alone; to-day the forces which had been associated with the chemist were insufficient, except as they applied to a select and favoured few. The power of capital and combination had so encroached that the standing of the chemist was threatened, in spite of the higher qualifications necessary. It was suggested that in improved methods and co-operation in trading they had a remedy to their hand in which a healthy association such as this at Huddersfield could lend assistance. In the case of toilet soaps, for instance, it was suggested that they could arrange to have a special article made and named, and they could themselves advertise and push it. By adopting such means they could become the proprietors in other lines. They could strengthen the Pharmaceutical Society by financial as well as social ties in the local associations. One firm of cutters had 200 shops. Why should not 200 chemists co-operate with like success? The question of substitution had been set up by the very people who had introduced the practice of substitution. In a new advertisement of a "patent" the article was described as obtainable at all stores, and chemists and druggists were omitted altogether. If they were to take united action, however, these people could not afford to ignore chemists. It was only by similar lines and co-operation among themselves that they could successfully fight the battle of the future and regain some, at all events, of the ground they had lost. In conclusion, the paper asked the three questions: Is such a scheme desirable? Would it be advantageous? Is it feasible?

An interesting discussion followed, and Mr. Broadhead was thanked for reading the paper.

BRADFORD CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Tuesday, March 8, 1904, at the Royal Hotel, Bradford, Alderman Dunn, the President, in the chair.

Cash on Delivery.

A letter was read which had been received from the Bradford Chamber of Trades asking that the Association should take action in opposition to the proposed cash on delivery by post system.

The Chairman said it was felt that the system, if introduced, would be very detrimental to retail traders generally.

Mr. A. H. Waddington said that the National Chamber of Trades, which had taken up the matter very strongly, were anxious that the Postmaster-General should be approached by every retail traders' association throughout the country. The proposal was brought up year after year by large advertising firms who did their business through the post, and hoped to do a great deal more if these facilities were granted to them.

If, as had been acknowledged, it would be detrimental to London traders for parcels to be admitted from the Continent on this system, it was very obvious that it would be similarly detrimental to all provincial traders that parcels from London should be delivered in the provinces in that way. He urged the meeting to pass a strong resolution against the system to be sent to the Postmaster-General.

After further discussion, upon the motion of Mr. **Waddington**, seconded by Mr. **Hanson**, it was unanimously decided to send a protest to the Postmaster-General, and the Secretary and Mr. Waddington were empowered to deal with the actual wording of the resolution.

Coming Events.

Arrangements for the further events of the session were discussed and dealt with. The scheme of co-operative action, which has been launched by Mr. Maud, of Pontefract, is to be explained to the members, either by Mr. Maud or Mr. Broadhead, on the 22nd inst.; the annual dinner is to be held on April 12, and the members of Parliament for Bradford and Shipley are to be invited to be present; and Mr. Glyn-Jones is to visit the Association on April 19, and deliver an address on current topics.

PORTSMOUTH TOWN COUNCIL.

DISPENSING AT THE PORTSMOUTH ASYLUM.

Tuesday, March 8, 1904, at Portsmouth.

The Council discussed the recent misadventure at the Portsmouth Borough Asylum, by which four female patients recently came by their deaths. The Asylum Committee reported that, though it had held a strict investigation into the affair, it had no more been able to elucidate the mystery than had the coroner's jury.

Mr. G. **Young**, the Chairman of the Committee, expressed his profound regret at the occurrence, and detailed the steps that had been taken to prevent a repetition of such a mistake. He said the Committee had considered the recommendation of the jury as to appointing a qualified dispenser, but had come to the conclusion that it was not necessary. What they had decided was to make the chief medical officer responsible for all the dispensing done there, but it was felt that so little medicine was required that the special services of a dispenser were not at all necessary. Henceforth, too, it would be required that the dispensing book should be posted each time a prescription was made up. If this were done he thought there would be no difficulty in fixing the blame where it was due. Another recommendation or requirement of the Committee was that no stock bottle should be made up, but that all prescriptions should be taken from the separate bottles in which the particular drugs required were kept.

Mr. **Anatt** thought the Asylum Committee had done their work in a very slovenly manner. In an institution of that kind they most certainly ought to have a dispenser; a qualified dispenser was most essential. Every doctor who had anything of a practice had a dispenser, whether he was qualified or not. It was not always that he was qualified. Very few doctors now, if they had anything of a practice at all, bothered about dispensing their own medicines. Public institutions of all kinds, such as this, ought to have qualified dispensers. If it were left to the doctors to do their own dispensing, as suggested in the report, no one in particular would be responsible, and there would come an occasion when the attention of the doctor would be distracted by some case in hand, and then another accident would occur.

Alderman **Scott Foster** did not at all blame the Committee in this matter. Being human, all were liable to make mistakes. It was possible even for a qualified dispenser to make an error in his prescriptions. In an institution like this, where there was little or no medicine to dispense, the appointment of a qualified dispenser would be an absolute waste of money. He thought the Committee were right in holding the senior medical officer responsible for the dispensing, and the Committee should insist upon it that no drug, however harmless, should be used by anyone not a qualified medical man. There was another large institution in the town, where a great deal of medicine was used, and where an unqualified man was engaged to dispense it. He had endeavoured to bring about an alteration there, but had hitherto failed, because he held that none but qualified men should be allowed to deal with drugs. Then, if an accident happened, they who were responsible for the appointment would not be held to blame; if, on the other hand, they allowed an unqualified person to deal with dangerous drugs of that kind, then they would themselves be primarily responsible for what might take place. It should be laid down as a rule that no one in the institution should touch drugs of any kind except a duly qualified person. So far as he knew, the average medical man did not consider it *infra dig.* to dispense his own medicines. To suggest otherwise was nonsense, and in an institution like that, where there were so many doctors and so little medicine taken, it was altogether unnecessary to appoint a dispenser.

Mr. F. G. **Foster** said it would be very plain to all that if he thought there was at all a need for a dispenser at the Asylum he, as a chemist, would certainly be for appointing one; but he did not, because he did not think that, at the outside, they could find employment for such a man more than two hours a day.

Mr. **Anatt**: Then give him something else to do.

Mr. F. G. **Foster** replied that Mr. Anatt knew nothing whatever of what he was talking or he would not suggest that you could give a qualified dispenser "something else to do." The dispensing, what little there was, was done at all hours of the day and night, between midnight and midnight, and one man could not be kept on duty all the hours necessary simply to prepare a solitary bottle of medicine if it were required.

Dr. **Mulvaney** thought the stock bottle was at the bottom of all the trouble, and if the doctors were required to go to the separate dispensing bottles for their drugs it would be almost impossible to make a mistake. He objected entirely to stock bottles; it was a bad habit and a lazy habit, done only to save a man going to two or three bottles instead of one. No chemists now kept stock bottles, and he hoped the Committee would do away with them in the Asylum. He referred to the feeling which had been discovered to exist between the doctors and the prejudice of the Acting Superintendent to the lady doctor, which he considered bad for the institution. If the medical staff were at variance between themselves things were not likely to go on right there.

The **Mayor** said that was outside the discussion, and was in the hands of the Lunacy Commissioners, who would deal with it.

Mr. **Carpenter** thought the male doctors at the Asylum had behaved in a very ungallant and unmanly fashion to the lady doctor in trying to drive her out of her appointment; the manner in which they had behaved to her, their avowed intention to make it so uncomfortable for her that she would resign, was most dishonourable and unchivalrous, and he thought it ought to be noticed by the Council. To his mind the lady doctor was the one who came best out of the ordeal.

Mr. **Young** replied that the matter must rest with the Lunacy Commissioners, who were making their own investigation.

The incident then closed.

LONDON CHEMISTS' ASSOCIATION.
(SOUTH LONDON BRANCH.)

ORDINARY MEETING.

Wednesday, March 9, 1904, at The Horns, Kennington, S.E., Mr. F. W. Truman in the chair.

The Chairman, referring to the dinner recently held under the auspices of the Association, said it was most successful, and was attended by more retail chemists than had ever been known to attend a pharmaceutical dinner in London. He thought it would be productive of good.

Six new members were then elected and six others were nominated for election. Mr. Douglas was elected a member of the Committee.

Co-operative Buying.

Mr. R. B. Betty, the energetic Secretary of the Association, read a paper dealing with the subject of co-operative buying. He pointed out the advantages, as well as the necessity, of co-operation on the part of retail chemists in view of the competition created by limited companies, which were able to buy in very large quantities at the lowest possible terms. Mr. Betty went into the details of a draft scheme which, he suggested, would probably meet the requirements of members of the Association.

A lengthy discussion followed, in the course of which attention was directed to a circular letter issued by the P.A.T.A. to local associations on the subject of co-operative buying.

Mr. Campbell caused some amusement by a statement to the effect that twelve years ago, on finding that his grocer was selling Mellin's food at a price which allowed little or no profit, he immediately gave up keeping that food, and had since sent all customers who wanted it to the grocer. Recently he discovered that even the grocer did not now stock Mellin's food. Asked if he had derived any financial benefit from taking that course, Mr. Campbell said he had, because on giving up keeping Mellin's food he began to push a food preparation of his own, for which there was now a fairly good demand. There were several preparations on the P.A.T.A. list which did not bear sufficient profit, and he suggested that instead of co-operative buying, some form of co-operation among chemists in the fixing of a fair price at which to sell certain "cut" articles would be a better remedy.

Mr. Willson said he found he could make a comfortable living without stocking proprietary articles. He put up his own preparations, and though he perhaps lost the sale of some articles on which there was very little profit, the sale of his own preparations fully compensated him for that loss.

Mr. Douglas thought the course adopted by Mr. Willson rather played into the hands of the "cutters." He believed in co-operative buying.

Mr. R. H. Jones, Mr. T. H. Powell and others joined in the discussion, and eventually, on the motion of Mr. Betty, it was decided that any chemist who was willing to supply articles at a certain price should be allowed to put his name, and the name of the articles, on the back of the notices sent out by the Association.

Shops Bill.

Mr. Betty said he had received a communication from the Secretary of the Federation of Local Pharmaceutical Associations relating to Sir Charles Dilke's Shops Bill.

Mr. Watson-Will, who was present, directed attention to Clauses 7 and 10 of the Bill, and pointed out that while Clause 7 exempted chemists' shops from the provisions of the Bill, chemists' employees would be affected by the terms of Clause 10, which dealt with hours of employment in shops.

Mr. R. H. Jones suggested, and it was agreed, that the matter be referred to the General Purposes Committee for consideration, with a view to approaching Sir Charles Dilke in order to point out how seriously Clause 10 would affect chemists.

Photographic Apparatus.

Mr. V. H. C. Baskin, L.P.S.I., gave a brief account of some of the troubles and difficulties met with in the photographic retail trade, and showed how they might be avoided. He exhibited several recent introductions, including the "Dalo" daylight developing trough. This is a flat case of ruby-coloured celluloid having a small funnel and tube at the side for inserting the solution and a tap for drawing off the used developer. It is intended for use where a dark room is not available. Mr. Baskin next explained the different kinds of lenses, and gave some useful hints on their uses and preservation; he also explained the working of the photographic shutter.

Votes of thanks to Mr. Baskin and the Chairman terminated the proceedings.

THAMES VALLEY DISTRICT CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Wednesday, March 9, 1904, at Freemasons' Club, Richmond, the President, Mr. A. Higgs, J.P., in the chair.

Mr. F. H. Glew gave a short lecture on

Radium and Polonium,

which was illustrated with a number of interesting experiments. Mr. Glew traced the history of the discovery of radium, explaining how Becquerel showed the association of X-rays with fluorescence, and describing Mme. Curie's experiments with the minerals from which uranium is obtained, finally eliminating radium and impure salts of polonium. The lecturer then showed how the presence of radium could be detected. In conclusion, he recommended that the sale of radium, on account of its potency, should be in the hands of registered chemists. He advised chemists to stock it, with a view to lending it out to doctors. A brief discussion and a vote of thanks to Mr. Glew followed the lecture.

Other Business.

The Chairman then introduced a discussion on the cash-on-delivery postal system, and, several members having spoken, it was decided to adjourn consideration of the subject to the next meeting. Some adverse criticism on Sir Charles Dilke's Shops Bill followed, and a musical programme brought the meeting to a close.

The following members were among the speakers:—Messrs. Higgs, Betty, Palmer, Woolcock, Bunker, Clement, and Harvey.

The annual meeting will be held at Kingston on April 27.

SHEFFIELD PHARMACEUTICAL AND CHEMICAL SOCIETY.

ORDINARY MEETING.

Wednesday, March 9, at the Montgomery Hall, Sheffield, Councillor A. R. Fox in the chair.

Mr. J. Evans, A.I.C. (of the office of Mr. A. H. Allen, City Analyst), read a paper on

The Nutritive Value of Patent Foods.

The paper is printed at page 365.

The inherent interest of the paper was enhanced by the excellent lantern illustrations which were shown.

Dr. F. H. Waddy said the point which must strike anyone in the medical profession as being most important was that of a natural diet. Mother's food was the only natural diet for infants, and, as a substitute, the best and cheapest was cow's milk. Those who had tested cereal foods would, he thought, be quite prepared to accept Mr. Evans' statement that they were just about as good as ordinary wheat or rice-flour—neither worse nor better. With regard to the food extracts of meat, it was wonderful what an amount of superstition attached to them. He supposed the British public would rather believe the advertisements in the half-penny papers than scientific men. Personally, he would rather make his dinner off the meat fibre that was thrown away after the extract had been obtained.

Mr. F. Upsher-Smith (Chesterfield) said the casein of cow's milk and the milk of all other animals except the ass coagulated by heat or acids. He asked if there was any way of preventing this. Until that was done, it seemed to him that they could not have a perfect substitute for human milk. Would Mr. Evans recommend that in making "humanised" milk diastase should form part of the formula?

Mr. Evans, in reply, said casein could be converted into peptones, but there seemed to be an objection to peptones because of their bitter taste and action. In some of the patent foods which contained the pancreatic extract the casein could be converted to the peptone stage.

A hearty vote of thanks was accorded to Mr. Evans, on the motion of the Chairman, seconded by Mr. J. Austen.

MANCHESTER PHARMACEUTICAL ASSOCIATION.

ORDINARY MEETING.

Wednesday, March 9, 1904, at Owens College, Manchester, Mr. W. Kirkby in the chair.

Mr. J. Grier communicated the paper on

Dispensing Methods,

printed at page 367.

Prior to the reading of the paper and after its close, a considerable collection of pharmaceutical apparatus was exhibited and explained by the lecturer. These included pill-making, capsule-filling, lozenge manufacture, and other interesting machinery.

A long and interesting discussion followed, in which Messrs. W. Lane, Blain, Woodruff, Walton, Franklin, Ringer, Waite, Chas. Swinn, Pidd, and the Chairman took part.

On the motion of Mr. Walton, seconded by Mr. Lane, a very hearty vote of thanks was accorded to the lecturer.

OXFORD AND DISTRICT CHEMISTS' ASSOCIATION.

ANNUAL MEETING.

Tuesday, March 8, 1904, at the Golden Cross Hotel, Oxford, Mr. G. C. Druce in the chair.

The Secretary presented the report, which was adopted and the accounts passed.

The election of officers for the ensuing year was then proceeded with as follows:—President, Mr. J. W. Todd, Ph.C.; Vice-Presidents, Mr. Burbank, Mr. G. C. Druce; Secretary, Mr. John Dolbear; Committee, Mr. Jessop, Mr. Gunstone, Mr. Thorpe, Mr. Clayton.

The following resolution, proposed by Mr. Druce, was carried unanimously:—

> That this Association unanimously protests against the apparent interpretation of Somerset House officials in granting all the privileges accorded to duly qualified chemists to men who have been apprenticed to chemists and druggists for any period without having obtained the qualifying certificate.

NEWCASTLE-ON-TYNE AND DISTRICT CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Wednesday, March 9, 1904, at the Hôtel Métropole, Clayton Street, Newcastle-on-Tyne, the President, Mr. G. Foggan, of Bedlington, in the chair.

Correspondence.

The Secretary (Mr. W. Pescod) read circulars which he had received from the Reading and District Chemists' Association *re* prices, and also a circular from the P.A.T.A. In regard to the latter it was pointed out that as the Association had no buying committee, the circular did not apply.

Another circular was read from the Federation of Local Pharmaceutical Associations.

Mr. G. F. Merson suggested that a letter signed by the members of the Parliamentary Committee be sent to each M.P. for the divisions covered by the Association.

This was adopted.

Cash on Delivery.

The President introduced the adjourned discussion on the suggested cash-on-delivery postal system, and spoke at length on the matter.

Messrs. Merson, Clague, Dakers, Gilderdale, Kerse, and Ridley took part in the discussion, and it was decided to send the following intimation to the Postmaster-General:—"That it is the opinion of the members of the Association that the introduction of such a scheme would be detrimental to the interests of its members."

Price Protection.

Mr. Ridley introduced and dealt at length with the P.A.T.A. question, and a resolution was adopted asking several manufacturers to place their articles on the protected list.

Members are asked to note that the next meeting will be held on Wednesday, April 20, instead of April 13, 1904.

LEGAL INTELLIGENCE.

High Court of Justice, King's Bench Division.

Arsenic in Beer.

On Tuesday, March 8, 1904, Mr. Justice Bruce delivered judgment as to the damages which the plaintiffs were entitled to recover in the action brought by Messrs. Bostock and Co., Limited, against Messrs. J. Nicholson and Sons, Limited, to recover about £300,000 for breach of contract in supplying sulphuric acid contaminated with arsenic. The case has been several times reported in the *Pharmaceutical Journal*. He held that the plaintiffs should receive the price paid for the impure acid and the value of the goods which were spoiled by the use of that acid, but disallowed the claim for loss of goodwill and the sum which the brewers had claimed against the plaintiffs. The precise amount of damages would have to be ascertained.

Mr. Russell, K.C., said by the judgment the plaintiffs were entitled to more than the £1,000 which had been paid into Court by the defendants. Therefore he asked for judgment for the plaintiffs for the damages to be assessed.

Sir E. Clarke, K.C., said on the basis of the decision of the learned judge there would be judgment for the plaintiffs for the price of the acid and for the value of the goods spoiled by the use of the acid. The plaintiffs assessed the latter at £8,000 or £9,000; but his case was that the value was under £6,000. The defendants, having succeeded on the plaintiffs' claim for £65,000 for loss of business and £185,000 in respect of brewers' claims, he submitted that the defendants were entitled to a proportion of the costs of the action.

Mr. Justice Bruce said plaintiffs would have two-thirds of the costs of the action.

Mr. Russell asked that the plaintiffs should receive the £1,000 which the defendants had paid into Court.

Mr. Justice Bruce made the order asked for.

A stay of execution was granted.

NOTES IN PARLIAMENT.

Pharmaceutical Legislation.

In reply to a question by Mr. O'Malley with regard to the advisability of adopting for Great Britain pharmaceutical legislation on the lines of the ordinance lately promulgated for the Orange River Colony, the First Lord of the Treasury has replied as follows: "The subject is under consideration in connection with a Bill for the amendment of the Pharmacy Act which is in preparation."

Dispensing in Public Institutions.

The President of the Local Government Board has been asked by Sir A. Rollit what steps will be taken to carry into effect the rider of the jury in the case of the inquest held on February 25 upon the four female patients in Portsmouth Lunatic Asylum who died from the effects of careless dispensing; and whether the Local Government Board will cause regulations to be made requiring all dispensaries in public institutions to be in charge of persons registered under the Pharmacy Acts. The reply was given by the Home Secretary, who observed: "There are several difficult points involved in this case, and for the present I can only say that I am in communication with the Lunacy Commissioners, and that the matter shall be thoroughly considered."

The Sale of Poisons.

Following on the answer given by the Home Secretary to a question respecting the sale of poisons (see Journal, March 5, page 343), Sir Thomas Dewar will ask the Home Secretary whether he is aware that no alteration in the law is necessary to prevent the careless dispensing of medicines, and whether he will advise that strong acids be included in the schedule of poisons.

The Metric System.

The attempt to promote legislation for the introduction of the metric system is not confined to the House of Lords. Mr. Bousfield has a Bill in the Commons, and is supported by Mr. Parker Smith and Sir John Brunner. Mr. Bousfield proposes in his Bill that the system shall come into operation on January 1, 1908, thus giving plenty of time for all concerned to make themselves familiar with the nature of the change.

A Shops Bill.

In the House of Lords, on Tuesday last, Earl Beauchamp presented, and their Lordships gave the first reading to a Bill to amend the law relating to shops. In the meantime, we still await the promised legislation of the Government on the subject of early closing.

Royal Commission on Tuberculosis.

Mr. Grant Lawson, replying on Tuesday last to Mr. Batty Langley stated that considerable progress has been made in the investigations of the Royal Commission on Tuberculosis, but the necessity for making the report as far as possible conclusive involves a very wide series of experiments. These experiments are being carried out by the Commission, and Mr. Grant Lawson is informed that it is impossible to state at present when the report will be issued.

A Public Health Committee.

At a meeting of the medical members of the House, held, under the presidency of Dr. Farquharson, on Tuesday, the 8th inst., it was decided to form a Public Health Committee, and the following members agreed to act:—Sir J. Batty Tuke, Sir Michael Foster, Dr. Hutchinson, and Dr. Rutherfoord Harris. It was agreed that the other medical members of the House should be asked to join, but it is not intended to restrict the Committee to members of the medical profession. Its object is to watch over all measures affecting the public health and the sanitary condition of the country.

Pharmacy Bill Blockers.

Mr. Joseph Devlin, Mr. Harwood, and Mr. Alexander Cross have given notice that they will move that the second reading of the Pharmacy Bill be postponed for six months from March 21 next.

POISONING CASES AND INQUESTS.

The deaths by poisoning reported during the seven days ended Wednesday, March 9, 1904, numbered seven, thus:—

Poison.	Accident.	Suicide.
Carbolic Acid	—	2
Hydrochloric Acid........................	1	—
Laudanum	—	1
Morphine	—	1
Oxalic Acid	—	2
Total	1	6

Carbolic Acid.—A man at Carmarthen, and a girl at Camberwell, committed suicide by taking carbolic acid.

Hydrochloric Acid.—A man in East London in September last drank half a bottle of soda water and left the remainder Next day he drank from what he thought was the same bottle but it contained spirit of salt, which had been used for cleansing purposes. After being medically attended the deceased was removed to the hospital, where he has now died from the effects of the poison. The jury returned a verdict of death by misadventure, and expressed the opinion that poisons of every description should be properly labelled.

Laudanum.—A man at Golborne committed suicide by taking laudanum.

Morphine.—Philip Homery, described as a commercial traveller, and formerly a chemist, died at Horncastle from the of taking, suicidally, a quantity of morphine hydrochloride.

Oxalic Acid.—A woman at Kew, and a man at Camberwell, committed suicide by taking oxalic acid.

Attempts at Suicide.—Several cases of attempted suicide by poisoning are reported, "embrocation," laudanum, and rat poison being the substances used.

Inquest.—At an inquest, held at Hastings, on the 4th inst., there were some remarkable disclosures as to the physic-taking propensities of the subject thereof. The deceased was a lady sixty-nine years of age. It was stated at the inquest that for many years she had been in the habit of taking, before going to bed, nine compound rhubarb pills, and that at four o'clock each morning she was awakened by an alarum, when she prepared another large dose of physic, consisting this time of four tablespoonfuls of senna, three teaspoonfuls of cascara, and some powdered magnesia or Epsom salt. These she stirred with a silver spoon, occupying about an hour in the mixing of them. The medical evidence was that the body was in an emaciated condition, and that was due to exhaustion following upon overdoses of purgatives. The jury returned a verdict in accordance with that opinion, and the coroner expressed his surprise that she had not killed herself years before.

MISCELLANEOUS NEWS.

Divisional Secretaries and other Members of the Pharmaceutical Society are requested to assist the Editor by sending local newspapers containing items of interest to chemists and druggists.

Analyst Salary.—The Burnley Town Council has increased the salary of Mr. Raymond Ross, Corporation chemist and public analyst, from £275 to £325 per annum.

A Warehouseman Charged with Theft.—At Ipswich on Tuesday Feargus Russell, warehouseman, employed by Messrs. Grimwade, Ridley and Co., was fined 50s. and 19s. 6d. costs for stealing eight packets of Daisy powders, value 8s.

Drysalter's Will.—The *Macclesfield Courier* reports that Mr. John Hadfield, of Trinity House, Cumberland Street, Macclesfield, and of 1, Mill Street, Macclesfield, drysalter, who died on January 21 last, left estate valued at £25,893 14s. 11d. gross, with net personalty £22,270 18s. 6d.

Meat Extract ?—At the request of Glamorgan County Council, Mr. Seyler, public analyst, has undertaken to ascertain, if possible, whether the liquid sold in the district as meat extract is really beef extract. He informed the County Council on March 3 that it was a difficult problem, but he would proceed carefully.

Metric Weights and Measures.—At a recent meeting of the London School Board, on the motion of Dr. Macnamara, M.P., it was agreed that the seal of the Board should be fixed to a petition in favour of the Metric Weights and Measures Bill, which was read a second time in the House of Lords on February 23.

The "Tabloid" Appeal Case.—We understand that Messrs. Thompson and Capper have definitely decided to appeal against the "Tabloid" judgment, and that the appeal is down for hearing on Monday, March 14. Of course, it is quite possible the case may be delayed a few days if previous cases take longer than anticipated.

The Post Office Again.—Mr. F. G. Gilkes, chemist, 18, High Street, Banbury, writes, under date March 2, 1904:—"On January 16, Messrs. S. Maw, Son and Sons sent me, per halfpenny post, their receipted monthly statement, which was delivered to me this morning, having travelled to Bombay and back in the interval."

The Old Boys Football Match.—The annual fixture, "Square" v. Old Boys, has been arranged to take place on Saturday, March 19. Any past student of the School anxious to play is requested to write to W. H. Allen, 20, High Road, Kilburn, N.W., who has undertaken to raise the team. All "Old Boys," whether football enthusiasts or not, will be heartily welcomed, either as spectators at the match or at the smoking concert in the evening; time and place to be published later.

An "Odol" Action.—Messrs. Neve, Beck and Kirby, solicitors, 21, Lime Street, London, E.C., write as follows:—"Lingner *v.* Max Schliephak, Limited.—Your readers may be interested to learn that this action, brought by the proprietor of 'Odol' to restrain an alleged 'passing off' of some other preparation for 'Odol' (which alleged 'passing off' the defendants all along strenuously denied) has now been abandoned by the plaintiff, who, in consequence, has to pay the defendants' costs. Preliminary proceedings in the action were reported in your issues of August 22 and 29, 1903."

Imperial Postal Orders.—The Postmaster-General has made an arrangement with the Government of New Zealand whereby postal orders issued in the United Kingdom at the existing rates of poundage will be payable in New Zealand. British postal orders payable in the United Kingdom, and at various British offices in the Mediterranean, will also be obtainable in New Zealand, but this part of the arrangement will not come into force till early next month. The Postmaster-General hopes that similar arrangements may shortly be concluded with India and the Colonies generally, so that it may soon be possible to transmit small sums throughout the Empire at very low charges.

Fires.—Shortly before six o'clock on the morning of March 4 a serious fire broke out at 35, Charlotte Street, Great Eastern Street, Shoreditch, in the warehouse of Messrs. C. J. Hewlett and Son, wholesale druggists. As the result of some chemicals exploding the store-room on the ground floor became ignited, and was blazing fiercely when the Shoreditch firemen arrived. The warehouse was saved from destruction with difficulty, but much damage was caused to the lower part of the building.——A fire occurred on Friday morning at the premises of Mr. J. Waters, chemist and druggist, of Parkgate, Darlington, and damage estimated at between £40 and £50 was done.

The Pharmaceutical County Councillors elected at the recent elections include the following:—Mr. Goddard Clarke, Mr. T. H. W. Idris, Lieut.-Colonel Clifford Probyn, and Mr. R. A. Robinson (L.C.C.); Mr. Evan Jones, of New Quay, and Mr. Robert Ellis, of Aberystwith (Cardiganshire C.C.); Mr. Rees Lloyd, of Rhondda Valley (Glamorganshire C.C.); Mr. H. D. Simpson, of Louth (Lindsey C.C.); Mr. R. Wynne Williams, of Dolgelly (Merionethshire C.C.); Mr. M. D. Morris, of Meifod, Welshpool (Montgomeryshire C.C.). Each of the London County Councillors was at the head of the poll in his division, and Mr. Morris, of Welshpool, successfully opposed Mr. A. W. Williams-Wynn, a well-known local magnate, and a cousin of the Lord-Lieutenant of the County—Sir Watkin Williams Wynn.

Counter Prescribing in the United States.—John Kremer, retail druggist at 428, Seventh Avenue, New York, was recently arrested at the instance of the County Medical Society on the charge of prescribing one of his proprietary remedies for a woman. The woman, it is alleged, Mr. Kremer prescribed for was a detective for the society. Mr. Kremer asserts his innocence. According to his counsel, the woman called one afternoon and asked about the medicine. The next day she called again, this time in company with another woman. In reply to her questions Mr. Kremer told her the medicine would serve the purpose she desired it for. The case is of importance in defining how far a druggist may go in recommending his articles and still keep within legal bounds. The case is to be tried in the Court of General Sessions.

Remuneration of a Dispenser.—At a recent meeting of the Hammersmith Board of Guardians it was recommended that Mr. John Metcalfe, of Fulham, should be appointed temporary outdoor dispenser at a salary of 15s. per week. The

Mayor, Mr. C. Pascall, said it did not seem right for a dispenser to be appointed at 15s. per week, in view of the fact that a large amount of money had to be incurred for his education. It was not right, unless he had another appointment which made up his remuneration to a higher figure. Mr. Howell said it was understood that the duties would only take two hours per day, and the remuneration, which had been sanctioned by the Local Government Board, was sufficient for that time. The Mayor expressed regret that circumstances made it impossible for the matter to be sent back to the committee for further consideration.

A P.A.T.A. 'Year-Book.'—The latest addition to the list of chemists' annuals is a 'Year-Book' issued by the Proprietary Articles Trade Association, and sent to every chemist in business in the United Kingdom. The greater part of the book is given up to the protected list, now of such length that it has been found necessary to discontinue its monthly publication in the Association's official organ, which will henceforth, it is understood, contain more news and literary matter than in the past. The 'Year-Book' contains, in addition to the list of protected proprietary articles, a quantity of information respecting the history, constitution, and the objects of the P.A.T.A. and the Chemists' Defence Association; also numerous advertisements of the firms which own protected articles.

A Dinner at Liverpool.—The annual dinner of the directors, commercial representatives, and departmental managers of Messrs. Evans, Sons, Lescher, and Webb, Limited (following the annual conference), was held at the Reform Club, Liverpool, on Friday evening, March 4, when the directors entertained a company numbering fifty-one, including the solicitor and auditor to the company, with three other guests. The toast of the senior partner of the now amalgamated firms, Mr. Edward Evans, D.L. (now in his eighty-eighth year) was duly honoured, as were toasts of "The Officers of the Company," "The Commercial Representatives," and "The Liverpool and London Staffs." A very pleasant evening was spent, and greetings exchanged by cable with the Canadian house, and by wire with Mr. John Blyton, the late Manchester representative, who was unfortunately unable to be present.

Inquiry into Charges against a Dispenser.—Mr. E. T. Bercham, Local Government Board inspector, opened at Cardiff on Friday and resumed on Tuesday an inquiry into the charges of misconduct which have been made against Mr. W. B. Taylor, the "outdoor" dispenser to the Cardiff Board of Guardians. Evidence was given in support of the charge that Mr. Taylor had wrongly dispensed prescriptions, and the assistant dispensary porter said he had seen Taylor drunk on duty, and also had seen him drinking spirits of wine in the dispensary as a "pick-me-up." He had heard Taylor threaten to assault the Chairman of the Dispensary Committee. The latter, in evidence, said the dispensary was not kept clean—in fact it was no better than a pig-stye. Taylor denied all the charges, and called evidence to show that he was a man of temperate habits. The inquiry was closed.

Cost of Workhouse Drugs.—Dr. Robinson, workhouse medical officer, attended the meeting of Rotherham Board of Guardians on March 1, and explained why the drug bill had increased. During the last quarter of 1903 the principal items were boric acid, absorbent wool, cough mixture, and Scott's Emulsion, these accounting for £35 out of the £74 expended. The increase was due to there being a larger number of inmates to prescribe for, and to the facts that water-beds and pillows, wooden legs, splinters, and other appliances were now charged for as drugs. Special foods, also included in the drug bill, had taken the place of beer and spirits, while the price of cod-liver oil had gone up 100 per cent. He suggested that the Board should contract for the supply of acids, wools, and hospital dressings, by which they would save 50 per cent. The Board decided that the whole matter should be thoroughly investigated by a committee, with a view of obtaining drugs, etc., at less cost.

The Metric System.—At a general meeting of the Plymouth Mercantile Association, held at the Western Law Courts on March 4, an interesting paper on the metric system was read by Mr. C. W. Bracken, B.A. Pharmacy was represented by Messrs. J. Barge, President of the Plymouth, Devonport, Stonehouse and District Chemists' Association, F. W. Hunt, R. F. Roper, A. D. Breeze.—Mr. Bracken referred to the anomalies of the present system, and mentioned that whereas the apothecaries' ounce was greater than the avoirdupois ounce, yet chemists bought by avoirdupois and dispensed by apothecaries' weight.—The Chairman proposed that "This Association is of opinion that in the interests of trade and commerce, the adoption of the metric system of weights and measures should be made compulsory within a period of about two years."—Mr. Barge, in seconding, said he did not consider two years too long in which to get accustomed to the new system. At the commencement of the last century it was said the whole of the drug trade of the universe was centred in London, but at the end of the century that had decreased to below 70 per cent. This he attributed to other countries being less able to understand the curious arrangement of weights and measures we had been using, and other countries naturally preferred dealing with those who had adopted the decimal system.—Mr. Roper suggested that the case of the small shopkeepers, on whom in proportion the incidence of the change would fall most heavily, should be considered. He agreed that the time limit was too short.—Mr. Breeze having spoken, the resolution, being amended by omitting the time limit, was carried unanimously.

Wine Licences.—At Lawford Gate Brewster Sessions, on March 3, Mr. Frank Moss, chemist and druggist, of Kingswood, was granted a licence to sell medicated wines, though opposition was made on behalf of a local hotel proprietor.——At Newcastle-on-Tyne adjourned Brewster Sessions, on March 4, the medicated wine licence recently granted to the Co-operative Society came up for confirmation. The manager of the chemists' department was asked whether he accepted the condition of one of the store directors, Mr. McKendrick, that wine should only be sold on the production of a doctor's certificate. The manager replied that he could not say, and Mr. McKendrick was then asked whether he had not already said that the wine was only to be sold at the stores on a doctor's prescription. Mr. McKendrick: That is my personal opinion; of course, I have nothing to do with it, and was not speaking on behalf of the Board. The manager, in answer to a question, said he did not think the licence would be worth having under such conditions. The Bench confirmed the licence, and endorsed the expression of opinion of Mr. McKendrick that the medicated wine ought to be sold on a doctor's prescription only.——At the Cardiff adjourned licensing sessions on Thursday Mr. David Anthony, of Penarth, President of the Cardiff Pharmaceutical Association, applied for licences to sell by retail wine to be consumed on the premises at 39, St. Mary Street and 110, Queen Street, Cardiff. The licences were refused.——At Bury (Lancs) adjourned licensing sessions on Monday a medicated wine licence was granted to Mr. John Haworth, of the firm of Messrs. Daniel Haworth and Sons, herbalists, Bury.——At Nantwich licensing sessions on Monday the Crewe Co-operative Society applied for a licence to sell medicated wines. The application was opposed by the licensed victuallers, and by the local temperance party. On behalf of the Society it was pointed out that there was a great demand for medicated wines amongst the members of the Society. The application was refused.

SCHOOL AND COLLEGE NEWS.

Football.—Edinburgh Central School of Pharmacy *v.* Messrs. Raimes, Clark and Co., Wholesale Druggists.—A friendly match was played at Hawkhill, Edinburgh, on Saturday last, March 5, between the students attending the E.C.S.P. and a team organised by Mr. T. O'Malley, from Messrs. Raimes, Clark and Co. The captain (Mr. A. W. Summerfield) of the school eleven won the toss, and he decided to play with the wind. Shortly after the game commenced a goal was scored for the school by Flint, being the only goal scored up to half-time. A strong cross-wind made play very difficult, but in spite of this a keen and exciting contest was kept up all during the match. The match resulted in a win for the school by four goals to nil. The other goals were scored by Thomas and Wallis. Mr. Farraday kindly consented to act as referee and Messrs. Steward and McGregor as linesmen. It is expected that a return match will be played shortly.

Inter-Pharmacy Football League.—London *v.* Westminster.—Played at Acton March 5. The Westminsters succeeded in placing on the field a team which was far superior to those of the two previous weeks, a team which, could it have been played throughout the season, would have given a good account of itself in the League. The Londoners won the toss, and selected to take the slope rather than the wind. Play during the first half was rather dull and spiritless until shortly before half-time the Westminsters scored with a bouncing shot. After the change-over the London men began to show their true form, and equalised with a shot from Leddra. Excitement then rapidly rose, and jubilation seized the Londoners when a shot from half-way line by Watt cannoned with the inside of the upright and found the net. A third for London was soon added by Evans. Two minutes before time the game was stopped on account of injuries received by two opposing players, who, in rushing in opposite directions for the ball, kicked each other's foot instead of the sphere. They were removed to the dressing-room, and play during the remaining two minutes was proceeded with by about five players on each side, the score, however, remaining unaltered, viz.:—London, three; Westminster, one. The injured Westminster was able to limp home with his team, but the Londoner required medical attention, and the services were secured of a genial surgeon, who proved to be an old "pill" and a registered chemist and druggist. The patient is progressing favourably.

Edinburgh Central School of Pharmacy.— The annual supper took place in the Balmoral Hotel, Princes Street, Edinburgh, on Friday, March 4, 1904, Mr. W. B. Cowie, Ph.C., Principal, in the chair, and Messrs. W. McEwan, M. Webster, and J. H. Fairbairn acting as croupiers. There were about eighty past and present students present. Mr. Hart proposed "The Pharmaceutical Society," and said students were usually prejudiced against the Society, though, after they passed, they soon began to see that it deserved to be supported heartily. It had brought them many advantages, and was doing its utmost to preserve their privileges.—Mr. Peter Boa, in responding, congratulated the proposer on avoiding all vexed questions in his remarks. Much had been said in recent times about such matters as dividing the Minor and rearranging the Major. With regard to the former they seemed to make very little progress. When he occupied the position of Chairman of the Board of Examiners he often felt that when a candidate did a good day's work on the practical day and came down in the oral it was very hard that he should not get credit for what he had done, and that he should have to go through that part again. With regard to the Major Examination, there was a scheme at present under consideration for the re-arrangement of the subjects, so that a student might pass in any two. He thought they might expect that more would be done for the Major man in the future, and if the changes contemplated were carried out and candidates allowed to select the subjects they specially had a liking for in the Major, many more men would go up for it.—Mr. Rutherford Hill proposed "The Edinburgh Central School of Pharmacy," which was responded to by the Principal, Mr. W. B. Cowie.—During an interval in the programme Mr. Summerfield, in an eloquent speech, presented, in the name of past and present students, a handsome marble timepiece to Mr. Robert Henderson, late lecturer on botany and materia medica, who has just purchased a pharmacy in Edinburgh.—Mr. Henderson replied.—Other toasts were:—"The Edinburgh Central School of Pharmacy Staff," by Mr. Dall, responded to by Mr. W. McEwan; "The Students," by Dr. Coull, responded to by Mr. Kindness; and "Our Guests," by the Chairman, responded to by Mr. Taylor. The proceedings were agreeably diversified by excellent songs, recitations, and instrumental pieces, contributed by Messrs. Thomas, Leeson, Fairbairn, J. S. and R. Henderson, Pike, Kindness, and Ogilvie, Mr. Alexander acting efficiently as accompanist.

PERSONALITIES, BUSINESS CHANGES, &c.

Mr. J. W. Greenwood, chemist and druggist, of Blackpool, has removed his business from 140, Church Street to 38, Central Drive.

Mr. Tytler, late of Robertson and Tytler, Arbroath, has bought the pharmacy at Ballater formerly carried on by Mr. Caird there.

Mr. R. Feaver Clarke carried out the arrangements for a very successful concert held in Gravesend last week. Madame Clara Butt and Mr. Kennerley Rumford were among the artistes.

Mr. G. A. Mallinson, late senior assistant to Mottershead and Co., Manchester, has purchased the business at 112, Wilmslow Road, Withington, formerly carried on by Mr. T. B. Marsden.

Messrs. Butler Bros., chemists, of 5, Church Square, High Wycombe, have purchased the old Wheatsheaf Inn, High Street, which is to be converted into a modern pharmacy. The business at 5, Church Square has been carried on for 200 years.

Mr. John McMillan, Glasgow, is we regret to learn, lying seriously ill. Much sympathy is expressed with his family at this time, both by friends in and out of pharmacy, and very earnest are the hopes expressed that he may yet recover.

MARKET REPORT.

The quotations given below are the lowest prompt cash prices for bulk quantities, to which other charges have to be added. It is important that this should be borne in mind in making any comparison between the prices quoted and those of the wholesale drug trade.

General Markets.

London, Thursday, March 10, 1904.

With the exception of the interest taken in goods influenced by the war in the Far East, things on the drug and chemical markets have been very quiet and dull. No transactions of particular note have occurred during the week. Quinine is very weak, and practically no business is doing. The price quoted is 11¼d. for the German Sulphate in the second-hand market. As regards Cod-liver Oil, buyers still seem disinclined to come forward, and for the present are content to look on. Oil of Peppermint is in much the same position as this time last week. Menthol is likewise practically unchanged. Opium for the present is dull on the spot, and in Smyrna nothing has been done since last month. New prices have been fixed for Pilocarpine. Ipecacuanha has advanced since the sales, and 5s. 3d. is now quoted for Rio. Star Aniseed Oil and Cassia Oil are both dearer. The high prices asked for Camphor seem to have checked the demand, and values have not advanced. Podophyllum and Golden Seal are dearer.

ALUM.—Lump, £5 12s. 6d.; Ground, £6 2s. 6d.

ARROWROOT.—Only a few barrels sold at Wednesday's auctions, St. Vincent at 1⅜d.

BICARBONATE OF SODA.—£7 5s. per ton, landed.

BISMUTH.—Carbonate, 8s. 1d.; Subnitrate, 7s. 4d.

BLEACHING POWDER.—English, £4 15s. to £4 17s. 6d.

BORACIC ACID.—Powder, £1 4s. 6d.

BORAX.—In powder, 14s. 6d.; crystals, 13s. 6d.

CAMPHOR.—For Japan refined the New York quotation is above ours, being 3s. 10½d., whilst here the price is still 3s. 6d. Messrs. Howards and Sons nominal price for Bells is 4s. 3d.

CARBOLIC ACID.—Crystals, 39° to 40°, 7¼d.

CASSIA OIL—Has advanced in price. Quotations are for 75/80, 3s. 3d.; and for 80/85. 3s. 5d. to 3s. 6d.

CASTOR OIL.—Belgian 1sts, £19 10s.

CHLORAL HYDRATE.—The price is now 3s., "duty paid."

CITRIC ACID.—1s. per lb.

CLOVES.—All the offerings of Zanzibar were bought in at the spice sales at 8d. and 8¼d. In the private market sales of Zanzibar have been made at 7 13/16d. for March-May delivery.

COCAINE.—11s. 9d. to 12s. 3d. per oz. for the Hydrochloride, according to quantity.

COCOANUT OIL.—Cochin, £30 spot; Ceylon, spot, £26.

CODEINE.—8s. 11d. per oz. for the pure alkaloid.

COD LIVER OIL.—There is practically no business doing. For New Norwegian 215s. ex-wharf is quoted, and for the present people are "looking on."

CREAM OF TARTAR.—98 per cent. foreign powder, 87s.

ERGOT OF RYE.—Business has been done at 1s. 7½d. for Spanish.

GERANIUM OIL.—African is lower at 14s. 6d. to 15s. 3d., according to quality and quantity.

GINGER.—185 packages Cochin sold at the spice sales, bold, roughly cut and scraped at 70s. Jamaica was slow of sale.

HYDRASTINE.—22s. 6d. per oz. for smaller wholesale lots; Hydrastinine is from 3s. 6d. to 4s. per gramme.

HYDRASTIS CANADENSIS—Is dearer at 5s., and there is very little here.

INSECT FLOWERS.—There is a fair demand for consumption. The prices are 55s. to 60s. for open, and 90s. to 100s. for closed, according to quality.

IODIDES.—The prices are now: Sodium Iodide, 11s. 10d. to 12s. 1d.; Potassium Iodide, 10s. 3d. to 10s. 9d.

IODINE.—Resublimed is now 12s. 3d. per lb.

IODOFORM.—13s. 10d. to 14s. 1d.

IPECACUANHA—Has been gradually advancing since last week's drug auctions. There has been a lot of inquiry, resulting in higher prices. For Rio 5s. has been paid, and now there is none to be had under 5s. 3d. One holder is disinclined to quote.

MENTHOL—Has not advanced since last week; 18s. 6d. to 18s. 9d. are the prices quoted for "Kobayashi."

MERCURIALS.—Calomel, 2s. 8d.; Corrosive Sublimate, 2s. 4d.; Red Precipitate, 2s. 11d.; White Precipitate, 2s. 11½d.; Mercuric Sulphate, 2s. 4d.

MORPHINE.—4s. 6d. per oz. for the Hydrochloride.

OIL OF PEPPERMINT—Is practically unchanged. H.G.H. is quoted 14s. 6d. American oil in tins comes at 12s. c.i.f. Japanese dementholised is still at 6s. 9d. Business, however, is not very bright.

OPIUM.—During the month of February Smyrna sold 400 cases, 370 of which were for American account, the balance of 30 cases being for England and the Continent; no business has been done since, and the market is where it was. There very little doing on the spot; most of the holders seem to be asking too much money, and buyers are holding off in the hope of doing better later on. Should the prospects of the new crop be better, their hope would very likely be realised. The alkaloids are unaltered.

OXALIC ACID.—2⅝d., delivered free London.

PILOCARPINE.—Competitive makers seem to have come to an agreement. The new prices now quoted are as follows:—For the muriate and nitrate, 1s. 5d. per gramme and 30s. 6d. per ounce; for the pure 1s. 11d. per gramme and 44s. 6d. per ounce.

PODOPHYLLUM.—Owing to large orders which have lately been on the market, this drug is expected to advance in price.

POTASSIUM BROMIDE.—1s. 11½d. per lb.

QUICKSILVER.—£8 5s.

QUININE—Is weak at 11¼d. There is very little inquiry and next to no business.

SAFFRON—Is steady, but there is no demand in Spain.

SHELLAC.—Business has been done at 204s., spot, for fair T.N.

STAR ANISEED OIL—Is very firm; the prices are now 5s. 4½d. to 5s. 6d.

VERATRINE.—4s. 9d. to 5s. 6d. per oz. for the pure, according to quantity, the lower figure being for 100-oz. lots. The price for the Sulphate is 5s. 2d. to 6s. 2d.

VANILLA.—There was a fair demand at auction, and nearly all the offerings (373 tins) found buyers at about last sale's rate, being rather firmer, if anything.

TRADE NOTE.

Messrs. J. Sellers and Co., manufacturing chemists, late of 11, Clerkenwell Green, have removed to larger and more convenient premises. The firm's new address is "Standard Works," 361, Liverpool Road, London, N.

LETTERS TO THE EDITOR.

All Communications for the *Pharmaceutical Journal* must be addressed to the Editor, 17, Bloomsbury Square, London, W.C., and, if intended for publication in the current week's issue, should reach the Office not later than Wednesday, unless specially arranged for in advance. The matter should be written clearly and concisely on one side of the paper only and must be authenticated by the names and addresses of the writers, as no notice can be taken of anonymous letters.

A Reaction of Bismuth Salicylate.

Some time ago I wrote to the Journal asking for an explanation as to why bismuth salicylate, when dissolved in and boiled with dilute hydrochloric acid, assumed a reddish colour, and evolved an odour of salicylic aldehyde. The reply given was that the colour might be due to traces of iron, but both salt and acid were free from this impurity. The similarity in colour, to the above solution of a mixture containing spt. æth. nit. and sod. salicylat. suggested the presence of nitrate in the salt, though by the copper test I could not definitely say that it was present. Last week I examined a sample which gave neither colour nor odour when treated in the above manner, but it is the first I have known to give a negative result since I commenced testing in this way. Supposing the reaction to be due to the presence of nitrate, could it not be utilised as a test for such in this particular case, as it is so very simple? Perhaps some of your readers will experiment and give their opinions on the subject.

Birmingham, March 8, 1904. G. H. Buckley.

Analysis of Cod-liver Oil.

It may interest someone who has had a sample of cod-liver oil taken for analysis to know that although it may fail to give the violet reaction with B.P. sulphuric acid, it may pass the analyst as genuine. This does not say much for the test or for the analyst.

London, March 5, 1904. E. Warrell.

The Benevolent Fund.

Apropos of the oft-iterated assertion of a member of the Council (who, by the way, does not appear to be an annual subscriber to the Benevolent Fund himself) that the financial difficulties of the Council would disappear if the annual dinner of the members of the Society were converted into a Benevolent Fund festival, does it ever occur to similar critics that the object of giving is not to run up hotel bills or give rise to the publication of reams of unctuous eulogy, but to relieve the necessitous? To hear some of the elders talk one would imagine that benevolence was a dispensation specially organised by Providence to fit the needs of the self-advertisers or the *bons viveurs* of Christendom. What an extraordinary comment it is upon the value of nineteen centuries of Christian teaching to have to admit the necessity for baiting the trap of charity with a guinea menu. My feeling is that if a man has a guinea to spare, our efforts should be directed towards inducing him to send it to Bloomsbury Square for the Fund, rather than to bestow it upon a formal public dinner, where all is pomposity, vainglory, and insincerity.

London, March 5, 1904. "Disillusioned" (288/51).

The 'P.J.F.' and the Benevolent Fund.

You are indeed to be congratulated upon the grand success of your gigantic effort in bringing together such a marvellous collection of recipes and information in such a short time for the use of members. It is an indication of what the Society can do when it receives sufficient support from its subscribers, and raises the question as to what it might do in the future had it the individual support of the whole body. May I suggest that a similar but concise list of up-to-date formulæ, in the shape of an unofficial pharmacopœia, issued with the authority of the Society, and freely circulated gratis among the entire medical profession, would, if properly compiled, be of untold benefit to the trade, and go far to mitigate the prescribing of monopolised specialties. The formulæ should be given for single doses and modes of administration. For example:—

Aloin Compound Laxative.

℞	Aloin	$\frac{1}{5}$ gr.
	Strych. Sulph.	$\frac{1}{60}$ gr.
	Ext. Bell.	$\frac{1}{8}$ gr.
	Pv. Ipecac	$\frac{1}{16}$ gr.

Pro dosi.

Modes of administration:—Capsule, tablet, pill, or cachet.

In response to Mr. C. H. Fentiman's most excellent suggestion, I have the greatest pleasure in enclosing my humble nimble shilling for the Benevolent Fund.

Aylesbury, March 7, 1904. Walter Surfleet.

⁂ The following subscribers to the 'P.J.F.' have also sent postal orders for 1s., the amounts of which will be paid to the Benevolent Fund account:—Messrs. J. H. Andrew, S. Baker, D. Black, J. E. Eastman, C. H. Fentiman, T. F. Hudson, T. W. Rowland, W. Twiss. Several other readers have sent subscriptions of larger amounts, as thank-offerings, but those will be acknowledged in due course by Mr. Bremridge.—[Ed. *P.J.*].

Veterinary Posology.

Early last year you published a letter from me on the subject of doses of arsenic for horses. In it I mentioned the fact that a pharmacist had refused to dispense a prescription containing seven-grain doses of arsenic, and regretting the ignorance of chemists generally with regard to veterinary posology. It is a barrier to prescribers, who do not care to have their prescriptions refused as dangerous, or their clients frightened. To-day I have been requested to supply a man with an ounce and a-half of antim. tart. because he could not obtain it of a chemist. I did not sell it, as I do not sell drugs, and should more often write prescriptions but for the fact that few chemists know anything of veterinary matters, and either receive veterinary prescriptions with a supercilious smile or, in their wisdom (?), refuse to fill them, because the doses do not tally with their ideas, gained, of course, from human practice. The younger members of the profession, who have been four years and upwards at college obtaining their qualification, do not care to be snubbed by the dispenser when they prescribe minute doses for a tiny dog or large ones for a big draught horse; and the older ones go on dispensing their own medicines, but relying too much on put-up stock from the wholesalers, when they would prefer to have it dispensed by those who cry out against medical men for doing their own dispensing. I know what it is to be on both sides of the counter, and make this complaint in a spirit of friendliness to pharmacists, who stand in their own light as regards the veterinary surgeon. I have carefully perused the formulæ in your new and splendid 'P.J.F.' work, and hope it may prove helpful in the desired direction of bringing prescriber and dispenser together.

Hove, March 5, 1904. Harold Leeney, M.R.C.V.S.

From a former Chief Inspector of Pharmacy to the French Armies.

Monsieur le Professeur Riche m'a remis de votre part le numero du *Pharmaceutical Journal* qui rend compte des ceremonies du centenaire de la Société de Pharmacie de Paris. J'ai relu avec le plus grand plaisir le résumé très bien fait et d'une grande exactitude de cette fête professionelle, et je vous addresse mes vifs remerciments pour l'attention aimable que vous avez eue de me reserver ce numero de votre Journal. Je vous remercie également des paroles flatteuses que vous addressez à notre Société dont je suis fier d'être un des plus anciens membres. Veuillez agrèer, tres honoré Directeur et très distingué collegue la haute expression de mes sentiments les plus distinguées.

Paris, March 5, 1904. H. Marty.

"Pharmacy" and "Pharmacist."

As the above subject is now reaching the fever stage, I hope you will allow me to "drive my nail" previous to your putting your "nailed heel" on the creature's neck. As chemists, have we not been taught to regard the B.P., and especially the 1898 edition, if not as infallible, at least as an authority on matters pertaining to pharmacy? For is it not published "by authority"? To those who are inclined to "heet up their heeds" concerning this national question or "fissical problem," might I ask them to turn to a certain passage in the B.P., at page 440, which says: "The details and minor variations . . . . are left to the judgment of the pharmacist"? Now, Mr. Editor, follow my reasoning. Anyone making tinctures according to the B.P. is a pharmacist, be he Minor, Major, or round "O." Being a pharmacist "by authority," and consequently a Major *without examination*, what has he got to do with Minor details, seeing he is already a pharmacist? for, don't you know, the Minor comes before the Major. Surely, Sir, we must all be pharmacists—Minors, Majors—not forgetting the handy and ubiquitous cipher. Now, where am I? If you think me illogical, in the name of the saints, "sort me oot."

March 5, 1904. "St. Devenick" (290/30).

Despite the numerous and adverse criticisms of my last letter, I am still of the opinion that a pharmaceutical chemist has the sole right to the title "Pharmacy" for his place of business. I find, on inquiry, that I am not the only Major man who holds this opinion, and the fact is rather significant that all the letters condemning this idea came from Minor men. Until, therefore, this title can be officially or legally disproved to be the sole right of a Major man, I must beg to differ with your correspondents. From the time I entered the ranks of pharmacy the words "pharmacy" and "pharmacist" have always been (to me, at least) inseparably connected; the former (as the name indicates) the possession of the latter, and the bulk of Minor men will, I think, admit that a "pharmacist" is a pharmaceutical chemist (although a few even seem to doubt this). "Humilitas" writes, "How fatuous and puerile to raise such a discussion." I should advise him to study the Major syllabus or to go for the Major examination, and I think he will change his mind or be less scathing in his remarks. If the "game is worth the candle," surely the candidate is worthy of a business distinction. Again, "Only a Minor" says, "I cannot fall in with his ('Pharmacist's') idea that the word 'pharmacy' is the exclusive right of a Ph.C." This is just the crux of the discussion. I should be glad to learn the ideas of other chemists regarding this exclusive right. Lastly, I should like to inform "Interested" that it is not my intention to suggest a name for his place of business. I will leave that for him to do. I should advise him, however, to take the advice of Burns when he wrote:—

"But where you feel your honour grip,
Let that e'er be your border."

That is, with regard to the use of a disputed title. The way in which your San Remo correspondent arrived at his inference from an Italian dictionary is rather astonishing, and, to say the least of it, not in accordance with Euclid's mode of reasoning.

March 9, 1904. "Another Pharmacist" (291/37).

*** The correspondence on this subject must now cease.—[Ed. *P.J.*]

Small Ivory Name-Plates Wanted.

We shall be glad if any reader can give us, through the *Pharmaceutical Journal*, the name and address of a manufacturer of small ivory name-plates for fixing on cameras and other photographic goods.

March 9, 1904. "L. and H." (109/1).

Opinions on the Pharmaceutical Journal Formulary.

It makes a very useful and ornamental addition to a pharmaceutical library. It seems to tell chemists all their possible sins and how to avoid the consequences.

London, February 26, 1904. Neve, Beck, and Kirby.

It will prove simply indispensable to every up-to-date pharmacist. It is a marvellous production.

Frank R. Dudderidge.

Newcastle-on-Tyne, February 29, 1904.

The collection and arrangement of so many recipes so well done must have cost a lot of work. The Editor deserves a long holiday.

Haddington, N.B., February 27, 1904. D. Gardiner.

It is a most valuable book, attractively got up, and containing such a mass of useful and necessary information between its covers that no pharmacy would be complete without one. I am more than pleased with my copy.

London, S.W., February 22, 1904. J. Owain Evans.

It is the most useful business book I have, and the Editor and staff are to be heartily thanked and congratulated.

Bow, E., February 25, 1904. J. H. Gradidge.

It will be very useful for reference, etc. It is a marvellous production, and for chemists it is beyond anything so far produced.

Boston Spa, February 26, 1904. J. Chappell.

Nothing could surpass it as a recipe book for chemists. It is wonderful how you have accomplished so stupendous a work in so short a time.

Gravesend, February 26, 1904. R. F. Clarke.

You have made a splendid job of it. It should certainly find a place on every chemist's bookshelf.

Liverpool, February 27, 1904. E. Brown.

It is a marvel in every way—get-up, binding, comprehensiveness. However could you do it at the money?

Glasgow, February 26, 1904. J. W. Pettigrew.

It may be placed justly first. Congratulations to the Editor.

Dundee, February 26, 1904. Wm. Cummings.

Its issue will result in a large increase of the membership of the Pharmaceutical Society. I take this opportunity of congratulating you on the increased usefulness and practical character of the *Pharmaceutical Journal* as at present conducted by you.

Dundee, February 26, 1904. John L. Doig.

It is simply an indispensable work for the retail chemist and druggist.

Canterbury, February 29, 1904. Robert Crofts.

Considering the limited time at the Editor's disposal, it is a wonderful compilation. Every chemist in business should possess a copy, and to those outside the Society my advice is: Become a member at once, and purchase the 'P.J.F.'; it will prove a splendid investment.

Glasgow, February 26, 1904. W. S. Galbraith.

It is a most useful collection. The Editor and Committee deserve great credit for the wonderful amount of work; but certainly not intended for the irresponsible public.

Lower Edmonton, February 29, 1904. W. W. Ragg.

It will be a valuable addition to the chemist's library, and also will be a great boon to chemists generally throughout the country. The Editor is to be congratulated on the production of such a useful work.

Cranbrook, February 27, 1904. Alfred W. Hudson.

It will make the Pharmaceutical Society and Journal more popular than any other printed matter could do; it is a generous work for a struggling and useful body of men.

Middlesboro', February 27, 1904. J. W. Hornsby.

No chemist should be without it. By far the most up-to-date of anything yet published. Eminently satisfactory to

Yorkshire, February 27, 1904. John Holt.

The volume is interesting, instructive, and invaluable to every chemist and druggist or pharmacist in any class of business.

Pontypridd, February 29, 1904. W. Oswal Davies.

It is the finest production ever turned out of 17, Bloomsbury Square. Am delighted with it.

Oldham, February 29, 1904. A. L. Crabbe

It will prove a most useful volume. It is well arranged, well edited, and well printed.

Walter M. Ferrier.

Brechin, N.B., February 29, 1904.

It will be of great value to those concerned, as it is the very thing wanted, and indispensable as a book of reference. It contains such a lot of varied and useful information.

Dunkeld, February 26, 1904. K. McDonald.

It is a magnificent production—a perfect pharmaceutical encyclopædia.

Wishaw, February 29, 1904. T. B. Macfarlane.

You have far exceeded the expectations of subscribers; its pages are full of useful and interesting matter, and its compilation and publication in less than six months is a marvel of industry and patient care.

Nottingham, February 27, 1904. William Gill.

It is a good all-round useful book; I am more than satisfied with it. The wonder is that such a work has been done without so long.

Westmoreland, February 26, 1904. E. D. Crozier.

I am delighted with it. It contains a mine of information both useful and profitable, and should convince all non-members that the Society is worthy of their support, after such monumental work for the trade side of pharmacy.

Market Harboro', February 27, 1904. J. T. Griffin.

BIRTH.

Nicholson.—On March 2, at Chertsey, the wife of Agnew Nicholson, chemist and druggist, of a son.

MARRIAGE.

Sharp—Nicholson.—On March 2, at St. Cuthbert's Church, Darlington, by the Rev. F. W. Mortimer (Vicar), Charles Armstrong Sharp, M.P.S., F.C.S., only surviving son of ex-Bailie Sharp, late of Musselburgh, to Hannah Mary, widow of Adam Tindall Nicholson, and daughter of the late John Sanderson, Newcastle-on-Tyne.

DEATHS.

Cameron. — On March 5, William Alexander Cameron, Chemist and Druggist, Bedford. Aged 60. Mr. Cameron went from Carlisle to Bedford some thirty-three years ago, and for thirty years carried on business as a chemist at 47, Midland Road. In January last he had an attack of paralysis which necessitated his giving up active work, and he then transferred his business to Mr. Arthur Hill. Mr. Cameron took considerable interest in local affairs, being for some years a member of the Town Council, a Governor of the Bedford County Hospital, a Director of the House of Industry, and was at one time hon. secretary of the Bedford Liberal Club.

Cryer.—On March 4, Henry Cryer, Pharmaceutical Chemist Holloway. Aged 57. Mr. Cryer, who had been a member of the Pharmaceutical Society since 1873, was occupied in the shop up to a very short time before his death, which occurred quite unexpectedly. He was for some years Divisional Secretary of the Society.

Evans.—On February 28, David Evans, Chemist and Druggist, Tregaron. Aged 57. Mr. Evans was one of the best known tradesmen throughout the district, and was highly esteemed by all who came in contact with him. He was a native of Llanon, and served his apprenticeship with his brother, Mr. J. W. Evans, Medical Hall, Lampeter. He subsequently came to London, and, on passing the Modified Examination, went to Tregaron to manage a branch shop for his brother, taking over the business a few years later.

Field.—On March 3, William Cubitt Field, Chemist and Druggist, Mablethorpe. Aged 79. Mr. Field had been an annuitant on the Benevolent Fund since 1898.

Kitchin.—On March 3, Archibald Kitchin, Chemist and Druggist, Whitehaven. Mr. Kitchin had been a member of the Pharmaceutical Society since 1868. He was the son of the late Mr. William Kitchin, who, with the late Mr. William Wilson, founded the firm of Wilson and Kitchin, chemists and druggists and drysalters, King Street, Whitehaven. Mr. Kitchin was apprenticed to his father's business and devoted much attention to chemistry, particularly in its analytical branches, in which he gained a wide reputation. He was a Fellow of the Institute of Chemistry, and also a Fellow of the Chemical Society. He was a member of the Town Council and Harbour Commissioners from the time the town was incorporated until a few years ago, when he retired. He was a past-President of the Scientific Association, of which he was a member from its inception. His death will be regretted by all who knew him.

Sherlock.—On February 27, John Sherlock, Chemist and Druggist, Tarporley, Cheshire. Aged 82.

Correction.

The late Mr. William Backwell Smith, Chemist and Druggist, of Gosport, died on January 14, and not on February 20 a stated last week.

REPLIES TO CORRESPONDENTS.

Recipe (D. C.—108/33).—It is a misprint for "2 ounces."

Lime Water (W. C. B.—108/22).—We do not think it possible.

Formulæ (J. L.—287/25).—See reply to "J. G. D." this week.

Nursing Notes (J. W. S.—108/13).—We regret that we do not know the publication.

Smelling Bottle (S. B.—108/32).—The presence of ammonia should be indicated on the label.

Quinine Pessaries (J. H. F.—108/10).—Quinine hydrochloride is commonly used for the purpose.

Cement (H. R. B.—108/17).—Probably a little gutta-percha is present in addition to the shellac.

Labels (J. E. F.—108/34).—Neither "Bronchial Linctus" nor "The Linctus" will incur liability.

Removing Blood Stains (W. B. D.—108/14).—Have you tried washing with soft soap and warm water?

Powder for Cat (F. S.—108/26).—It appears to consist chiefly of black antimony and powdered fœnugreek.

Septem (J. F. R.—107/25).—Yes, it is a seven-grain measure, and, therefore, the ten-thousandth part of a gallon.

Superfluous Hairs (F. G.—108/27).—The hairs cannot be removed permanently by the use of such preparations.

Chemical (W. S. T.—108/19).—The name you send is unfamiliar. Ammonium bichromate is doubtless intended.

Recipes (J. G. D.—286/46).—A supplement to the 'P.J.F. is being prepared, and your recipe will be included with others.

Charge for Dispenser (A. H. N.—108/7).—It is difficult for us to say, but 1s. 6d. to 2s. an hour would probably be a fair charge.

Inspectorship (R. M. G.—107/29).—We are not aware that any special qualification is required. Refer to the 'P.J.F.,' page 777.

Curing Skins (A. D. W.—108/20).—See Spon's 'Workshop Receipts,' second series. We cannot afford space for the information here.

Medical Herbalists (J. E.—108/32).—(1) The address of the Association is 16, Bridge Street, Worcester. (2) Yes, under the Apothecaries Act.

Supplement to B.P. (H. D. A.—108/16).—It is distinctly stated in the book that the formulæ are not official, and your fear is quite unfounded.

'P.J.F.' (T. E. P.—108/15).—We shall include your correction in a list which will be published shortly, copies of which will be sent to Somerset House.

Battery Solution (B. H. C.—288/27).—Yes, the word "Bicarbonate" in the second formula for battery solution in the 'P.J.F.' should be "Bichromate."

Label for Cough Mixture (W. C. B.—108/21).—Yes, you can recommend it for the ailments mentioned. Read the article in the *P.J.* of February 27, page 248.

Books (C. K.—108/6).—Gardner and Cameron's 'Oils, Resins, and Varnishes' (Churchill, 7s. 6d.), and Hurst's 'Painters' Colours, Oils and Varnishes' (Griffin, 12s. 6d.).

Scheele's Hydrocyanic Acid (H. R.—288/48).—Certainly the preparation ought not to be sent out in corked white glass vials, as the risk of decomposition is thus greatly increased.

Labels (A. D.—108/29).—The name "Strong Aperient Pills" will not incur liability. The "Pink Teething Powders" can be rendered non-dutiable by giving a reference to the 'P.J.F.'

Advertisement (L. S. S.—286/20).—You do not say you have paid any money to the advertiser, and we do not understand what it is you complain of, or why you should send us letters referring to another journal.

Name of Plant (W. H.—108/31).—Presumably you mean the Swamp Milk-weed, *Asclepias incarnata*, Linné (Loganiaceæ), a North American plant. The rhizome possesses alterative, cathartic, and emetic properties.

Pharmacy in Canada (J. T.—108/4).—The requirements vary in the different provinces. The British qualification is recognised except in Quebec, but we cannot say whether evidence of apprenticeship here would be accepted in Canada.

Jelloids (G. C. R.—108/24).—The liability in such a case is due to the existence of proprietary rights in the preparation. Read the article on the subject in the *P.J.* of February 27, page 248. We cannot be continually repeating the same information.

Labels (W. G. M.—108/28).—The "Tonic Blood Purifier" will be exempt if you give the reference to the 'P.J.F.' No reference will be required if the name "Iron and Quinine Tonic" contains an adequate disclosure of the composition of the mixture.

Calendar for the Week (March 13—19, 1904).

Days of		Events of the Week.	Sun	
M	W		Rises	Sets
13	S	**Fourth Sunday in Lent.**	6.21	5.59
14	M	"Tabloid" Appeal Case down for hearing.	6.18	6.0
15	Tu	Entries close for April Examinations.	6.16	6.2
		Preston and District Chemists' Association, Moor Park Pharmacy, at 9.30 p.m.—The New Pharmacy Bill.		
16	W	Pharm. Soc. G.B., 36, York Place, Edinburgh, at 8.30 p.m.—Evening Meeting.	6.14	6.4
		Chemical Society, Burlington House, London, at 5.30 p.m.—Ordinary Meeting.		
		Inter-Pharmacy Football League, Holborn Restaurant, at 8 p.m.—Smoking Concert.		
		Western Chemists' Association, Norfolk Square Hotel, Paddington, at 9 p.m.—Ordinary Meeting.		
		Royal Microscopical Society, 20, Hanover Square, London, W., at 8 p.m.—Ordinary Meeting.		
17	Th	●New Moon, 5.39 a.m.	6.12	6.6
		Bournemouth Pharmaceutical Association, Albert Restaurant, at 8.30 p.m.—Ordinary Meeting.		
		Chemists' Assistants' Association, Holborn Restaurant, at 8 p.m.—Annual Dinner.		
		Cumberland and Westmoreland Chemists' Association, Great Central Hotel, Carlisle, at 8.30 p.m.—Second Annual Dinner.		
		Glasgow and West of Scotland Pharmaceutical Association, 94, West Regent Street, at 9.15 p.m.—"The Pharmacist as Photographic Dealer." By H. P. Arthur.		
		Linnean Society, Burlington House, London, at 8 p.m.—Ordinary Meeting.		
18	F	Last Day for sending in Nominations for Council and Auditors.	6.9	6.7
		Edinburgh Chemists', Assistants' and Apprentices' Association, Imperial Hotel, at 9 p.m.—Annual Supper.		
19	S	Football.—Square *v.* Old Boys.	6.7	6.9

LETTERS, NEWSPAPERS, QUERIES, and other COMMUNICATIONS have been received from Messrs. Adcock, Armitage, Back, Bailes, Baker, Bamford, Banks, Barker, Barnett, Bath, Bell, Betts, Bingham, Birkbeck, Black, Bostock, Bray, Brisley, Broad, Brooks, Brown, Bullock, Bunker, Campion, Clarke, Clarkson, Cooke, Cooper, Cowgill, Cox, Craig, Cummings, Davis, Dawson, Deacon, Devereux, Dewhurst, Dobson, Dowzard, Dunn, Dyson, Eastman, Elliott, Ellis, Epstein, Evans, Ewell, Ewer, Fearnley, Fellows, Fentiman, Ferrall, Finlayson, Forret, Forster, Foss, Freeman, Gall, Gaulter, Gee, Gibson, Gilkes, Gill, Gilmour, Girling, Graham, Gravill, Green, Grier, Hall, Halley, Harper, Harries, Hitchcock, Hole, Hornsby, Horner, Horton, Hoyle, Hudson, Hunt, Hutcheon, Icke, Jackson, Jarvis, Johnstone, Jones, Jowett, Kirkland, Laham, Law, Leefe, Lennox, Lens, Lester, Lord, Lynn, Lyon, McCowan, Machin, McWalter, Marshall, Martin, Mason, Massie, Mellors, Milner, Mitchell, Moate, Moffatt, Morgan, Morley, Mundell, Naylor, Nettleship, Nicholson, Ogden, Orton, Owen, Oxley, Palmer, Parker, Parkinson, Part, Partington, Pask, Peake, Peck, Polley, Pott, Powell, Powers, Priestley, Pryke, Rackham, Radford, Reith, Richardson, Rigge, Roberts, Robinson, Rodder, Rollarson, Rollin, Rose, Row, Rowland, Sampson, Sankey, Sawyer, Schofield, Scott, Seaborne, Sewell, Sharp, Shaw, Shepherd, Shuttleworth, Simmons, Slade, Snow, Snowden, Southern, Spencer, Stratton, Stewart, Stroud, Sturdy, Sumners, Surfleet, Symond, Tait, Taylor, Teebay, Tice, Tinker, Tippetts, Townley, Tulley, Tummins, Turnbull, Turner, Veitch, Wallwork, Walton, Warrell, Watkins, Watson, Whittle, Will, Willcocks, Williams, Wing, Winter, Winterbotham, Wood, Wright, Wylde, Wynn.

Telegrams: "PHARMACEUTICAL JOURNAL LONDON"
Established 1841
The Pharmaceutical Journal
A WEEKLY NEWSPAPER FOR CHEMISTS AND DRUGGISTS,
The Oldest Organ of the Drug Trade in Great Britain.
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The Journal circulates widely in the United Kingdom, France, Germany, Austria, Italy, Russia, Switzerland, Canada, the United States, South America, India, Australasia, South Africa, etc. It is supplied regularly to the majority of the Chemists and Druggists in business in England, Scotland, and Wales, and to the whole of the members of the Pharmaceutical Society of Great Britain. Orders for Advertisements or for Copies of the Journal should be addressed to the Publishers, 8, Serle Street, London, W.C.

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Annual Subscription, 20s. Post Free; Single Copies, 4d. each, by Post, 4½d.

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CHANGES OF ADDRESS.

Instructions from Members of the Pharmaceutical Society, with reference to the transmission of the Journal, should be sent to the SECRETARY, 17, Bloomsbury Square, London, W.C.

The Pharmaceutical Journal Office.

Thursday, March 17, 1904.

Radium and Radio-Activity were discussed at an Evening Meeting of the Pharmaceutical Society in Edinburgh on Wednesday.

Answers to the Examination Paper for students, which appeared on February 27 (see page 296), must be sent to the Editor on or before Monday next, March 21.

The Pharmacy Bill, promised by Mr. Balfour, has not yet made its appearance. According to a Manchester newspaper, the Bill will be introduced in the House of Lords.

The Percentage of Failures in prescription-reading at the four last Minor Examinations was much larger than usual. Is this another proof that the art of prescribing is declining?

Mr. C. B. Allen, Vice-President of the Pharmaceutical Society, will not again stand for election to the Council. Among the new candidates who have come forward is Mr. A. Hagon, who has the support of the Cardiff and District Pharmaceutical Association.

Mr. Alfred Southall, F.C.S., has retired from the board of directors of Messrs. Southall Bros. and Barclay, Limited. The report of this company for the year 1903 recommends a dividend on ordinary shares at the rate of 10 per cent.

Possessive Case Names on labels for compounded medicines are held by the Board of Inland Revenue to incur liability to medicine stamp duty, but a way out of the difficulty suggested in the *Pharmaceutical Journal* in October last has been adopted by the Board.

The Benevolent Fund is to receive a contribution of £71 12s., as the result of a smoking concert organised by the Leeds and District Chemists' Association. Messrs. Goodall, Backhouse, and Co., Limited, subscribed the sum of fifty guineas, which is included in the above amount.

Vigorous Efforts are being made to disabuse the mind of the members of Parliament who have "blocked" the Pharmacy Bill. The action of some of these gentlemen has evidently been instigated by wrong information as to the objects and scope of the measure. It is not expected that any progress will be made before Easter.

The Galen Club, otherwise known as the English Chemists' Assistants' Association of Paris, bids fair to becoming a useful institution. Since its formation in October last quite a number of its members have become members of the Pharmaceutical Society. Last week the club was entertained to dinner by Mr. F. Harwood Lescher.

The Supplement to the 'P.J.F.' now in course of preparation will only include a limited number of recipes which differ materially from those already included in the book. The Board of Inland Revenue has definitely decided to recognise the 'Pharmaceutical Journal Formulary' under the registered title 'P.J.F.'

An Important Photographic Combine is announced this week. Five companies of dealers in photographic apparatus and materials have formed themselves into a limited company, with a capital of £175,000, under the title of Houghton's, Limited. An old-established firm of wholesale chemists has also yielded to modern tendencies; the result is Ferris and Co., Limited.

"The Most Impudent Application" the Official Receiver for Reading has ever had to deal with was made by a chemist's assistant on Thursday of last week. The bankrupt applied for his discharge from bankruptcy, and his Honour, who seemed to think the applicant was under the impression that if he got his discharge he would also get rid of the order of the Divorce Court to pay alimony to his wife, refused the application.

As an Outcome of the Four Poisoning Cases at Portsmouth Asylum, the Southampton Board of Guardians has advised the Asylum Committee to appoint a qualified dispenser. The Board also recommends the installation of a poison cupboard in the store-room, and that poisons should be supplied by the contractors in proper poison bottles. The Asylum Committee of the Portsmouth Town Council, it will be remembered, came to the conclusion that a qualified dispenser was not necessary.

German Makers of Quinine have raised the price of the sulphate 1d. per ounce, as a result of the small shippings of bark during the first half of the month. In consequence of the advance in iodine, iodol is dearer. The fortnightly drug auctions were held to-day.

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PERSONAL NAMES AND MEDICINE STAMP DUTY.

It is gratifying to learn, from the report published at page 408, that certain suggestions made in these columns (see *P.J.*, October 24, 1903) with regard to the use of personal names on labels for medicinal compounds have been adopted by the Board of Inland Revenue. In cases where a proprietary right is ostensibly set up by the use of a name in the possessive case—*e.g.*, Dr. Hamilton's Pills —or its equivalent—*e.g.*, Aperient Pills (Hamilton)—the Board has insisted that a claim to Medicine Stamp Duty arises unless (1) the formula of the medicine is printed on the label or (2) the medicine is prepared according to a formula in the British Pharmacopœia, and that fact is indicated on the label. But a mere reference to any other publication is not regarded by the Board as sufficient to rebut the proprietary claim, so that the association with the names of their original prescribers of certain well-known medicines, in which no claim to a proprietary right is or ever has been made, appeared likely to be restricted to an inconvenient degree.

Thanks to the efforts of Mr. C. F. Henry, the threatened inconvenience has now been averted to some extent, since the Board has consented to allow a reference upon labels to the prescriber's name, provided the use of the possessi case is avoided, as suggested in the *P.J.* of October 24 last. Copies of labels which—in the opinion of the Board—do or do not incur liability are here set out in parallel columns:—

LIABLE TO DUTY.	NOT LIABLE TO DUTY.
Dr. Hamilton's Pills. Composed of extracts of colocynth and henbane. One or two for a dose.	**Aperient Pills.** As prescribed by the late Dr. Hamilton. One or two for a dose.
Dr. Thomson's Antibilious Pills. Composed of aloes and mastic. One or two for a dose.	**Liver Pills.** Composed of aloes and mastic. As prescribed by the late Dr. Thomson. One or two for a dose.
Prof. Christison's Pills. Composed of colocynth, aloes, and scammony. One, two, or three for a dose.	**Liver Pills.** As prescribed by the late Dr. Begbie. One or two for a dose.

A further inquiry by Mr. Henry referred to the following label:—

Antibilious Pills.

Composed of colocynth, aloes, and scammony.

As prescribed by the late Professor Gregory.

In reply, the Board stated that the preparation to which the label relates is liable to Medicine Stamp Duty unless it falls within the scope of the exemption in favour of known, admitted, and approved remedies. That is to say, the label will render the pills dutiable unless the names of all the active medicinal ingredients are stated. It does not appear whether a reference to some recognised book other than the British Pharmacopœia would be accepted in such a case, but there is little reason to doubt that the wording of the following label would be regarded as sufficient to rebut any proprietary claim:—

Antibilious Pills ('P.J.F.' 62).

As prescribed by the late Professor Gregory.

One or two for a dose.

Inquiries on this point might, with advantage, be addressed to the Board of Inland Revenue, in reference to any of the following preparations for which formulæ appear in the 'P.J.F.'

Abercrombie's Cough Mixture
Abernethy's Pills
Aitkin's Tonic Pills
Alexander's Pills
Begbie's Pills
Blaud's Pills
Caldwell's Bronchitis Mixture
Christison's Pills
Christison's Cough Mixture
Easton's Syrup
Fothergill's Mixture
Gregory's Powder
Hamilton's Pills
Henderson's Bronchitis Drops
Hoffman's Anodyne
Moir's Pills
Niemeyer's Pills
Parrish's Syrup
Sidney's Cough Pills
Syme's Liniment
Thatcher's Carminative
Tooley's Cordial
Wallace's Ointment
Wilcox's Bronchitis Mixture

THE CAMPAIGN.

The interested opposition of company-promoters and unqualified drug vendors to Clause 7 of the Pharmacy Bill, now before Parliament, has, to some extent, had the effect of concentrating the attention of chemists and druggists on that particular clause. Probably Mr. Carteighe's impartial exposition (see page 375) of the various objects of the Bill came as a revelation to many of those who were privileged to listen to him at the Brighton meeting on March 3. At a time when many chemists and druggists are approaching their representatives in Parliament on the subject of the Bill, it is opportune to remind members of the Pharmaceutical Society that the case for the Bill will not be any the weaker for some attention being paid to those clauses of the measure which are admitted by all parties to be framed solely in the interests of the public, and not in the interests of qualified chemists at all. Take, for example, the clause with reference to the registration of branch shops. It is probable, however lamentable, that there are some "chemists of the Pharmaceutical Society," as Mr. Leggett's Association calls them, who have no desire that each of their branch shops shall be registered together with the name of the qualified person actually in charge of that shop. But it has been considered that the clause makes for the greater safety of the public, and the clause is therefore inserted in the Bill. Some qualified chemists, again, as the reports of cases taken under the Pharmacy Act of 1868 show, are quite willing that the assistant, rather than the employer, should be the person liable to a penalty for an illegal sale of poison under Section XV. But the existing state of things is recognised to be unfair and unsatisfactory; consequently, the Society proposes a remedy. Result—more vilification.

Then there is the question of the dispensing of prescriptions. Mr. Carteighe told his Brighton audience that he knew of an unregistered person who, with the sanction of the present law, keeps a drug shop where he dispenses the prescriptions of medical men. But he may not legally and by his own hand dispense and sell "poisons," so—he leaves the poisons out! Can any opponent of the Pharmacy Bill justify that proceeding, or object to it being made impossible, or say that the public interest demands that the law shall remain just as it is? And what of Clause 10—the education clause? Do any of the sturdy "blockers" of the Pharmacy Bill realise that the effect of their tactics may be to prevent the three years' apprenticeship, now so often a farce and a sham, becoming a real and thorough training in pharmacy? On which side is the interest of the whole community? The answer can be in no doubt whatever. But, just because Mr. Alexander Cross wishes florists to sell arsenical weed-killers, or because another member of Parliament has been told, by some person or persons with more cunning than honesty, that the sale of proprietary medicines is, by the Bill, to be "restricted to a class," or for other equally unsubstantial reasons, four or five members of his Majesty's faithful Commons, to reconcile it with that which serves them for a conscience, can pretend that they conceive it to be their duty to their country to place every obstacle in the way of the Bill.

Such, then, are some of the points which may with advantage be placed before members of Parliament, most of whom have, after all, a very considerable sense of the public duty of a public man. There is, however, as Mr. CARTEIGHE has pointed out, one danger. "There can only be one Army Board." And indiscriminate "lobbying" by irresponsible members of the rank and file, who act without instructions from their officers and without a knowledge of the general's plan of campaign, is strongly to be deprecated. If a member of the Society thinks that he is a good tactician, let him ask his leaders how best he may exercise his time and abilities. We do not want a pharmaceutical repetition of the Jameson raid. It is no use for the band to strike up and warn the enemy if the army is not ready to march. In spite of the pessimism of "An Ordinary Pharmacist," the Society's organisation is now on a fairly satisfactory basis, and Bloomsbury Square does not require the "clean sweep" which a triumvirate of experts considers necessary in Pall Mall; while, if the plan of campaign be loyally and intelligently executed, the flag must, sooner or later, be carried to victory.

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THE WRITING OF THE PRESCRIPTION.

THERE was a time when it was considered essential for the doctor to keep the patient in ignorance of his method of treatment. The physician, instead of writing down the names of the drugs, used to make use of symbols; at a later date these were replaced by abbreviated Latin names, written in such a way that the patient could not read them. This custom is reminiscent of the days of witches, herbwomen, love philtres, charms, and like mediæval institutions, when faith was a nearer relative of the healing art than it is in these materialistic days. There is now no longer a necessity for concealing the nature of the medicine from the patient; moreover, in these days of "known, admitted, and approved remedies," this would be a difficult task. But, while the necessity for bad writing has disappeared, the bad writing itself remains as a reminder of how closely associated were quackery and medicine in the days of not very long ago.

But the doctor is not the only illegible writer; handwriting generally is not improving. These are the times of the typewriter, and the caligrapher is being superseded by the typist just as the horse is being ousted by the motor-car. The day is not very long gone by when the youth who could write a good bold hand had a brilliant prospect before him; he was regarded as a most promising pupil at the local academy; but nowadays there is a sort of feeling abroad that the man whose writing can easily be read is at the best not more than mediocre. And in the general decay of the art of caligraphy the medical man has not escaped; in common with that of all mankind, his handwriting has deteriorated likewise. So that, apart from hereditary instincts, we should expect to find the doctor of the present generation a worse writer than was his predecessor. The practitioner certainly cannot be excused on the ground that he has to write quickly. As a matter of fact, the prescriptions of the busiest and most eminent practitioner, generally speaking, are notoriously legible, while those of the young physician who waits day after day for the patient who never turns up form the severest tests that can be put before a candidate for the "Minor" examination. One can imagine what an illegible scrawl Bob Sawyer would have turned out had it ever been his good fortune to be called on to write a prescription. The chemist and druggist does not complain about the doctor's handwriting, and it would be a scurvy specimen indeed that a qualified pharmacist could not read. A medical contemporary realises the chemist's ability in this direction, and, referring to this question, the *Lancet* says:—"As matters are at present, we have a shrewd suspicion that it is often only the sagacity and carefulness of the druggist who dispenses a prescription which prevent the concoction of something far different from that which the hurried and illegible writing of the practitioner intended to convey." This is a compliment which our readers will appreciate, coming, as it does, from such an authoritative source.

That the test for prescription-reading is severe every candidate for the Minor Examination is well aware. In glancing at the examination statistics for the last few years, one cannot help but be struck by the increased percentage of failures in prescription-reading at the last four examinations in London, as compared with other years. The following figures show the percentage of candidates who failed in prescription-reading alone during the last nine years—that is to say, from April 1 to March 31:—

Year.	Percentage of Failure.
1895-1896	4·4
1896-1897	4·5
1897-1898	3·8
1898-1899	5·0
1899-1900	3·2
1900-1901	4·0
1901-1902	4·7
1902-1903	4·4
1903-1904	7·0

These figures are only of use for purposes of comparison, for it must be borne in mind that a large percentage of candidates never reach this part of the examination. The percentage of failures during the last year, it will be seen, is by far the highest. An obvious inference is that apprentices are seeing fewer prescriptions than they used to. And it is another proof that the art of prescribing, like the art of handwriting, is declining.

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"PHARMACY" AND "PHARMACIST."

THE correspondence which it became necessary to "closure" last week, on the subject of the use of the words "pharmacy" and "pharmacist" by chemists and druggists, was for the most part directed with some acrimony at the head of the correspondent who had the temerity, five weeks ago, to dispute a Minor man's right to call his place of business a pharmacy. Many of those, however, who have been moved to express their views on the subject have claimed that a man who has passed the Minor Examination has a legal right to style himself a "pharmacist," overlooking entirely the fact that Section XV. of the Pharmacy Act, 1868, renders liable to a penalty of five pounds "any person who . . . . . shall take, use, or exhibit the name or title Pharmaceutical Chemist, Pharmaceutist, or Pharmacist, not being a pharmaceutical chemist." Whether or not the contention could be upheld that a chemist and druggist's shop is not a "pharmacy" is a question on which differences of opinion may quite legitimately arise, for there is no reference to an "open shop" by that name in any Act of Parliament. The correspondence has, at all events, shown that there exists a strong feeling among those who practise "pharmacy," whatever their qualification, that the pharmaceutical chemist does not receive from the public the recognition of his merits which he might reasonably expect. Some say, "Give him a more distinctive title." To that demand, the obvious, if unsatisfactory, answer is that so much difficulty has been experienced in teaching the public to discriminate between the qualified man and the unqualified, that it is almost hopeless to expect that any further distinction or subdivision would ever be clearly or generally appreciated.

'P.J.F.'

In order to remove any lingering uncertainty on the point, it appears desirable to state that the Board of Inland Revenue has definitely decided to recognise the 'Pharmaceutical Journal Formulary' under its registered title 'P.J.F.,' and has intimated that the letters 'P.J.F.' followed by the registered number of a recipe in the book will be accepted as a sufficient indication of the source from which the formula is taken, for the purposes of the exemption from Medicine Stamp Duty in favour of known, admitted, and approved remedies. It is noteworthy that no other work of reference has been favoured to the same extent, except the British Pharmacopœia.

As briefly intimated last week, a supplement to the 'P.J.F.' is now in course of preparation. It will consist of a few pages of recipes which were inadvertently omitted from the book when published, or which have been received since the book went to press. In reply to several inquiries, it may be stated that an endeavour will be made to include in the supplementary pages recipes which members of the Pharmaceutical Society may submit to the Editor prior to Saturday, March 26, provided they do not bear too close a resemblance to recipes which are printed in the book. This condition will be strictly enforced, as it is not intended to encourage the tendency to register further formulæ unless they differ materially from those already published. In addition, a list is being prepared of all the errors which have been detected in the work. For the most part they are of only slight importance, but a few corrections are essential, and readers who may note any further inaccuracies are requested to notify the facts without delay.

Subscribers to the volume will be glad to learn that the 'P.J.F.' is selling steadily at the advanced prices, and that any risk of the remaining copies getting into the hands of the general public is likely to be obviated by the fact that the book will soon be out of print. Many members of the Pharmaceutical Society have purchased copies at the special price of half a guinea, and it may be suggested to others who have not yet done so, that it will pay them to obtain copies at that price and sell them to other chemists or to medical men at the protected price of one guinea. The book also suggests itself as being extremely suitable for presentation to assistants or apprentices whose services it is desired to recognise in a special manner.

POISON REGULATIONS IN DISPENSARIES.

It does not always happen that we are able to see eye to eye with our contemporary the *Hospital*, and it is therefore with the more pleasure that an extract is now given from a singularly clear-sighted article on the Dispensing of Poisons, which has recently appeared in that journal. "There can be no doubt," says the *Hospital*, "that the legal restrictions which govern the sale of poisons have acted to the public advantage. They interfere, at least to some extent, with the ready purchase of poison, and they do something to secure an aid to the identity of the purchaser in the event of mischief ensuing. Further, by confining the sale of poisons to pharmacists who have an expert knowledge of their dangerous properties, they introduce another barrier against misadventure and crime. During the last few years the Pharmaceutical Society, with the approval of the Privy Council, have introduced regulations affecting the methods of keeping and dispensing poisons, and . . . no one will question the wisdom of these regulations. What we now wish to suggest is that they are needed in a private or hospital dispensary not less than in an open pharmacy. The Pharmaceutical Society has no control over either of the two former, but we think both the private practitioner who dispenses his medicines and the authorities of hospitals would be well advised in their own as well as in the public interest voluntarily to adopt the regulations which are compulsorily on the pharmacist. Neglect to do so increases the risk of accident and may reasonably, therefore, be the subject of adverse comment." Those who have noted the curious reluctance displayed by most private practitioners and some hospital authorities to place their dispensaries in the charge of competent and qualified persons, will not be too sanguine that those authorities will consider that they are called on to protect the public from the risk of accident by adopting regulations with regard to the keeping of poisons, but the point is of urgent public importance, and a word of praise must be given to any medical journal which tries to teach its readers a lesson, which, it is to be feared, they are far from anxious to learn.

RETIREMENT OF A COUNCILLOR.

It is with extreme regret, which will be shared by the members of the Pharmaceutical Society generally, that we learn of the impending retirement from the Council of the Pharmaceutical Society of the Vice-President, Mr. C. B. Allen, of Kilburn. Increasing pressure of business, coupled with the growing demands upon the time of London members of Council in connection with committee work, compels Mr. Allen to withdraw reluctantly from the work in which he has so long and ably been engaged, but it is hoped that his retirement may be temporary only. Mr. Allen has been a member of the Council since 1885, and Vice-President since 1900.

THE CORRECTION FOR INCREASE IN VOLUME IN THE DETERMINATION OF MORPHINE IN OPIUM AND TINCTURE OF OPIUM.

BY E. DOWZARD, F.C.S.

Some time ago the writer published a description o modified methods for the determination of morphine in opium and tincture of opium (*P.J.* [4], **17**, 909). In the method recommended for opium, 51·6 C.c. are used for the determination, 1·6 C.c. being taken as the increase in volume due to extractives, this figure is calculated from the B.P. correction. Several experiments have since proved that the actual increase in volume is much lower than that given in the B.P.

The correction is determined as follows:—Transfer 8 Gm. of dry powdered opium to a 200 C.c. conical flask, to this add 100 C.c. of water, the flask is then closed with an india-rubber stopper, and placed in water kept at 80 to 90° C. for about one hour, shaking frequently. The flask is now cooled and 3 Gm. of slaked lime added, the rubber stopper is inserted, and the contents agitated frequently during the course of one to two hours. The mixture is then filtered, and 5 C.c. of the filtrate rapidly evaporated in a weighed platinum basin, and dried at 100° C. in a current of air free from CO_2. After the weight of extractive has been determined, it is ignited and the ash weighed. The ash consists of about 75 per cent. CaO, and about 25 per cent. of soluble mineral matters from the opium, but for the calculation of the correction this fact may be ignored and the total ash taken as CaO.

The ash in 100 C.c. of the filtrate (taken as CaO) is calculated into CaH_2O_3, which is then subtracted from the total extractive in 100 C.c., the result is the amount of opium extract in 100 C.c. The volume of the CaH_2O_2 and opium extract are calculated from the following data:—

3 Gm. CaH_2O_2 displace 1·44 C.c. water.
3 Gm. opium extract displace 1·9 C.c. water.

The two results are added together, giving the volume of the soluble matters in 100 C.c. of the filtrate. This volume is now subtracted from 100 C.c., which gives the amount of water present in 100 C.c., from this is calculated the volume that the original 100 C.c. of water has increased to.

Example:—

8 Gm. of opium + 3 Gm. CaH_2O_2 + 100 C.c. water.

5 C.c. of filtrate from above yielded 0·118 Gm. extractive, which when ignited left 0·0325 Gm. ash. 100 C.c. of filtrate contains 2·36 Gm. extractive, 0·65 Gm. being the ash content, which is taken as CaO and calculated into CaH_2O_2 = 0·858 Gm. The weight of CaH_2O_2 is subtracted from the extractive

$$2{\cdot}36 - 0{\cdot}858 = 1{\cdot}502.$$

The actual amount of opium extract in 100 C.c. is 1·502 Gm.

$$\frac{0{\cdot}858 \times 1{\cdot}44}{3} = 0{\cdot}411 \text{ C.c.} = \text{volume of } CaH_2O_2.$$

$$\frac{1{\cdot}5 \times 1{\cdot}9}{3} = 0{\cdot}950 \text{ C.c.} = \text{volume of opium extract.}$$

$$0{\cdot}95 + 0{\cdot}411 = 1{\cdot}361 \text{ C.c.}$$

In 100 C.c. of filtrate the total extractive measures 1·36 C.c., so that 100 C.c. contains 98·64 C.c. of water. If 98·64 C.c. has increased to 100 C.c., 100 C.c. will have increased to 101·37 C.c.

In this particular instance the correction would be

$$\frac{1{\cdot}37}{2} = 0{\cdot}685 \text{ C.c. on 50 C.c.}$$

Total Extract in 100 C.c. of Filtrate	Ash in 100 C.c. of Filtrate.	Increase in Volume on 100 C.c.	Amount of Filtrate Representing 4 Gm. of Opium.
No. 1. 2·36 Gm....	0·65 Gm.	1·37 C.c.	50·68 C.c.
No. 2. 3·03 Gm.	0·71 Gm.	1·83 C.c.	50·91 C.c.
No. 3. 3·36 Gm.	0·84 Gm.	1·98 C.c.	50·99 C.c.

The average of these figures is 50·86 C.c.. Working with the method described in the *P.J.* (19/12/03) 50·9 C.c. of filtrate should be used, not 51·6 C.c. In the case of the tincture, the correction was calculated without making allowance for the CaH_2O_2 in the extractive. Four tinctures have since been examined, and the results show that the correction I then gave (2 C.c.) is about right. The correction was determined as follows:—100 C.c. of tincture of opium were evaporated to about 30 C.c., the residual liquid mixed with 3 Gm. of slaked lime and made up to 102 C.c. with water. After standing for one hour the mixture was filtered, and the extractive and ash determined in the filtrate as described under opium. The extractive and ash in the original tincture were also determined. The figures required to calculate the correction are the number of grammes of CaH_2O_2 and opium extract in 100 C.c. of liquid after treatment with CaH_2O_2, also the weight of extractive and ash in the original tincture.

The dissolved CaH_2O_2 is obtained by subtracting the ash in 100 C.c. of tincture from the ash in 100 C.c. of the alkaline liquid, the result is taken as CaO and calculated into CaH_2O_2. The weight of CaH_2O_2 thus found is subtracted rom the total extractive in 100 C.c. of the alkaline liquid, which gives the weight of opium extract; the figure thus obtained is subtracted from the extractive in 100 C.c. of the original tincture. The result is the amount of extractive carried down by the slaked lime. The volume of the CaH_2O_2 in solution is calculated and subtracted from 1·44 C.c. (3 Gm. CaH_2O_2 displace 1·44 C.c. of water). The volume of the extractive thrown down is also calculated and added to the volume of the undissolved slaked lime. The result is the sought-for correction.

Example:—

100 C.c. of the liquid after treatment with slaked lime contained 2·38 Gm. extractive, on ignition 0·56 Gm. ash was left.

100 C.c. of the original tincture contained 2·92 Gm. extractive and 0·10 Gm. ash.

0·56 − 0·10 = 0·46 Gm. CaO = 0·607 Gm. CaH_2O_2 in 100 C.c. of alkaline liquid.

$\frac{0{\cdot}607 \times 1{\cdot}44}{3} = 0{\cdot}29$ C.c. = volume occupied by the dissolved CaH_2O_2.

1·44 − 0·29 = 1·15 C.c. = volume of undissolved CaH_2O_2.

2·38 − 0·607 = 1·773 Gm. opium extract in 100 C.c. o liquid after lime treatment.

2·92 − 1·773 = 1·147 Gm. = extract carried down by lime from 100 C.c. of tincture.

$\frac{1{\cdot}147 \times 1{\cdot}9}{3} = 0{\cdot}726$ C.c. = volume occupied by extract carried down by lime.

1·15 + 0·726 = 1·876 C.c. = volume of undissolved CaH_2O and insoluble extract.

Extractive in 100 C.c. of Original Tincture.	Ash in 100 C.c. of Original Tincture.	Extractive in 100 C.c. Alkaline Liquid.	Ash in 100 C.c. Alkaline Liquid.	Correction
No. 1. 2·92 Gm.	0·100 Gm.	2·38 Gm.	0·56 Gm.	1·876 C.c.
No. 2. 3·08 Gm.	0·110 Gm.	2·34 Gm.	0·46 Gm.	1·981 C.c.
No. 3. 3·14 Gm.	0·116 Gm.	2·32 Gm.	0·52 Gm.	2·045 C.c.
No. 4. 3·98 Gm.	0·120 Gm.	2·72 Gm.	0·66 Gm.	2·349 C.c.

Nos. 1, 2, and 3 were standardised tinctures, the average correction = 1·967 C.c., or in round numbers 2 C.c. No. 4 was a sample of tincture before standardisation, the correction in this case is higher owing to the larger amount of extractive present. For standardised tinctures, however, 2 C.c. may be taken as approximately correct. If the weight of extractive in 100 C.c. of tincture is multiplied by 0·63, the result will be a close approximation to the correction for that particular tincture.

Opium.—When 8 Gm. of opium, 3 Gm. of slaked lime, and 100 C.c. of water are used, 50·9 C.c. of the filtrate will be equal to 4 Gm. of opium.

Tincture.—Working with 100 C.c. of tincture and 3 Gm. of slaked lime, it will be necessary to make the final volume up to 102 C.c., 50 C.c. of the filtrate from this mixture will be equal to 50 C.c. of the original tincture.

MELTING-POINTS.

BY S. JUDD LEWIS, PH.C.

Few processes for ascertaining the purity of a substance can compare in importance with a determination of the temperature at which it passes from the solid to the liquid state, and perhaps no means is more frequently adopted; and yet the figures for the same substance given by eminent chemists are often at variance to a most perplexing degree, leaving a man of but little experience quite uncertain of arriving at any useful results. It is hoped, however, that the following hints will encourage such to undertake this simple though delicate operation, and enable him to attain that order of accuracy sufficient for pharmaceutical practice.

Unfortunately, authorities do not agree upon what phenomenon shall be taken as indicative of the temperature of change of state. That at which the substance passes from the solid to the liquid condition is theoretically identical with that at which the reverse change occurs, but the temperature of solidification is much more subject to conditions than is the melting-point; therefore, the latter is generally preferred; nevertheless, sometimes it is more satisfactory to take the solidifying point, as for example, in the case of glacial acetic acid, as recommended by Squire (*infra*); indeed, Landolt's method for ascertaining the melting-point is of this character, and is, perhaps, the most reliable of all; but it requires a large quantity of material and the bestowal of much time. Again, some observe the temperature at which liquefaction just begins, others that at which liquefaction of the mass is complete.

Several methods have been devised, and for a comparison of these, as well as for much other valuable information, reference should be made to the excellent papers by Tyrer and Levy on the "Determination of Correct Melting-Points," read at the 1899 and 1900 meetings of the British Pharmaceutical Conference. They recommend Graebe's method for general pharmaceutical purposes. Not a few, including Graebe's, are modifications of the capillary tube method, and without doubt these are the most generally applicable in the average laboratory, and if due attention to detail is given they lack little with regard to accuracy.

It is proposed to give in this paper such directions as will insure fairly accurate results by simple means. It must be recognised, and it is evident from the foregoing remarks, that under the best conditions it is usually a matter of some difficulty to establish the melting-point more nearly than to the nearest 0·1° C., nor is it often necessary in general practice. However, with due care the true figure may generally be approached to within a small fraction of a degree, but the magnitude of this fraction will largely depend upon the nature of the substance and the temperature of fusion. Above 150° C. the same delicacy is not so easily attainable, and above 200° the difficulty is still greater. For those substances having a well-defined melting-point below 150° C. the mean finding of four or more well-conducted experiments should be correct to within 0·1° C., but with some substances the nearest reliable approximation is not so close as this.

The following are a few figures obtained at various times, and show that fairly concordant results are easily attainable. Two or three experimental findings for each of three samples (a, b, c) are given. Generally the extremes differ by not more than 0·2° C. The determinations were made with only ordinary care by the beaker method, as described below, under business pressure, merely with the object of ascertaining the quality of commercial samples, and not with any pretensions to accuracy:—

	(a)	(b)	(c)
Benzoic Acid ..	121·0 121·2	122·3 122·5	122·0 122·2
Cera	62·8 63·0	61·5 61·5 61·8	63·0 63·0
Cetaceum	44·7 44·8	47·3 47·5	45·5 45·1
Cocaine Hydrochloride	194·0, 195·0 not dried 196·0, 197·0 dried	190·0 189·5 187·5	187·0 188·2
Paraffin (soft)..	45·5, 45·5 cooled in a freezing apparatus for 1½ hours 45·6, 45·8 left overnight	39·0, 39·0, 39·2 soon after filling tube 44·0, 44·0 left over-night	48·5 49·0 49·0
Phenazone	110·5 110·5	110·0 110·2	111·5, 111·5 a commercial powder
Resorcin	111·0 111·0 110·8	110·5 110·5	110·0 110·2
Salol	42·0 42·1	42·0 42·2	42·6 42·7
Santonin	170·3 170·5	169·5 169·8	169·5 169·5
Sulphonal	125·8 125·8 126·0	126·0 126·0	127·0, 127·1, 121·1 unusually high
Thymol........	50·0 50·2	50·5 50·5	50·8 50·5

Dr. Dobbin remarks (*ante*, p. 326) that correction for the emergent column "appears to indicate a straining after a high degree of precision" which the requirements of the case do not altogether warrant. His view is, I know, shared by some other eminent chemists. Unfortunately, he does not say how close the determinations should be; but if the melting-point is to be trusted as a criterion of the degree of purity of the substance—and that would appear to be the desideratum in pharmacy—an approximation is not all that is required, and no reasonable effort should be spared to attain accurate observations. From the figures given by Ostwald, 1 per cent. of an impurity, having a molecular weight of 100, would depress the melting-point by the amount shown in column (a), or for a molecular weight of 200 by half that amount, column (b):—

	(a)	(b)
Acetic Acid	0·388° C	0·199° C.
Benzene	0·49°	0·245°
Phenol	0·75°	0·375°

In practice it is impossible to say what percentage of impurity is indicated by a given depression of the melting-point, but it is clear, from these instances and from Squire's remarks on the melting-point of salicylic acid, that 0·25 per cent. of impurity may make but a small difference in the melting-point; therefore the most exact methods are needed to adequately fulfil the chief object of the test. The correction for the emergent column often amounts to 0·5° C., and, though it may not be altogether accurate, it greatly reduces the primary error.

The ordinary capillary tube method is mistrusted and criticised much more severely than it deserves primarily, because nearly all published descriptions of it are destitute of any detailed reference to the minutiæ inseparable from trustworthy experiment, and thus each man is left to his own exposition of the process. The following details of procedure and considerations are but one such interpretation that has given useful results, and they are given in the hope that they will be of service to some, while others will perhaps be induced to contribute to the discussion and throw more light on this important art. It will be convenient to describe the process and descend to particulars afterwards.

Two-thirds fill a 400 or 500 C.c. beaker (tall shape) with water, melted paraffin, castor oil, or other suitable liquid, and raise its temperature to about 5° below the melting-point of the substance. Finely powder a little of the substance, and, if necessary, dry it; place some of it, to the depth of about 1 Cm., in a capillary tube of 1 Mm. bore, and shake it down well. Attach this to a thermometer by means of platinum wire or twine or (if water be used for the bath) a rubber ring (obtained by snipping it from a piece of small tubing), so that the substance is level with the middle of the bulb of the thermometer and in contact with it; immerse this in the heated bath to a depth of about 3 Cm. from the bottom of the beaker, and raise the temperature during three or four minutes to within half a degree of the melting-point of the substance, somewhat quickly at first, then more slowly; finally, during one or two minutes more, very gradually increase the temperature to the melting-point, read the thermometer, and apply the correction for the emergent column, as directed in the Pharmacopœia. The liquid in the beaker must be continuously and vigorously stirred, especially during the last two or three minutes.

Precision is, of course, impossible if the thermometer graduations are inaccurate or cannot be corrected, and it is not often practicable to have a set of thermometers, all with Kew certificates. There are two other courses open—(1) to have an instrument 0° to 200° C. so certified, and use it only for standardising other instruments from time to time, and not for the actual experiments, as it is the frequency with which a thermometer is used that alters the value of its readings; (2) to standardise and calibrate the thermometer (a good account of the method is given in 'Heat for Advanced Students,' by Edser). For temperatures above 100° C. a thermometer whose lowest reading is about 100° C. should be used, otherwise the exposed column will be so long that the correction will be too great to be trustworthy. Where possible, short-range thermometers, graduated in fifths or tenths of a degree, should be used; but for most practical purposes a thermometer graduated in single or half degrees is all that is necessary. The nearest one-tenth of a degree may be approximated by inspection, but *great care* should be exercised to avoid error of parallax. This may be avoided as follows:—Having placed the thermometer quite vertically in position, measure the height above the bench of the graduation on the thermometer which indicates the probable melting-point, and in the same horizontal plane make a mark on an object some distance behind; then, if the eye be placed so that the graduation and the mark appear vertically coincident, the reading is effected at right angles to the axis of the thermometer.

The size of the bath should be such as that recommended. It must be deep enough to immerse the top of the thermometer bulb by 3 or 4 Cm. and to have the bottom of the bulb well out of the way of the convection currents which can often be observed at the bottom of the beaker, in spite of the stirring, also the diameter should not be too small. A boiling tube of 2 in. diameter and filled to a depth of 4 in. or 5 in. may replace the beaker. It is questionable whether one can get anything approaching accuracy by using a "40-60 C.c." beaker, as advised in one well-known text-book.

For temperatures below 100° C. water is the best bath; above 100° C. sulphuric acid is perhaps most generally used, but in the heated state it is both objectionable and dangerous, also it readily becomes discoloured. Melted paraffin wax or, better, castor oil, is clean, less dangerous, and more pleasant to work with; moreover, with it a metal stirrer may be employed.

The best stirrer is one made of aluminium wire, about 1·5 to 2 Mm. thick, having a double stirring ring and a cork over the handle; with it there is no danger of breaking the beaker, and it is always clean.

Several authorities refer to the effect of varying the internal diameter of the capillary tube, and most, if not all, agree that it should be about 1 Mm. This is a matter of great importance for the sake of uniformity in the case of substances whose fusion point is naturally ill-defined; but with pure crystalline substances, whose melting-point is definite—*e.g.*, phenazone—it is of less consequence, but it is better to adhere strictly to the recognised condition.

The thickness of the walls of the tube must not be greater than that of the walls of the thermometer bulb. Theoretically, they should be equally thick; but, since the mercury in the bulb is a very good conductor of heat and intimately associated with the walls of the bulb, and the substance in the tube is usually a bad conductor, and, being in the solid state, not uniformly closely in contact with the walls, there is a practical advantage if the walls of the tube are somewhat thinner than those of the bulb.

The condition of the substance may notably modify the figure obtained. Tyrer and Levy experimented on the "commercial," "dried," and "purified" substance in each case, and it is well to be familiar with their results. It lies with the operator each time to decide on the condition in which he will test the substance. It is usually best to powder it in a clean, dry glass mortar, and then dry it over sulphuric acid; or, if it is stable, and melts much above 100° C., in the oven, at 105° C. or other suitable temperature. Some chemicals, as found in commerce, are so nearly anhydrous that for mere testing purposes they may be examined without drying, and it is occasionally desirable to do so. Again, such substances as menthol and thymol do not usually require freeing from water; they may be pressed between folds of anhydrous bibulous paper to remove adherent oil, etc. Any change in the substance during the drying or dissipation of other solvent should be carefully avoided, and in all cases the record should be annotated so as to show whether the substance was dried or not, and, if so, by what process, conveniently by means of index letters.

The process of heating and observation is perhaps the crux. A careless operator can never get good results, even if all the above and other precautions have been taken. The duration of heating is undoubtedly a prime factor. Generally, the more quickly the process is conducted the better, consistent with the substance acquiring the same temperature as that of the thermometer. What is required is the melting-point of the substance as it exists in the bulk (rendered anhydrous if necessary), and if the heat is continued so long as to alter (usually lower) its melting-point the latter finding must be rejected. In the case of unstable substances it is better to get an approximation by a short heating than to risk alteration by a protracted exposure. The five or six minutes directed above is suitable to most substances, and generally should not be exceeded. Merck records a depression of 6° C. in the fusion point of aconitine by "a good half-hour's heating" (*P.J.* [3], **24**, 891), and there is nothing exceptional in this.

The application of heat should be so regulated as to be continuous from beginning to end. This is important, for if the flame is withdrawn and the stirring continued the thermometer may rise slightly, due to passage of heat from the gauze and stand on which the beaker rests, after which it remains stationary for a short time, and then suddenly drops perhaps half a degree, and before a fresh application of heat has restored the temperature the mercury will have fallen another one or even two degrees. This is partly due to the fact that a thermometer responds irregularly to a falling temperature. It is evident that if the elevation of temperature be intermittent one practically starts the experiment afresh from each fall, and so the heating is unduly prolonged.

Having raised the temperature of the bath just to the true melting-point of the substance, no change occurs; but on a further rise, however small, the heat which will be imparted to the substance is rendered latent, fusion begins, and continues until the mass is entirely fluid, still (theoretically) at the same temperature. For this reason the temperature at which the substance first shows definite signs of liquefaction should be regarded as the melting-point. Sometimes a shrinkage may take place, or an appearance of "moisture" in the mass at a temperature considerably below that at which any definite fusion occurs; the latter should then be taken. In the case of fats, waxes, etc., it is usual to record the temperature at which a portion of the mass in the capillary becomes transparent; here it would scarcely do to take the first signs of liquefaction as a criterion, since one constituent may soften before the fat as a whole melts. Chaulmoogra oil illustrates this; some of the constituents melt at about 22° C. to a clear liquid, in which the other portion of the fat floats. At 42° C. the whole becomes transparent, and this is the temperature given in the B.P. as that at which "it may fully liquefy."

If Graebe's method be followed the same details demand attention, except those referring to stirring. The *modus operandi* is as follows:—Fill a flask nearly to the shoulder with concentrated sulphuric acid, and allow to hang in it a test tube long enough to reach nearly to the bottom of the flask, also containing sulphuric acid, in which a thermometer, with capillary tube attached, is immersed. Heat is applied to the outer flask, and penetrates the system, so that the temperature of the thermometer and capillary is gradually and regularly raised. No stirring is supposed to be necessary, but there appears to be some uncertainty about the distribution of heat being so uniform that all parts of the thermometer bulb and capillary are at the same temperature. The chief inconvenience of the method is that, on account of the higher temperature of the outer bath, it is not easy to so regulate the supply of heat that the temperature of the substance shall be raised just to the point of fusion.

(*To be concluded.*)

THE STUDENTS' COLUMNS.

THE DISPENSING OF MEDICINES (5).

Mixtures.—*Continued.*

In continuation of the series of mixtures, the student's attention is now directed to a prescription for a mixture containing substances which will react upon the vehicle, causing the substances in it to be chemically altered and thereby rendered insoluble in it:—

℞	Sodii iodid.	ʒiss.
	Sodii salicylat	ʒii.
	Spt. chlorof.	℥ss.
	Dec. cinchonæ ad	℥vi.

Ft. mist. Sig., ℥ss. ter in die ex aq.

The decoction is not now an official galenical. According to the previous pharmacopœia it was to be prepared by adding 1¼ oz. of red cinchona bark in No 20. powder to a pint of distilled water, boiling for ten minutes, cooling, straining, and adjusting to 1 pint by the addition of distilled water. The student should, therefore, prepare 6 oz. of decoction according to this formula. The substitution of the official infusion is not permissible in this instance—in some instances it might be, *e.g.*, broom, senega, etc.—since it is an acid preparation and would therefore cause liberation of iodine from the sodium iodide, which in turn would ultimately combine with the quinine salicylate, forming quinine iodo-salicylate—a colourless compound. All this, however, does not concern the student, so far as the dispensing of the prescription as it is written is concerned. The chemical reactions which take place are these:—The cinchona alkaloids present in the bark are in combination with kinic (quinic) acid as kinates, and as such a portion passes into solution when the bark is boiled with water. But when these, in the dispensing of the prescription, are brought in contact with the sodium salicylate and sodium iodide, an exchange of radicles takes place, resulting in practically the whole of the cinchona alkaloids, in the form of salicylates and iodides, appearing as a flocculent separation, these being very sparingly soluble in water, whilst the sodium combines with the kinic acid, and remains in solution. On account of this separation it is advisable to add some suspending agent so as to facilitate accurate division of it in the doses. For this purpose tragacanth is recommended. The method of dispensing is as follows. The spirit of chloroform is put into the bottle, and well shaken over the inside in order to absorb any moisture, and then 12 grains of powdered tragacanth are added. When it has been well distributed throughout the spirit by shaking, 2 oz. of the cooled decoction are quickly added, the cork inserted, and the bottle vigorously shaken. Other 2 oz. are added, and then the sodium salicylate and sodium iodide, well powdered and mixed, dropped into the bottle. On shaking, these being readily soluble in the water, will at once dissolve, and react with the cinchona alkaloids, forming the insoluble salts referred to; but the presence of the mucilage prevents the aggregation of the particles. It remains but to add sufficient of the decoction to increase the quantity to 6 fl. oz. The putting of soluble substances into the bottle previous to their being dissolved in the vehicle is not to be generally recommended as an exemplary method, but the above instance is an exception. Had there been an ounce of water, or any liquid in which the sodium salicylate and iodide would have dissolved without decomposition, the solids would not have been added directly to the contents of the bottle. To dissolve them, however, in a portion of the decoction in a measure or mortar, would mean the complete separation and partial aggregation of the alkaloidal salts, and these, when afterwards added to mucilage, would not be so readily broken up by it, and consequently the mixture would not be so satisfactory as in the first case. Aromatic spirit of ammonia is frequently presented in combination with cinchona galenicals as a corrective. It, of course, also causes decomposition, the cinchona alkaloids being thrown out of solution by it, as hydrates. Had it been present in the above prescription instead of the spirit of chloroform this would have taken place, but the sodium salicylate and iodide would ultimately have reacted with the hydrate to give a result the same as above.

Consideration of the dispensing of mixtures will be concluded with a typical prescription illustrating the manipulation required when one of the resinous tinctures, *e.g.*—asafœtida, benzoin, Indian hemp, ammoniated guaiacum—is ordered with an aqueous vehicle.

℞ Potas. bromid.	
Chloral hydrat.	aa ʒii.
Tinct. cannabis indicæ	ʒiii.
Glycerini	℥i.
Mucilaginis	*q.s.*
Aq.	ad ℥vi.

Sig., ʒss. ex aq. tert. vel quart. horis.

This prescription is akin to the emulsion class, but it is preferable to consider it as a mixture, reserving for the emulsion those substances of an oily nature which are almost insoluble in water. It will be observed that the prescriber does not indicate how much nor what kind of mucilage is to be used, thus leaving the dispenser to act according to his knowledge and judgment. Mucilage of acacia is preferable to that of tragacanth for resinous tinctures, and in this case 6 drachms will be quite sufficient. The mucilage is poured into a 4 oz. graduated measure, and the tincture of Indian hemp, previously mixed with an equal volume of glycerin, gradually added, the mucilage being constantly triturated with a glass rod during the operation. The remainder of the glycerin is added, and the volume of liquid then increased to 3½ fl. oz. by the gradual addition of water. In a mortar the potassium bromide and chloral hydrate are dissolved in sufficient water to produce 2½ oz. of solution, which is gradually added, either in a measure or in the bottle, to the reserved portion. Two points ought to be noted by the student—first, never add a strong saline solution to an emulsified tincture, but dilute it well and then add it gradually; second, when glycerin is one of the ingredients, always mix some of it with the resinous tincture, as this facilitates emulsification. When glycerin is not present care must be taken not to add the tincture rapidly, and whenever the mucilage begins to thicken, to thin it down to its original viscosity by the careful addition of water before adding another portion of the tincture. The other resinous tinctures are manipulated in a similar manner, the quantity of mucilage to be used depending, of course, not merely upon the quantity of tincture to be emulsified but also upon the degree of dilution to which the emulsified tincture will be afterwards subjected. A few prescriptions illustrative of the various cases which have been commented on will now be given, so that the student may gain further practice in manipulation, and also get a chance of using his judgment in applying the information which has been given to him.

℞ Magnes. sulph	℥iss.
Spt. menth. pip.	ʒii.
Infus. quassiæ	ad ℥vi.

M. ft. mist. Sig., ℥i. ex aq. mane omn. s.i.s.

℞ Sodii chlor.	gr.xx.
Sodii sulphat.	ʒii.
Syr. zingiber	ʒiv.
Aq. menth. pip.	℥ii.

M. ft. Haust. Sig., cap. m. d.

℞ Potas. bicarb.	
Magnes. bicarb.	aa ʒiii.
Tr. calumb.	ʒiv.
Ol. menth. pip.	♏x.
Inf. gent. co.	ad ℥vi.

Sig., ℥ss. ex aq. cy. vin. ter die ante cib. statim.

℞ Pepsini	ʒi.
Bismuth subnit.	ʒii.
Acid hydrochlor. dil	ʒii.
Tr. nucis vom.	ʒiss.
Glycerini	ʒiv.
Inf. calumb.	ad ℥vi.

M. ft. mist. Sig., ℥ss. ter in die c. cibos.

℞ Salicin	ʒii.
Spt. ammon. arom.	ʒiv.
Aq. menth. pip.	ad ℥iv.

Ft. mist. Cap. aeger semi unciam q.q. h. ex aq.

℞ Bismuth salicylat.	ʒii.
Sodii bicarb.	ʒii.
Glycerini	℥i.
Acid. hydrocyanic. dil.	ʒss.
Tr. card. co.	℥ss.
Aq.	ad ℥vi.

Ft. Mist. Sec. art. Sig., ʒii. every two hours if necessary.

℞ Lithii bromid.	ʒi.
Tr. hyoscyami	ʒii.
Salol	gr.xii.
Aq.	ad ℥iii.

Sig., ʒii. ex aq. 4tis horis.

℞ Spt. camphor.	ʒii.
Spt. chlorof.	ʒiss.
Phenacetin	ʒi.
Glycerini	℥i.
Aq.	ad ℥iii.

Sig., ʒii. every three or four hours.

℞ Sod. salicylat.	ʒii.
Spt. camphor.	ʒii.
Glycerini	℥i.
Aq.	ad ℥iii.

Sig., ʒi. ex aq. 2dis horis.

℞ Quin. sulph.	gr.vi.
Spt. ammon. arom.	ʒvi.
Spt. cinnamom	ʒii.
Aq.	ad ℥iv.

Ft. mist. Sig., ʒii. three or four times day.

℞ Tr. guaiaci ammon.	℥i.
Potas. iodid.	ʒii.
Sodii salicylatis	ʒii.
Aq.	ad ℥vi.

Sig., ℥ss. ter die.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN.

EVENING MEETING IN EDINBURGH.

Wednesday, March 16, 1904, at 36, York Place, Edinburgh, Mr. D. B. DOTT in the chair.

The minutes of the last meeting were read and approved, and apologies for absence were intimated from Dr. Dobbin, Messrs. Davidson, Ewing, Glass, Henry, John Nesbit, and Noble.

Mr. THOMAS STEPHENSON, Ph.C., F.C.S., gave a lecture, with demonstrations, on

Radium and Radio-Activity.

After briefly introducing the subject, Mr. Stephenson gave a general sketch of the history of radio-activity, commencing with Crookes' discovery of the cathode rays and radiant matter, from this leading on to Röntgen's discovery of the X-rays in 1895, and to Becquerel's announcement a year later of the emission of similar rays by uranium salts. The difference between phosphorescence and radio-activity was pointed out, the luminosity of zinc sulphide and phosphorus, due to absorption of light and chemical action respectively, being given as examples. Uranium nitrate was shown to glow in the dark in the same way, but while zinc sulphide and phosphorus had no action on a photographic plate through black paper, uranium salts had such action—in fact they emitted penetrating rays which the other substances did not. Uranium was thus the first recorded instance of "radio-activity." The work of Madame Curie was then explained, and a beautiful photograph of an incandescent mantle, taken by means of the radio-active thorium contained in it, was shown. Madame Curie's apparatus for measuring radio-activity was described, and the discovery that pitchblende was four times more radio-active than metallic uranium was given as the starting point of the discovery of radium. The relation of atomic weight to radio-activity was pointed out, a table showing the atomic weights of all the radio-active elements being thrown on the screen.

The sources, properties and general characteristics of the radium salts were then described and a specimen of radium bromide exhibited, as well as its action on zinc sulphide (the spinthariscope) and its power of rendering diamond luminous. The alpha, beta, and gamma rays were also described, and a number of photographs taken by means of radium were shown on the screen. By means of a diagram the properties of the three rays were exhibited showing the effect of a magnetic field on the alpha and beta rays, which consist of particles of matter, while the gamma rays, which consist of undulations in the ether, are unaffected by a magnet.

Sir William Ramsay's discovery of helium in the radium emanation and the existence of this element in the sun as well as in Bath waters was alluded to. The spontaneous off-giving of heat by radium salts was referred to, and its estimation by means of Bunsen's calorimeter was shown by means of two beautiful slides.

The physiological action of radium salts was described in detail as follows:—(1) Action on skin—a burn; (2) Action on nervous system—paralysis; (3) Action on bacteria—destructive; (4) Action on the eye—luminous.

The use of radium and thorium emanations in tuberculosis was fully described and the apparatus shown.

The lecturer concluded by giving the accepted explanation of these phenomena as being due to atomic breakdown, and explained the constitution of the atom as now understood, the electrons and their relation to atomic weight, and the formation of products of degeneration such as helium. As regards the future of radium, they must not be led away by the sensational tales in the lay press; radium was undoubtedly a source of unlimited energy, and wonderful results might be achieved by its means in the future. But at present it was practically unobtainable, and all they could do, as pharmacists, was to keep pace with its development.

The lecture was profusely illustrated by experiments, specimens, and lantern slides, much of the material being kindly lent by Mr. F. W. Branson, F.I.C., F.C.S., Leeds. Some of the lantern slides had been specially prepared for the lecturer.

A feature of the illustrations was the Röntgen-ray installation, and a magnificent set of vacuum tubes lent and operated by Mr. T. Cuthbert Day. One vacuum tube, nearly 10 ft. long, made by Mr. Day himself, was shown in a bath containing a dilute solution of quinine sulphate, which was rendered brilliantly fluorescent. Another experiment with uranium nitrate, a salt so familiar to pharmacists and photographers, was much appreciated. Some pretty large crystals of the salt were violently shaken in a large glass jar in the dark, and exhibited a very brilliant yellowish luminosity characteristic of some phosphorescent bodies, but most marked in uranium salts.

On the motion of the CHAIRMAN a very cordial vote of thanks was awarded to Mr. Stephenson, and also to Messrs. Branson, Day, Hume, and Baird, who had helped by lending valuable specimens and apparatus. Mr. STEPHENSON, in replying, said he desired particularly to emphasise their indebtedness to Mr. Branson, a well-known member of the Society, who had so readily rendered invaluable aid by sending valuable material which could not otherwise have been obtained.

Mr. J. B. STEPHENSON moved a vote of thanks to the Chairman, which was cordially awarded, and the meeting then closed.

The Age of Eggs.

An ingenious method for determining the age of eggs has been awarded a medal by the National Society of Poultry Breeders of Saxony. It is well known that the air cavity at the blunt end of the egg enlarges as the age of the egg increases, consequently, if an egg be placed in a 1:2 solution of common salt, it will have an increasing tendency to float with the long axis vertical. A scale of angles is placed at the back of the salt bath, and, from the inclination of the egg to the horizontal, the age can be gauged almost to a day. A new laid egg lies horizontally on the bottom of the vessel, when three to five days old the blunt end is raised, so that its long axis makes an angle of about 20° with the horizontal, at eight days this increases to 45°, in fourteen days to 60°, and in three weeks to about 75°, while in a month it stands upright on the pointed end.—*Scient. Amer.*

ABSTRACTS—SCIENTIFIC AND TECHNICAL

A REVIEW OF CURRENT WORK IN PHARMACOPEDICS AND ALLIED SCIENCES

Constitution of Phenol-phthalein.

A. G. Green and A. G. Perkin have found that a solution of phenol-phthalein, decolorised by an excess of caustic alkali, can be entirely neutralised, without any return of the colour taking place, by careful titration at a low temperature with dilute acetic acid. If, however, the colourless neutral solution is boiled the red colour returns in its full intensity, whilst at the same time the solution becomes alkaline. If the solution is acidified and either left for some time or heated, a precipitation of free phenol-phthalein occurs, which also dissolves in aqueous alkalis to a red solution. The point at which neutrality occurs in the titration with acetic acid corresponds with the presence in the colourless solution of the carbinolcarboxylic acid salt, $C_6H_4(CO_2M) \cdot C(OH)(C_6H_4 \cdot OH)_2$. These observations do not agree with the electrolytic dissociation hypothesis, but are simply explained by the quinonoid theory if the colour changes are attributed to a variation of type from a quinonoid to a benzenoid form and *vice versâ*, due to hydration and dehydration. A similar explanation is offered in the case of quinol-phthalein, the behaviour of which is found to be exactly similar to that of phenol-phthalein.—*Proc. Chem. Soc.*, **20**, 50.

New Substituted Quaternary Salts of Alkaloids.

Following on the successful use of atropine-methyl-bromide and atropine-methyl-nitrate in medicine, Pschorr has prepared similar derivatives of other bases, which promise to prove of interest. Apomorphine-methyl-bromide, $C_{18}H_{20}NO_2Br$, crystallises from methyl alcohol in colourless, brittle needles, and from acetone-methyl-alcohol in small scales or six-sided plates; it melts at 180° C.; is very soluble in water, the aqueous solution being altered by light and air, similar to the salts of apomorphine It crystallises from acetone combined with one molecule of the solvent. Apomorphine-methyl-chloride occurs in prisms, melting, when anhydrous, at 205-210° C. Strychnine-methyl-bromide, $C_{22}H_{25}N_2O_2Br + H_2O$, in glittering unstable crystals, soluble in about 20 parts of cold water. It parts with its water of crystallisation at 125-130° under 50 Mm. pressure, and melts at 254-256° C. Strychnine-ethyl-bromide, $C_{23}H_{27}N_2O_2Br$, occurs in small cubes melting at 277-281° C. Strychnine-methyl-chloride, $C_{22}H_{25}N_2O_2Cl + 2H_2O$, in small scales, which frit at 265° C., but do not melt at 300° C. Strychnine-methyl-sulphate $(C_{22}H_{25}N_2O_2)_2SO_4$, glittering needles, which melt at 274° C. Strychnine-methyl-nitrate, $C_{22}H_{25}N_2O_2NO_3$, in colourless columnar crystals, melting between 280-287° C. Brucine-methyl-bromide, $C_{24}H_{29}N_2O_4Br + 3H_2O$, in leaflets, soluble in 10 parts of cold water; melts at 247-253° C. Brucine-ethyl-bromide, $C_{24}H_{31}N_2O_4Br + 3\frac{1}{2}H_2O$, crystallises from alcohol in scales, decomposing slowly between 217-235° C. Brucine-methyl-nitrate, $C_{24}H_{29}N_2O_4NO_3 + 1\frac{1}{2}H_2O$, in needles, melting at 270-272° C. Quinine-methyl-bromide, $C_{21}H_{27}N_2O_2Br + H_2O$, crystallises from hot water in needles melting at 121-122° C. Very soluble in alcohol, but only in 1:55 parts of cold water. Quinine-methyl-chloride, $C_{21}H_{27}N_2O_2Cl + \frac{1}{2}H_2O$, forms needles which melt at 190-191° C. with decomposition; very soluble in water and in alcohol. Quinine methyl-sulphate $(C_{21}H_{27}N_2O_2)_2SO_4 + 5H_2O$, crystallises from hot water in needles which melt at 188-189° C. Sparingly soluble in cold water, readily so in alcohol. Quinine-methyl-nitrate, $C_{21}H_{27}N_2O_2NO_3 + H_2O$, occurs in needles which melt between 91-92° C. Readily soluble in water and in alcohol. Quinine-dimethyl-bromide, $C_{22}H_{30}N_2O_2Br_2 + 4H_2O$, crystallises from a mixture of alcohol and acetic ether in scales melting between 92-93° C.—*Pharm. Centralh.*, **45**, 59.

True Empyreumatic Oil of Hartshorn.

E. Hirschsohn gives the following characters for genuine Oleum Cornu Cervi:—Entirely soluble in alcohol, 90-95 per cent., amyl alcohol, aniline, ether, benzol, chloroform, carbon disulphide, olive oil, and turpentine; almost entirely soluble in acetic acid; not entirely soluble in petroleum spirit; gives a turbid solution with aldehyde. On shaking out with water, the aqueous layer gives no reaction for furfural with aniline and hydrochloric acid; it is alkaline; with ferric chloride it gives a yellow-red colour, and a precipitate with bromine water. The petroleum ether extract, 1:20, gives a red colour on being shaken up with a 1 per cent. solution of copper acetate. Certain samples of cheap Oleum Cornu Cervi, which gave a separation of oily drops when dissolved in some of the above-named solvents, were found to be adulterated with 20 per cent. of naphtha or naphtha residues.—*Pharm. Centralh.*, **44**, 867.

Evanescent Radio-Activity of Actinium.

A Debierne observes that the radiant activity of actinium emanations, and the induced radio-activity they give rise to, are at once distinguished from those of radium by their rapid diminution. Careful measurements show that whereas radium emanations lose one-half of their radio-activity in four days both the emanations themselves and the radio-activity they induce in the case of actinium are diminished, in the same degree, in 3·9 seconds. The measurement was effected by noting the ionisation of gases produced by means of actinium radiations, which is very intense and easy to determine, and is the most characteristic property of the emanations. In addition to these actinium rays, the compound element appears to give off another form of radiant energy, the diminution of the activity of which is much slower, taking some days to be reduced to one half. It is possible that the source of this energy is another body accompanying actinium.—*Compt. rend.*, **138**, 414.

Transmission of N-Rays.

A. Charpentier finds that N-ray energy is capable of transmission by means of metallic wires, and also by other bodies hitherto regarded as insulating materials, such as glass and wood, by a kind of conductivity; but copper or silver wire appear to be the best conductors. If two phosphorescent screens are brought into contact with the terminals of such a wire, and one of them be excited, an increase in the luminosity of the other screen is at once evident. On cutting the wire, the light of the receiving screen gradually becomes paler; on re-uniting the cut ends it again increases. Radio-activity has thus been conducted through a wire 10·5 metres in length, which was in two pieces simply joined by torsion. The time necessary for the phosphorescence on the receiving screen to become evident varies with the length of the wire. It was noted that the steady phosphorescence of the receiving screen was established by oscillations of intensity lasting for several seconds, the same oscillations occurring in the screen acting as the source. When N-rays were conducted along a thread wire coated with phosphorescent calcium sulphide, it became luminescent throughout its entire length, and appeared to be traversed by waves of varying intensity. The wire thus coated forms a good means of demonstrating the emission of N-rays by the living body. This property of conductivity of N-rays has enabled the author to utilise those derived from solar energy, by exposing to sunlight screens of zinc sulphide and calcium sulphide, covered by a sheet of metal and conducting the N-rays thus obtained by means of wires.—*Comp. rend.*, **138**, 414.

THE REORGANISATION OF PHARMACY (4).

BY AN ORDINARY PHARMACIST.

Paid Provincial Representatives.

In my last article (see page 372) I suggested the appointment of paid officers to work for the Pharmaceutical Society in the provinces, and I hazarded the assertion that such officers would be able, practically, to "earn" their salaries. At first six or eight such officers would probably suffice. Each would have a certain part of Great Britain allotted to him by the Organisation Committee or the Organising Secretary—of whom more hereafter. In his district the officer would attend the most important meetings of the Divisions of the Society, reporting each for the Society's Journal. He might also be required to act as correspondent and advertisement canvasser for the official organ and to make purchases of poisons from suspected offenders against the Pharmacy Act, obeying instructions from the Registrar after reports forwarded to him by the Honorary Secretary of a Division. In these ways much of the money which the Society now loses or is obliged to pay to "outsiders" would be saved. The officer would keep in close touch with the Secretaries of Divisions, and whenever any question arose which seemed to call for joint action he would report to the Organising Secretary. The officer would himself hear, through the Honorary Secretaries of Divisions, of every important local development affecting the interests of chemists. When visiting a town, the officer, who should be a "clubable" man, as well as a man of business, would endeavour to call on and convert such chemists as were standing aloof from the Society. In fact, he would be required to carry on, whenever a suitable opportunity arose, an active propaganda on behalf of his employers—the Pharmaceutical Society—of the School of Pharmacy, of the *Pharmaceutical Journal*, of the Benevolent Fund, and of every other branch of the Society's work. On the comparatively rare occasions when it would be necessary to call a meeting of a whole branch, or to ask the Divisions to appoint representatives to a special meeting, the clerical work and the general arrangements would form part of the officer's duty. Finally, he would be for many purposes the connecting link between the Organisation Committee of the Society's Council and the Divisions of the Society in his district.

The Organising Secretary.

The Organising Secretary would be responsible to the Organisation Committee of the Central Executive for the smooth and efficient working of the system. He would be required to issue instructions to his subordinates in the provinces and to the Secretaries of Divisions. He would arrange regularly for questions to be asked in the House of Commons, similar to those which, as I take leave to suspect, the Society has lately inspired. He would make a special point of seizing every opportunity to correct misstatements in the lay Press and to advance the Society's Parliamentary work in all possible ways. From the Organising Secretary would come all the necessary promptings for letters to, or interviews with, members of Parliament. He would keep a register of information concerning every member of Parliament and candidate, particularly noting the names of the most influential chemists of each political party in every constituency. He would know what chemists were "public men" of sufficient standing to make them possible candidates for Parliament, and would report to his Committee whenever it might seem desirable to allot any part of the Society's money for the election expenses of one of its members. It seems to me most desirable, if not absolutely essential to the success of any Bill promoted by the Pharmaceutical Society, that it should have direct representation in the House of Commons. Of course, no chemist would be elected, *qua* chemist, by any constituency in the United Kingdom. But there are, even now, members of the Society who have obtained some degree of fame and credit as politicians, and only require a little pecuniary help to enable them to nurse a constituency and to find a seat in the House.

A Public Relations Committee.

As the Secretaries of Divisions and the paid provincial officers would work under the direction of the Organising Secretary, so would he in his turn be responsible to the Society's Organisation Committee. That Committee would consist of several members of the Metropolitan Counties Branch, not necessarily members of the Society's Council, and of such provincial members of Council as would not be unwilling to make a special journey to London whenever the exigencies of the Society's Parliamentary campaign rendered a meeting of the Committee necessary. In addition to the supervision of the organisation and the propagandist work of the Society, this Committee, with its special Secretary, would watch the "public relations" of the trade, its relations with the medical profession, with grocers, with Government Departments, with the general public. The Organising Secretary would be allowed, in the intervals between meetings of the Committee, to exercise his discretion to a great extent. It should, indeed, be regarded by him as part of his routine duties to neglect no opportunity of improving the "public relations" of the Society. It may be, for all I know, that an attempt is now being made to perform all the "spade-work" possible in a systematic and unostentatious way. But I can easily recall numerous opportunities lost of correcting some gross and damaging misstatement in a newspaper, or of calling the attention of Parliament and the public to something which it would benefit us that they should know. For example, when the British Medical Association last year condemned the report of the Poisons Committee, there was a great opportunity to instruct the public through the medium of the Press or by means of questions in the House of Commons. I and many other members of the Society are delighted to see that a diligent attempt has been made to improve the occasion offered by the recent poisoning cases at Portsmouth Asylum, with every prospect of a satisfactory result.

The Council.

So much, then, for the Organising Secretary and the Organisation or Public Relations Committee of the Council. But what of the Council itself? I feel that in this respect the Society might with advantage compromise between the present system and that advocated by the "territorial representers." Thus, half the Council might well be elected under the present system; the other half might be chosen at special meetings of various constituencies, to which the Divisions of the Society would send representatives. The number on the Council might be increased if—and this is an important condition—more than twenty-one men could be found who had the necessary time and ability. The present committee system at Bloomsbury imperatively demands that London shall have more than its strict numerical share of representation on the Council, as may be seen by anyone who reads his Journal carefully and notices what members have attended Committee meetings. It may be asked, by the way, why the old plan of publishing the number of attendances of each member at Council and Committee meetings was dropped? But, to some extent, the necessity for an excess of London members is provided for by the method which I have suggested for the constitution of the Public Relations Committee. For the rest, it should be a comparatively simple matter to arrange the constituencies in a suitable way.

CARDIFF AND DISTRICT PHARMACEUTICAL ASSOCIATION.

MONTHLY MEETING.

Wednesday, March 16, 1904, at the Park Hotel, Cardiff, the President, Mr. David Anthony, in the chair.

Representation of Wales upon the Council of the Pharmaceutical Society.

The Hon. Secretary, Mr. R. Mumford, reported that he had sent copies of the resolution passed at the last meeting to the Divisional Secretaries in Wales and Monmouthshire, and that he had received nineteen replies, one of which was opposed to the movement, one indifferent, and seventeen strongly in its favour, and offering every assistance in endeavouring to obtain a representative of Wales on the Council.

Several members having spoken, it was resolved :—

> (1) That the Hon. Secretary be authorised, on behalf of the Cardiff and District Pharmaceutical Association, to nominate Mr. A. Hagon (Cardiff) as a candidate for election on the Council of the Pharmaceutical Society of Great Britain.
>
> (2) That the Secretary be authorised to send a notice of the nomination to each of the Divisional Secretaries in Wales and Monmouthshire and invite their active support.
>
> (3) That the Secretary be authorised to send (in the name of the Association) a copy of the electoral address to the Divisional Secretaries throughout Wales and Monmouthshire; also to the secretaries of the local associations throughout Great Britain, together with a covering letter, advocating the claims of Wales to a seat on the Council, and asking that both might be read at the next meeting of their respective Associations.
>
> (4) That the Secretary be authorised to take, in conjunction with the candidate, whatever steps may be desirable to secure his return.

HARTLEPOOLS AND DISTRICT CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Thursday, March 10, 1904, at the Grand Hotel, West Hartlepool, Alderman Thos. Clarkson in the chair.

Correspondence.

The Secretary read various letters he had received, including two from the Secretary of the Federation of Local Associations relative to the Pharmacy and Shops Bills.

A letter was read from the Secretary of the Reading Chemists' Association asking the co-operation of the Hartlepools Association in endeavouring to get manufacturers of proprietary articles to protect prices. The Secretary stated that he had already replied to this, saying that the Association had taken action in this matter previous to receipt of their letter.

The next letter was from the Secretary of the P.A.T.A. in reference to co-operative buying by chemists of P.A.T.A. articles. It was not thought necessary to take any action in this matter.

The Secretary also read a letter he had received from Mr. W. S. Glyn-Jones in reply to a previous communication of his, asking him to address the members of the Hartlepools Association, and stating that he should be pleased to comply with the request by coming to West Hartlepool on either Wednesday or Thursday, April 20 or 21. The Secretary was requested to write and thank Mr. Glyn-Jones, and to say they would be pleased to meet him on Wednesday, April 20.

Pharmacy Bill.

The Secretary read a communication he had received from the Secretary of the Pharmaceutical Society, enclosing drafts of the Bill, and the reasons why the Society was introducing the same.

The Chairman, Alderman T. Clarkson, in opening the discussion, said he did not purpose going into details of the various phases through which the Bill had previously passed. He thought the Bill was one upon which they would all be agreed, and that it conferred no benefits upon chemists but what they were fully entitled to. The discussion was taken part in by Messrs. Leethead, Watt, Hill, and other members, and at the conclusion the following resolution was unanimously passed :—

> That this meeting of the Hartlepools and District Chemists' Association, having carefully considered the Pharmacy Bill, cordially approves of the same, and trusts that every member will do his utmost to expedite the passing of the Bill.

The Secretary was also asked to write to the local members of Parliament, drawing their attention to the Bill, and asking them to support the same; also asking them to receive a deputation from the Association.

(Since the meeting, Sir Chas. Furness, M.P., has written to the Hon. Secretary, stating that he has given consideration to the Pharmacy Bill, that he likes individual responsibility in matters of the kind, and that the main principles of the Bill have his entire sympathy, and will have his support.)

The Secretary was requested to obtain copies of the Shops Bill and forward one to each member, so that the matter could be fully discussed at the next meeting.

PRESTON CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Tuesday, March 15, 1904, at the Moor Park Pharmacy, Preston.

The Pharmacy Bill.

The Hon. Secretary (Mr. Williamson) referred to its present position, remarking that at present they were limited to the consideration of how best to secure the support of the borough members. It was well to bear in mind that the Bill was receiving much opposition from the stores as well as from registered chemists employed by the stores.—The Secretary was directed to write the borough members for their support, and also to invite all registered chemists not employed at the stores in the district to send similar communications asking their Parliamentary representatives to support the Bill.

Trade Defence.

The General Secretary of the Traders' Defence Association wrote asking the opinion of the Preston chemists in regard to the proposed establishment of a Traders' Defence Association in the district.

It was decided to adjourn the further consideration of the letter.

Correspondence.

The Secretary announced the receipt of a letter from Mr. W. S. Glyn-Jones concerning "buying sections" and proprietary articles. No action was taken.

The Federation of Local Pharmaceutical Associations wrote asking the Preston body to join the Federation, and the meeting postponed its decision.

In regard to the Shops Bill, which was next considered, the opinion was expressed that the exemption clause would get rid of any objections which might be offered by the chemists.

EDINBURGH CHEMISTS', ASSISTANTS', AND APPRENTICES' ASSOCIATION.

ORDINARY MEETING.

Wednesday, March 9, 1904, in the Pharmaceutical Society's House, 36, York Place, Edinburgh, Mr. Archibald Currie, President, in the chair.

Mr. W. S. Glass, Ph.C., read a paper on

Pill Coating.

He said: The object of this note is to suggest a coating for pills—stock or dispensing—that shall be (1) elegant, (2) soluble (that is, not to interfere with the disintegration of the pill), (3) inert, and (4) not easily affected by external influences of heat and moisture. On referring to drug lists one must conclude that as pearl-coated pills are always quoted they must be very largely sold. Having procured several samples of pills of various coatings from manufacturers I set about to ascertain the solubility of the various samples. I also procured from representative retail chemists small quantities in order to find out how stock pills were sold and what sort of coating, if any, was used. Out of six purchases two first-class chemists supplied colocynth pills white pearl coated. One first-class chemist supplied them uncoated. One supplied them varnished, while two "stores" supplied them white pearl coated. The disparity in price was noticeable, ranging 4d., 3d., and 2d. per dozen. I examined thirteen samples of pearl-coated pills, placing each sample in water at 100° F., and was very much surprised to find that one of these samples dissolved in eight minutes; the average time, however, for the others was about twenty-four minutes (nine, ten, fourteen, twenty, twenty-seven, thirty, forty-five, forty-six, etc.). One chemist's sample required forty-five minutes to break up. Four samples of sugar-coated pills dissolved in from two to five minutes, and a chocolate-coated one in a minute and a-half. The so-called gelatin-coated sample shown proved somewhat disappointing. The shell began to peel off in two minutes, but the pill remained intact for fifteen minutes. Two samples of varnished pills softened in from one to two and a-half minutes. One, coated with sandarac, ether, and alcohol, began to soften in one minute, but the pill did not show signs of dissolving until fourteen minutes. The other (tolu and anhydrous ether) dissolved in a similar time. Two uncoated pills began to dissolve in three and four minutes respectively. A silver-coated sample required seven minutes to dissolve. These experiments served to prove that there is yet something required in the way of providing a pill that will be elegant, soluble, and that can be coated without much extra time or trouble. On looking through the very sparse literature on the subject I chanced to see in the 'Year-Book of Pharmacy,' 1892, a note recommending plumbago as a very serviceable substance for coating pills—being inert, not liable to change, not hygroscopic, and possessing in a very high degree the property of imparting to pills a very brilliant polish. The samples submitted are two-grain aperient pills and five-grain colocynth pills. This finishing powder can be employed for newly-prepared pills, and on that account would be a useful powder for finishing pills at the dispensing counter. The other coatings cannot be used so conveniently. The solubility of the pill when finished and highly burnished is also a recommendation. Albumin is used in some pharmacies, but there are difficulties in the way of obtaining it fresh. Silver leaf is a very serviceable and elegant covering for prescription pills. Salol as a coating has been suggested, but is inadmissible for most purposes. Varnish has certain recommendations. Graphite or plumbago might be given a fair trial. It possesses most of the virtues of the other pill-coating materials, and has other peculiar virtues of its own to recommend it. It can be applied by rolling the pills with the pill-roller, dusting on sufficient of the graphite in powder until a brilliant polish is obtained.

Mr. Hill said he had experimented with plumbago as a pill coating more than twenty years ago, the idea being suggested by Blanchard's pills, which were believed to be coated with plumbago and then varnished. It was very doubtful if coating pills was a real advantage. He had a case in which even a freshly-applied gelatin coating was objected to on the ground that it distinctly interfered with the action of the pills. Another disadvantage was that the practice of pill coating had thrown the manufacture into the hands of large makers, to the detriment of true pharmacy. That arose from an entirely mistaken belief on the part of retail pharmacists that they could not turn out pearl-coated pills equal to the factory-made article. He had seen apprentices in the first or second year of apprenticeship turning out coated pills quite equal to anything made on a large scale.

Mr. Boa said he had experimented with graphite fifteen or sixteen years ago, but he had not found that people took kindly to their appearance. They were rather suggestive of small shot. If a well-made pill was supplied the public did not care particularly for any coating. Recently he had an experience which showed that customers preferred the pills without what they called "that glazy stuff" on them. He agreed with what was said in deprecation of the tendency to put the making of galenicals into the hands of wholesale makers. It was unfair to take an apprentice on the pretence of teaching him his business as a pharmacist and make him a mere distributor of manufactured articles. He believed an apprentice should get as much pill-making and similar work as he could ever pack in during his apprenticeship. Some pharmacists were in the habit of coating all prescription pills, but he was of opinion that unless the prescriber ordered coating the inference was that he did not wish it, and it should not be done.

Mr. McEwan said he thought all prescription pills should be sent out uncoated unless otherwise specified. His practice was to dispense them with the smallest modicum of dusting powder that would prevent them adhering to one another. He could confirm the statement that apprentices were quite competent to turn out perfectly finished coated pills. It was an art that could be acquired by practice.

The Chairman said he had suggested graphite as a pill coating in a paper read to the Association two or three years ago. He had kept to it ever since, and had never had any complaint about it. He found that two grains graphite was sufficient to coat twenty-four pills. He made a sample of Blaud's pills at that time, and coated them with graphite, and on examining them the day before the meeting he found them as good as when made.

The next communication was a talk

Concerning Formulæ,

by Mr. Peter Boa, Ph.C. He said the recent appearance of the 'Pharmaceutical Journal Formulary' and other books naturally turned one's thoughts in the direction of formulæ. In looking at some of those, for instance, in the 'P. J. F.' one was reminded of what might be seen in any book giving the kind of formulæ that were in vogue 120 years ago or more. Such things as Venice Treacle or the old Confectio Damocritus, for example. On comparing these old formulæ with the recent published ones, one was forced to conclude that the older ones were more philosophical and scientific, for, in spite of the number of ingredients, there was a wonderful correlation in their properties. Some of the modern examples, on the other hand, contained ingredients that were distinctly incompatible.

He was unable to understand on what principle they were put together. They were reminiscent of the dark ages, and quite out of touch with modern methods, in which simplicity was the leading feature. In the beginning of last century the common formula consisted of a drug which had the main action desired, then another which supplemented, then a corrective, then something to disguise the taste, and then the menstruum. That was in the days of Paris, Christison, and Neligan; but now all that was simplified. If any pharmacist wished to run a specialty he ought to produce it for himself. It should be based on the simplest way of carrying out a definite idea. He did not think it was the legitimate province of the pharmacist to run specialties for the cure of diseases, but within certain limits there was ample scope for their pharmaceutical skill. There were many toilet and dental articles, for example, which they might take up. In the making of creams it was wise to keep working away at the possibilities of such articles as tragacanth, Irish moss, quince seed, gelatin, agar agar, and linseed. It was wonderful how fine a cream might be made from the somewhat neglected linseed. This kind of work brought them into relationship with medical men in a truly professional way. Recently, for example, a practitioner ordered an ointment of zinc oxide, boric acid, and lanolin, which had the defect that it could not without difficulty be wiped off the tender surface to which it was applied. A bismuth salt was suggested for the zinc with perfect success so far as wiping off was concerned. There was still some complaint of grittiness, and it was suggested to add the boric acid in solution, which was a perfect success. The result was that the prescriber now very frequently ordered this improved ointment. It paid to have always something of that kind on the stocks, so to speak.

Mr. McEwan said he was surprised, in looking at the 'P. J. Formulary,' to find so great variation in the recipes for well-known articles. Thatcher's Carminative, for example, had five or six different forms. The mediæval pharmacy was almost excelled by some modern American pharmaceutical products, such as Aletris Cordial, which claimed to be compounded of twelve or fifteen herbs. He had seen recently some samples of the Salisbury treatment, in which there was a mixture containing about eighteen ingredients, with brandy as a vehicle. The latter could not be legally dispensed in this country. Another point he noticed in the 'P.J.F.' was the great variety of formulæ for chlorodyne. He thought this was a matter that needed looking into.

Mr. E. O. Rowland said quillaia was a substance not mentioned by Mr. Boa, and it had a large sphere of usefulness as an emulsifying agent. The idea of simplicity in formulæ was followed by the homœopathic practitioners. With regard to pills, it was possible to put a very fine finish on most pills without any coating. Recently he had some pills returned, with a complaint that they did not want them gelatin coated. The fact was that the pills were not coated at all, but so fine a polish had been put upon them that the patient imagined they were gelatin coated.

Mr. Glass said he did not quite agree with Mr. Boa's view as to giving medicinal remedies to persons who came to them. They should discourage quackery, but could employ their skill to supply what remedies were required for simple ailments.

The Chairman said that while theoretically they were supposed not to be qualified to give appropriate remedies, yet they undoubtedly acquired much knowledge, and he thought it would be foolish to turn people away, though they must exercise discretion as to how far they could properly go. As to making suggestions to medical men, he would be rather chary of doing much in that direction, lest he should be thought to be officious.

Mr. Boa, in replying, said he had not really referred at all to counter prescribing. It was quite within their sphere to give such simple things as a cough mixture or a little soda and ginger or such like. That was hardly prescribing at all. What he deprecated was chemists running specialties which were in reality quack remedies. Quillaia might serve as an emulsifying agent, but he was rather thinking of toilet creams, for which it was of little use, because it did not have body enough.

On the motion of the Chairman, Messrs. Glass and Boa were cordially thanked for their communications.

EDINBURGH DISTRICT CHEMISTS' TRADE ASSOCIATION.

ORDINARY MEETING.

Thursday, March 10, 1904, in the Pharmaceutical Society's House, 36, York Place, Edinburgh, Mr. W. S. Glass in the chair.

The Pharmacy Bill.

Mr. G. H. C. Rowland, Hon. Sec., read a letter from Mr. Watson-Will, Hon. Sec. of the Federation of Local Associations, suggesting that the Association should ask all members to write to their own member asking his support for the Bill. It was mentioned that all the local Divisional Secretaries had already been in communication with the respective members in name of all registered chemists in their divisions.

Mr. McCutcheon suggested that a joint letter signed by all the chemists in each electorate would be better than individual letters, and this idea was favourably regarded by the meeting.

In view of the fact that all the members had been recently approached, it was thought advisable to defer any further action till the Bill was likely to come up for second reading, or at any later stages, when a reminder might be of value. It was remitted to the Committee with powers to take any action that was found likely to be useful in furtherance of the Bill.

Combined Buying.

The Chairman said this was a very big question. He must say that they were very well served by the wholesale houses, by whom they did not feel that they were overcharged, but the keen competition they had to meet compelled them to consider every means of getting the best terms. He had been making some inquiry, and found that by combining to buy certain commodities they might effect a saving of 5 per cent. But then the P.A.T.A. stepped in and prevented and articles on its list being treated in that way. While he would not wish to commit the Association to any scheme of combined buying, he thought that as a trade association there was another way in which they might help one another. They might do something as an Association to put a check on the grievance of prescribing of proprietary or branded goods by medical men. When any discussion took place on formulæ at any of their meetings they had always evidence of plenty of ability to criticise, but he did not think they got the full benefit of that ability. He thought they might have a committee which could devise formulæ for new drugs, and these could be submitted as suggestions to medical practitioners, who would prescribe them rather than the proprietary or branded goods, and that would be a boon to all members of the Association.

Mr. Henry said the question of combined buying bristled with difficulties. He had foreseen that the P.A.T.A. would object to articles on its list being treated in that way. But they need not mind that, because they already had a profit on these articles. There were a number of other articles which at present they merely stocked to oblige regular customers, and in regard to which they might move. Such were Angier's Emulsion, Californian Syrup of Figs, Mellin's Food, Beecham's Pills, Edwards' Harlene, Odol, Scott's Emulsion, and Benger's Food. He quoted prices for large orders of these to show that a saving could be effected, and thought something might be done. With regard to making specialties for medical men, that was already so fully done by wholesale houses that he did not think they could do anything.

Mr. BOWMAN agreed with Mr. Henry.

Mr. MCCUTCHEON said he had had some experience in buying "patents" and also in a wholesale house. They might get slightly better prices by buying large stocks, but between stock left on their hands and interest on money all the profit would be gone. It would be as well to buy in quarter-dozen lots at a little higher price. As to the idea of the Association trading in making special preparations, that was a matter of capital and advertising. The large makers would sweep them out of the field.

The CHAIRMAN said he did not suggest going into a commercial concern and making preparations, but only devising formulæ for certain advertised proprietaries and bringing them to the notice of the medical profession.

Mr. FORRET agreed with Mr. McCutcheon.

Mr. MANSON said the remittance of the money would involve expense, and the scheme would be of no advantage to country members.

Mr. HENDRY said they must consider the wholesale houses, who very readily obliged them, and who would be compelled to stock these articles to meet the requirements of country chemists.

The SECRETARY pointed out that two distinct questions were before the meeting—namely, the question of combined buying and the question of a committee to devise formulæ for medical practitioners, and he suggested that the two should be disposed of separately. He therefore moved: "That, having regard to the smallness of the saving to be effected by combined buying, the matter be allowed to drop."

This was seconded by Mr. FORRET and unanimously agreed to.

It was moved by the CHAIRMAN, seconded by Mr. ROWLAND: "That it be remitted to the Committee to consider the advisableness of this Association devising suitable formulæ for the use of medical men, and report."

Mr. MCLAREN, seconded by Mr. MCCUTCHEON, moved the previous question, but on a vote being taken the Chairman's motion was carried by a large majority.

Possessive Case Names and Stamp Duty.

Mr. HENRY said it had been left to him to try to clear up some points connected with liability to duty in the case of labels for some well-known pills. He had forwarded to Somerset House three labels worded "Aperient Pills, as prescribed by the late Dr. Hamilton; one or two a dose"; "Liver Pills, as prescribed by the late Dr. Begbie; one or two a dose"; and "Liver Pills, composed of aloes and mastic, as prescribed by the late Dr. Thomson; one or two a dose," respectively, and the reply was, "Not liable to duty in so far as liability is dependent on the terms of the label in each case." He had at the same time sent the following label, "Antibilious Pills, composed of colocynth, aloes, and scammony, as prescribed by the late Professor Gregory," in regard to which the reply was, "The preparation to which it relates is liable to Medicine Stamp Duty unless it falls within the scope of the exemption in favour of known, admitted, and approved remedies, and on this point the Board must decline to advise." He then sent a further set worded as follows:—"Dr. Hamilton's Pills, composed of extracts of colocynth and henbane; one or two for a dose"; "Dr. Thomson's Antibilious Pills, composed of aloes and mastic, one or two for a dose"; and "Professor Christison's Pills, composed of colocynth, aloes, and scammony; one, two, or three for a dose." All these labels had been returned marked "Liable to duty." One result of this was that they could have a label for "The mixture as prescribed by the late Dr. Begbie," and while they could not say "Christison's Cough Mixture," they could have a label "Bronchial Mixture as prescribed by the late Dr. Christison." After some further discussion Mr. Henry was thanked for the information he had secured.

Benevolence.

On the motion of Mr. MCLAREN, seconded by Mr. MILLAR, it was agreed to continue the subscription of £2 2s. to the Benevolent Fund and £1 1s. to the Orphan Fund of the Pharmaceutical Society.

It was agreed that there should be no excursion under the auspices of the Association this year.

The following were elected members of the Association:—Messrs. D. Campbell, J. Dudgeon, W. Henderson, A. C. Kirkpatrick, J. Noble, W. Ogilvie, J. L. Reid, W. T. Robson, J. Skinner, and C. Stewart.

NORTH STAFFORDSHIRE CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Thursday, March 10, 1904, at the Roebuck Hotel, Stoke-on-Trent, Mr. J. AVERILL, J.P., in the chair.

Mr. F. B. BLADES (Leek) read a paper on the

Medicine Stamp Act: New Regulations.

Mr. BLADES said that after giving careful consideration to the subject, the first thought that occurred to him was, "How shall we keep to the unwritten letter of the law as laid down by the Revenue Department?" As peaceful and law-abiding chemists they ought to read carefully Mr. J. Humphrey's paper given at the London Chemists' Association meeting in November last. As most chemists had been trained in a scientific direction, he was afraid they would be compelled to apply to their legal friends in the present dilemma. The latest edict from Somerset House was a surprise packet indeed. The Inland Revenue officers confessed that many more "patent medicine" licences had been taken up recently by little shops. The cost was generally paid by the wholesaler, and the result would be that the chemist would lose all his "patent medicine" trade. In his opinion, after reading much that had been written and spoken on the subject, they were now in a position between the devil and the deep sea. His humble advice to those present was to print the name of all the active ingredients on the label. and then they would be safe.

Mr. EDMUND JONES (Hon. Sec.) said he was himself confounded with the changes and decisions that were emanating from Somerset House. He would like to know how many of the actual proprietors of drug stores throughout the country and the druggists of these companies who were the responsible managers had served apprenticeships, and, if so, for how many years? It was not an uncommon thing in "drug stores" for a boy to work up from errand boy to be the most valuable servant in the employ of a stores or company. That was a matter that would have to be considered, and he thought if the Pharmaceutical Society were to investigate this matter and collect information the Somerset House decision would perhaps be modified, if not altered. It was wrong that this exemption should be granted to men who had been born since the framing of the Pharmacy Act of 1868, and served these "apprenticeships."

Mr. Weston Poole (Treasurer) said chemists should make up their minds that if they wanted to run an ailment remedy, and run it secretly, they had better stamp it.

Mr. Cornwell and Mr. Marson having spoken,

Mr. Blades was heartily thanked for opening the discussion, and in reply said chemists did not know the law, nor did the Inland Revenue authorities. If they did not now take a firm stand and get the Society to back them up, they would lose every concession in time that had ever been made to them.

The President asked all who had not done so to join the C. D. A. at once. If a test case was taken up the C. D. A. would defend it. They ought, he thought, to fight as far as they could to defend their interests as chemists.

The vote of thanks to Mr. Blades was unanimously accorded.

The Pharmacy Bill.

A sub-committee consisting of Messrs. Edmund Jones, T. C. Cornwell, Weston Poole, and F. Adams was appointed to draft a letter to be sent to local members of Parliament on the subject of the Pharmacy Bill.

The Annual Dinner.

It was decided to hold the annual dinner of the Association on Thursday, April 7, and a committee was appointed.

The meeting congratulated Mr. Campkin on being co-opted a member of the Pharmaceutical Council.

WEST HAM AND DISTRICT CHEMISTS' ASSOCIATION

ANNUAL MEETING.

Thursday, March 10, 1904, at Earlham Hall, Forest Gate, Mr. Harold Mitchell, President, in the chair.

The Hon. Secretary (Mr. F. W. Gwinn) presented the annual report, which was a *résumé* of the year's work.

The balance-sheet was then presented, which showed the receipts to be £10 4s. 4½d. and a credit balance of 1s. 1½d.

Election of Officers.

Mr. Mitchell said that he did not desire to be re-elected President, as he felt in an association such as theirs it was better that they should choose their President from a different district each year. A ballot was then taken, which resulted in the unanimous election of Mr. J. H. Matthews, of Leytonstone, as President for the coming year.

Mr. F. W. Gwinn was unanimously re-elected as Hon. Secretary and Treasurer, and Mr. H. Mitchell was elected Vice-President. The Committee elected were Messrs. Barnes (Plaistow), Forbes (Forest Gate), Soper (Stratford), and Potter (Plaistow).

Mr. Matthews then took the chair, and, after thanking the members for the honour they had bestowed upon him, briefly outlined a scheme for the coming year's work.

Mr. Potter proposed a vote of thanks, which was seconded by Mr. Forbes, and carried *nem. con.*, to Mr. Mitchell for the very able way in which he had discharged his duties at President.

Mr. Mitchell, in returning thanks, said how much pleasure he had derived from presiding over their meetings, and although he should not be their President, he should work for the good of the Association as much in the future as in the past. He wished to propose a vote of thanks to their Hon. Secretary and Treasurer, who had worked early and late for the furtherance of the good of the Association.—This was seconded by Mr. Blades and carried unanimously.

Mr. F. W. Gwinn returned thanks, saying, as they had re-elected him, he should work as hard in the future as he had tried to do in the past.

Votes of thanks were also passed to the Committee and Auditors.

Alteration of Rules.

Two of the rules were altered to the effect that they should read as follows:—"(2) That the Association shall consist of members of the trade residing in West Ham and district, who shall elect the President, Secretary and Treasurer, and Committee annually, and that unqualified assistants, apprentices, and pupils employed in the district, under *bonâ-fide* qualified persons, shall be admissible as associates, provided they are proposed and seconded by members of the Association." "(5) That the subscription for members be 5s. and for associates 2s. 6d."

MIDLAND PHARMACEUTICAL ASSOCIATION.

ORDINARY MEETING.

Thursday, March, 10, 1904, at the University Birmingham, Mr. A. W. Gerrard, President, in the chair.

A paper announced to be read by Mr. F. H. Alcock was unavoidably postponed, but Mr. T. Maben, F.C.S. (Glasgow), read a communication on

The Preparation of Serums and Vaccines.

He first gave an account of the introduction of the anti-diphtheric serum, and enlarged upon the great diminution in mortality which has followed its use. The preparation of many other varieties of serums was described in an instructive manner, and the lecturer's points were emphasised by a series of limelight views thrown upon the screen. The second portion of the lecture was devoted to a description of the preparation of vaccines, special attention being given to that employed for the prevention of smallpox.

On the motion of the President, seconded by Mr. G. E. Perry, the lecturer was cordially thanked.

CHEMISTS' ASSISTANTS' ASSOCIATION.

ORDINARY MEETING.

Thursday, March 10, 1904, at 73, Newman Street, London, Mr. A. B. Britton, President, in the chair. There was a fairly good attendance of members and friends. The attraction was that most interesting subject the microscope, introduced by Mr. W. Neale Ellis, who read a paper entitled

The Microscope as a Hobby.

Mr. Ellis, who was evidently an enthusiastic microscopist, gave an instructive description of the microscope, its principles and construction, and went on to show how any chemist might, with a little enthusiasm and perseverance, make himself thoroughly master of the instrument, which he could then turn to profitable use. The full text of Mr. Ellis's paper will be printed in the Journal later.

Mr. Charles Hymans illustrated Mr. Ellis's remarks by exhibiting a number of microscopes and microscopic objects kindly lent for the occasion by Messrs. W. Watson and Sons, of High Holborn. Mr. Hymans said that until some ten or a dozen years ago the Germans were practically the only makers of accurate optical instruments; but British opticians were now beating the Germans out of the field, the Continental microscopes being not nearly so complete and optically perfect as the English microscopes, which were also produced and sold for a good deal less than the high-class German microscopes.

In reply to questions in regard to books giving instructions as to mounting objects, etc., suitable for beginners, Mr. Ellis mentioned Wood's 'Common Objects of the Microscope' (1s.); Cross and Cole's 'Modern Microscopy' (3s. 6d.); and Wright's 'Popular Handbook to the Microscope' (2s. 6d.).

Votes of thanks to Mr. Ellis and to Mr. Hymans were accorded by acclamation, and the proceedings terminated.

READING AND DISTRICT CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Thursday, March 10, 1904, at Table Dainties Restaurant, the **President**, Mr. E. Cardwell, in the chair.

Correspondence was read from the firms who are being approached on the P.A.T.A. question, and who had not replied at the time of the last meeting. Although some of them had the matter under consideration, no definite result could as yet be reported, and it was decided to fix a time limit for a definite answer, after which strong measures would be resorted to with regard to those goods the owners of which refused to protect the same.

The Shops Bill was then read by the **President** and discussed.

The Pharmacy Bill was also laid before the meeting, and it was decided to approach the local M.P.'s on the lines suggested by Mr. Watson-Will's letter.

BLACKPOOL AND FYLDE CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Friday, March 11, 1904, at the Palatine Hotel, Blackpool Mr. Councillor **Laurie** in the chair.

Mr. C. H. **Turver** read a paper on

The Relation Between Pharmacy and Medicine.

The average medical man, he said, knew little more about pharmacy than the man in the street. That was due to the very inadequate knowledge of pharmacy required in the medical curriculum. In the new order of things the medical man prescribed with so much difficulty and so plentiful a lack of confidence in his own efforts, that he must either use somebody else's ready-made physic for all and sundry, or prescribe in a way which excited the contempt of the man who dispensed his jejune attempts. He could, of course, avoid the latter awful alternative and find a way out of the dilemma by having his own pet lapdog of a chemist, to whom every patient of his must perforce go. That style of medical man flourished to a greater extent than ever before; his valuable prescription (rhubarb and soda) can only be properly dispensed by this particular chemist. By far the most serious injury to pharmacy, on the whole, was done by that sort of arrangement. The dispensing doctor took the cream, but the doctor with the pet chemist took the milk, cream, and the basin one kept it in. The chemist also had serious faults. The doctor encroached on the rightful functions of the chemist, and the chemist equally sinned in assuming the functions of the medical adviser. The general public suffered most of all. For them was the expensive liquor or wonderful tabloid, until, ground between the upper and nether millstone, they joined the great and ever-growing army of quack customers. He would offer one or two suggestions applicable to Blackpool or a similar town. They could not teach medical men pharmacy, but they might invite one or two fresh men to the town, making some such offer as the following:—That certain undersigned chemists agree to abandon prescribing, and use their very great influence in sending as many patients as possible, the doctors on their side to allow absolute freedom to patients to choose their own chemists; also to decline dispensing except in very urgent cases. In the case of very poor patients they might have dispensing at a very low rate, the prescription in such a case being specially marked. Perhaps instead of getting fresh doctors in a town already overstocked they might approach two or three of the better-class men already practising. The first thing to do would be to appoint a small committee to invite an equal number of medical men to arrange preliminaries, the chairman to be alternately doctor and chemist.

After an interesting discussion, Mr. Turver was thanked for his paper.

LEEDS AND DISTRICT CHEMISTS' ASSOCIATION.

SMOKING CONCERT.

Thursday, March 10, 1904, in Fairburn's Restaurant, Athenæum Buildings, Leeds, Mr. **Worfolk**, the President of the Leeds Chemists' Association, in the chair, with Mr. W. D. Pollitt as Vice-Chairman. About 150 gentlemen attended, and amongst the visitors were Messrs. Hanson (Bradford), Day (Dewsbury), Broadhead (Batley), Hebden (Halifax), and Bowman (Goodall, Backhouse, and Co., Limited).

The Benevolent Fund.

All expenditure in connection with the concert was defrayed by the Leeds Association. The **Chairman**, during an interval, briefly explained the objects of the Benevolent Fund of the Pharmaceutical Society, and he made an earnest appeal for generous donations on its behalf. The collection realised £71 12s., and included a cheque for fifty guineas from Goodall, Backhouse and Co., Limited, Leeds. It was announced that further donations were expected. During the evening a cordial vote of thanks was passed to Mr. Beacock and Mr. Mundell for the large amount of labour they had expended in order to make the concert a success. A like compliment was paid to the artistes, on whose behalf Mr. **Crawford** responded. On the motion of Mr. **Sargeant** (candidate for the Council of the Pharmaceutical Society), seconded by Mr. **Beacock**, a vote of thanks was accorded to Mr. Worfolk for presiding over an entertainment which commenced at 8.30 p.m. and concluded at 1.30 a.m. Mr. **Worfolk**, in acknowledging the compliment, made special allusion to the generous donations of Messrs. Goodall, Backhouse and Co., and other friends of the Benevolent Fund. The musical programme throughout the evening was excellent.

WESTERN CHEMISTS' ASSOCIATION (OF LONDON).

ORDINARY MEETING.

Wednesday, March 16, 1904, at the Norfolk Hotel, Paddington, W., Mr. J. W. **Bowen**, President, in the chair.

Cash on Delivery.

The **President** introduced this subject for discussion, and expressed a fear that it would ruin small businesses. It might also tend towards free trade in poisons by making the postman the "seller" in the eye of the law.

Messrs. **Harrington**, **Mather** (Godalming), and B. **Middleton** did not think chemists would gain anything by the adoption of the proposed scheme.

Mr. **Gulliver**, however, said that it was a great convenience on the Continent, and Mr. **Knight** thought the proposal a step in the right direction.

Mr. **Philp** thought that cash on delivery would benefit the public, but do harm to the retailer.

No action was taken, the **President** remarking that the Pharmaceutical Society might be trusted to see that the sale of poisons was not affected.

Shops Bill.

The **President** spoke of Sir Charles Dilke's Shops Bill, but after a brief discussion the subject was allowed to drop, it being felt that the provisions of the Bill were so ridiculous and so unlikely to become law as to be unworthy of serious consideration.

Pharmacy Bill.

Mr. **Harrington** spoke of the Pharmacy Bill, expressing the opinion that if Clause 7 were dropped the Bill would have no more chance of passing than it now had; also, if that clause were omitted they might as well drop the Bill altogether. He was unable, from his knowledge of the negotiations between the Council of the Pharmaceutical Society and the Privy Council, to understand the meaning of Mr. Balfour's recent statement in the House of Commons that a Government Pharmacy Bill was to be introduced.

FRENCH NOTES.

(By Our Paris Correspondent.)

The Paris Galen Club.

On Saturday, March 12, the members of the Paris Galen Club (English Chemists' Assistants' Association) were the guests at a supper given by Mr. F. Harwood Lescher. Mr. Lescher has for the past forty years paid business visits to Paris in the interests of his firm. But as this may probably be the last visit to Paris in his old capacity, he thoughtfully expressed to the Secretary of the Galen Club a strong desire to entertain its members to a farewell supper. Covers were laid for eighteen guests, and at 10.30 p.m. promptly the following gentlemen sat down:—Messrs. Lescher, Wardleworth, Ashton, Stevenson, Lewis, Kelsey, Le Bosquet, Fothergill, Shrive, Chatburn, Hopkins, Spafford, Fardell, Wilkie, Talbot, and R. E. Lloyd. Mr. Morris was unfortunately prevented at the last moment from attending.

Mr. **Lescher**, in proposing "The Galen Club," opened with a very appropriate address, in which he briefly passed in review events which had occurred during the past forty years since he commenced his visits to the Ville Lumière, and the many pleasant memories which were awakened. But now that time was telling upon him, and that he had elected to transfer the burden of this work to other shoulders, he was delighted to seize that opportunity to call together the members of this young society and congratulate them upon the step they had taken in banding themselves together. He touched upon the cordial relationship at present happily existing between England and France, and considered that science in all its branches had contributed in no small extent to evoke and cement that friendship.

This toast was responded to by the **Secretary** (Mr. R. E. Lloyd), who briefly thanked Mr. Lescher, on behalf of the Club, for the kindly sentiments which he had expressed. It was with mingled feelings of pleasure and regret that they had assembled that evening in response to his cordial invitation. Pleasure, in that all were happy to meet him once again under such auspicious circumstances; regret, because in view of his approaching retirement from his labours on the Continent, they were parting from a friend who had ever evinced a sympathetic regard for the welfare of young pharmacists, and it was hard indeed to part from old friends.

Mr. **George Ashton**, President of the Galen Club, proposed "The Pharmaceutical Society," and in a short and pithy speech defended the Society against the attacks which are but too frequently hurled against it by grumblers, who content themselves by finding flaws in its administration, but sedulously refrain from proffering assistance in any shape or form. Mr. **Lescher** very loyally responded, and echoed the sentiments of the speaker.

Mr. **C. H. Le Bosquet** proposed "The Health of Mr. F. Harwood Lescher," who was at one and the same time the host and the guest of the Galen Club. Mr. Lescher's action, he said, in entertaining them was a kind and graceful deed. He would add to that, that it was also a wise and patriotic one. In the course of his experience he (the speaker) had worked on three occasions side by side with German assistants, and he had been struck by the fact that when abroad all classes of German society met, if not on a basis of equality, at least on terms of cordial good-fellowship. It was unfortunately otherwise with Englishmen, and he thought they would do well to emulate their friends of the Vaterland. Mr. Lescher, in calling them together under such pleasant circumstances, had done a great deal towards the realisation of that aim; they should be better and stronger for his visit. He had heard that Mr. Lescher would not again visit Paris in his professional capacity, but he sincerely hoped that they should ever welcome him as a warm friend to whom their gratitude was due. On behalf of all present, he hoped Mr. Lescher would see many years of happiness, and he called upon all to rise and drink the health of the gentleman who had shown the Club so much and such practical sympathy in the early days of its career.

The toast having been musically honoured, Mr. **Lescher** briefly replied.

Mr. **Fothergill** proposed the health of the visitor (Mr. Wardleworth), who was over from Canada on a business visit, and that gentleman briefly replied.

A musical programme followed the speeches, and the English and French national anthems brought the evening to a close.

AMERICAN PHARMACEUTICAL NOTES.

(By Our Special Correspondent.)

The "Cut-off" List.

Since writing to you last we have had some rather exciting times. The second largest house of jobbing druggists in the country has been "disciplined" by the National Association of Retail Druggists. English readers should understand that the N.A.R.D., when it finds a jobber furnishing supplies to a retailer on the "cut-off" list, places that jobber himself on a similar list, and notifies the N.A.R.D. constituency to patronise him no longer. It seems that the Philadelphia firm referred to had furnished several bills of goods to an Alabama cutter, although Secretary Wooten, of the N.A.R.D., had filed a warning protest. The firm, however, insisted that they had not received the secretary's letter, protested that the order or orders from the cutter had been O.K.'d through "inadvertence," and declared that the N.A.R.D. had acted with great injustice. The air was full of criminations and recriminations for several weeks. The pharmaceutical journals entered the arena, and expressed their opinions pretty freely. The whole thing has now blown over, however, and the house which had been accused has been restored to the good graces of the N.A.R.D.

Scholastic Combination.

One of the most important of the recent occurrences in American pharmacy has been the absorption of the New York College of Pharmacy by Columbia University. The New York College is the second largest pharmaceutical school in the country; Columbia is one of the leading universities; and the union of interest is therefore of considerable significance. The overtures were made by the University itself. Columbia felt that it needed a good pharmaceutical school among its university departments. The advantages, however, are, on the whole, rather on the side of the New York College of Pharmacy. There are perhaps half a dozen good-sized university schools of pharmacy in the country, and it is well within the truth to say, at the least, that they are among the best of the sixty or more institutions. Chief among them is the Department of Pharmacy of the University of Michigan, which, to speak conservatively, stands among the few schools at the very top of the list from the standpoint of excellence and equipment.

The Education of the Pharmacist.

The pharmacists of New York State have taken a long step forward in having introduced into the State Legislature a Bill providing that every druggist who desires hereafter to enter the profession must first be graduated from a reputable college of pharmacy. If the Bill passes, a new era will be inaugurated in the history of American pharmacy. This step has been talked about and written about for twenty years. It begins now to look as if practical results were in sight for the first time. Both the New York and the Minnesota State Pharmaceutical Associations voted at their last annual meetings, held during the summer, to make every effort towards securing the passage of the Bill; and it is to be hoped that the latter body will soon follow the initiative taken by the New York Association. The pharmacists of New York State are all good politicians from long practice, particularly those of New York City, and much is to be expected from them.

A Hair of the Dog that Bit Him.

One of the most amusing of recent developments over here is to be found in the annual report of the Massachusetts Board of Health. This Board, it may be explained, examined last year most of the proprietary medicines of the market, and it found a condition of things which staggers the credulity. A number of products were analysed, which had been "recommended for the treatment of the alcohol habit," and were found to contain 26·5 per cent. of alcohol! This seems surprising enough, but, more bewildering still, several "cures" advertised for the treatment of intemperance contained 41 per cent. of alcohol! And a preparation supposed to be chiefly sulphur, and advertised as "containing no alcohol," had in it 20·5 per cent. of alcohol and no sulphur at all. A "tonic," advertised as being "purely vegetable, recommended for inebriates," contained 41·6 per cent. of alcohol, while another, "entirely harmless," contained 19·5 per cent. Other similar "tonics" ranged in their percentages of alcohol from 7 to 29. "Bitters" were found to contain anywhere from 6 to 47·5 per cent. of alcohol, despite the fact that in some instances they were declared to be "not an alcoholic beverage." A number of prominent hair restoratives were found with acetate of lead or some other lead mixture in their composition, and corrosive sublimate entered conspicuously into the make-up of several cosmetics. Thirty-five samples of different sarsaparillas, analysed for their content of potassium iodide, were found to contain this salt in quantities ranging from 0·32 up to 2·25 per cent.

NOTES IN PARLIAMENT.

Sunday Closing of Shops.

In the House of Lords on Monday last Lord Avebury presented a Bill to provide for the Sunday closing of shops. It was read a first time. The second reading has been put down for April 26.

Causes of Cancer.

The President of the Local Government Board has been asked by Mr. A. Davies whether he had any official information showing that the stoppage of decomposition in frozen and chilled meat during transit from abroad to the United Kingdom had any injurious effect upon those eating such food, and especially whether it contributed to the increasing number of cases of cancer; and, if not, whether he would direct inquiry to be made into the matter. In his reply Mr. Long stated that he had no information to the effect suggested by the hon. member. Whether the eating of frozen meat had any influence in producing cases of cancer was a question to which the attention of the Cancer Research Committee now sitting might, he thought, properly be drawn. He had had the matter under his notice, and would consider what steps should be taken with regard to it.

The Sugar Convention.

The President of the Board of Trade has been questioned by Sir M. Stewart as to the effect of the Sugar Convention on prices. From his reply it appears that the average prices of raw and refined sugar imported into the United Kingdom in May, 1902 (before the Convention came into force) were respectively 8s. 2¼d. and 10s. 2¼d. per cwt., and in February, 1904 (under the Convention), 8s. 9¾d. and 8s. 11¾d. per cwt.

Pharmacy Bill.

For the 21st inst., the date fixed for the second reading of the Pharmacy Bill, another Irish discussion is expected, so that there is very little hope of any progress being made. Sir Mark McTaggart Stewart has given notice of his intention of moving the postponement of the second reading of the Bill.

LEGAL INTELLIGENCE.

Sale of Food and Drugs Acts.

Cream of Tartar.

On Saturday, March 5, 1904, at Ashby-de-la-Zouch, Henry Bullen and Ebenezer Bullen, grocers, Ashby, were summoned for selling cream of tartar which, according to the certificate of the County Analyst, contained one-tenth of a grain of arsenic per pound.

Henry Bullen, one of the defendants, said that the article in question was purchased from Messrs. W. and D. Harvest, of London, and it was sold in the same condition as received. They had authorised witness to state that they had a warranty from them, but the letter from the firm had arrived too late to enable them to give notice of it as a defence.

The Chairman said the defendants would have to pay a fine of £2 2s. and £1 3s. 6d. costs.

We are informed by Messrs. Neve, Beck and Kirby, on behalf of Messrs. Harvest, that the cream of tartar supplied by them to Messrs. Bullen was bought by them under a warranty of purity, and resold in the same condition, and that while they recognise their responsibility to Messrs. Bullen, they are taking steps to make their vendors responsible to them. The presence of arsenic was quite unknown to the trade and to everyone concerned until three or four weeks ago, and Messrs. Harvest are making every effort to trace and remove the cause. In these circumstances they ask readers not to blame them for what they are not personally responsible for.

On Tuesday, March 15, 1904, at the Melton Mowbray Petty Sessions, before the Rev. P. F. Gorst and other magistrates, the firm of Beil's Stores, Limited, was charged with selling adulterated cream of tartar.

Mr. Rowlatt, on behalf of the County Council, stated that the analysis showed that the cream of tartar contained 1/30th of a grain of arsenic to the pound. There was no warranty.

Mr. T. B. Sproston, solicitor, of Newcastle-under-Lyme, defended, and admitted the correctness of the analysis. But cream of tartar was only used in small quantities, and that mainly in the making of scones. A person would have to consume no less than 288 scones at a single meal before he could convey to his system the 1/20th of a grain. He might say that the proportion of arsenic found in this sample was the smallest yet found in the county; at Loughborough they had found 1/10th of a grain to the pound. It had been suggested that the arsenic might have been introduced through the use of impure chemicals in its manufacture, but he thought he could show that that was almost an impossibility. Cream of tartar was never manufactured in this country, but was made in France, Spain, and Italy from the residue left after the wine had been made. As regards the matter of a warranty, it was impossible to obtain a warranty from the manufacturers in Spain or France, as they declined to give it, and, therefore, if any person came there and produced a warranty it could be of no value. Wine often contained arsenic, and that might arise from the barrels being washed with sulphuric acid, but with respect to cream of tartar there were two explanations as to how the arsenic might get in it. In Spain, France, and Italy the vine growers were bound under very heavy penalties to wash their vines twice a year with "Scheele's green," which was composed of copper sulphate and arsenic. No less than 40,000 tons of this material were exported to these countries every year for that purpose. It was quite conceivable, therefore, that the grapes themselves might be impregnated with arsenic. Another explanation was that the soil of Spain was largely impregnated with arsenical pyrites, and that might be absorbed by the vines.

Mr. C. H. Clarke, representative of the Liverpool wholesale house which had supplied the drug, said that it would be impossible for a person to incorporate the arsenic into his system, because he would be killed by the cream of tartar many times over before he could absorb sufficient arsenic to do him an injury.

Mr. Albert E. Sachii also bore out the statement, and Mr. John Taylor, a practical baker, showed that the amount of cream of tartar used was so small that it would be impossible for any person to eat sufficient scones to take the slightest injury from the arsenic contained.

The Bench said they were quite satisfied with the explanation given, and dismissed the case on the payment of the costs.

Camphorated Oil.

On Wednesday, March 16, 1904, at the South-Western Police Court, Mr. S. V. Brook, chemist and druggist, 35, Grayshott Road, Lavender Hill, S.W., was summoned, at the instance of the Battersea Borough Council, for selling camphorated oil made with an oil "not being olive oil or not having the characters of olive oil." Mr. C. H. Kirby, on behalf of the Chemists' Defence Association, Limited, was for the defence.

The prosecuting solicitor opened the case, and produced the analyst's certificate, from which it appeared that the sample of oil contained a quantity of camphor very slightly in excess of that required by the Pharmacopœia.

Mr. Kirby objected to the analyst's certificate on the ground that it did not disclose any offence. Three analysts, in consequence of this ridiculous summons, had spent a fortnight trying to discover what was the matter with the stuff. The certificate produced by the prosecution ought to state whether the oil was olive oil or not, and should not merely assert that it had not the characters of olive oil.

The Stipendiary (Mr. Francis) agreed with Mr. Kirby, and the summons was withdrawn, Mr. Kirby's application for costs not being granted.

POISONING CASES AND INQUESTS.

The deaths by poisoning recorded during the seven days ended Wednesday, March 16, 1904, numbered eleven, thus:—

Poison.	Accident.	Suicide.
Ammonia	—	1
Carbolic Acid	—	1
Chloroform	2	—
Hydrochloric Acid	—	2
Liniment	1	—
Mercuric Chloride	—	1
Nitric Acid	—	1
Oxalic Acid	—	1
Potassium Cyanide	—	1
Total	3	8

Ammonia.—A girl of eighteen at Manchester, who suffered from neuralgia, poisoned herself with ammonia.

Carbolic Acid.—Three men at Liverpool, Durham, and Blue Dial, near Maryport, each committed suicide by taking carbolic acid.

Chloroform.—Two cases of death from the effects of chloroform, administered as an anæsthetic, are reported from Westminster and Wrexham.

Hydrochloric Acid.—A girl at Southend and a man at Brighton committed suicide by taking spirit of salt.

Liniment.—At Bradford a retired shipping agent swallowed a mixture of ammonia and turpentine in mistake for medicine, the liniment and the medicine being kept in identical bottles.

Mercuric Chloride.—Mr. K. Hammersley, while on a visit to a Kingston Hill doctor, is reported to have taken "some tabloids of corrosive sublimate," with a fatal result.

Nitric Acid.—A Polish Jew at Manchester intentionally took some strong nitric acid about a fortnight ago. His sufferings were relieved temporarily by a German "chemist," who administered eggs and oil and an emetic, but death occurred last week-end from the effects of the poison.

Oxalic Acid.—A young married woman at Camberwell, during a fit of mental derangement, took oxalic acid and died.

Potassium Cyanide.—A clerk employed at Lloyd's Bank committed suicide at Wormwood Scrubbs by taking a solution of potassium cyanide.

Non-Fatal Cases.—Several cases of attempted suicide and two cases of alleged attempted murder by poisoning are reported. The would-be suicides used antimony (1), eucalyptus oil (1), laudanum (2), oxalic acid (2), kind of poison not stated (2); the poisons used by the alleged would-be murderers were corrosive sublimate and tartar emetic.

Inquest.—At Hanley (Staffs) a child aged two months died shortly after taking a teaspoonful of "cough stuff." The mixture was subsequently analysed for morphine, with negative results. Death was attributed to convulsions caused by improper feeding and bronchitis.

MISCELLANEOUS NEWS.

Divisional Secretaries and other Members of the Pharmaceutical Society are requested to assist the Editor by sending local newspapers containing items of interest to chemists and druggists.

On Behalf of the Pharmacy Bill.—The officers of the North Staffordshire Chemists' Association have sent a letter to all the members of Parliament for the district, asking support for the Pharmacy Bill.

Wine Licences.—A medicated-wine licence has been granted to Mr. H. E. Skyrme, 12, Wellington Place, Hastings. The applications for wine licences of Mr. W. Forster, Seaham Harbour, Mr. W. Dennis, Jarrow, and Mr. W. W. Stead, Bradford, have been refused.

Nottingham and Notts Chemists' Association.—The members of this Association met at Calvert's Café, Long Row, Nottingham, on Wednesday, the 9th inst., for the purpose of hearing a lecture by Mr. T. Maben, F.C.S., on "The Preparation of Serums and Vaccines."

London Chemists' Association.—A meeting of the General Purposes Committee was held on Thursday, March 10. The Committee decided to take steps asking for an amendment of Sir Charles Dilke's Shops Bill, and to write to the Postmaster-General opposing the proposed cash-on-delivery scheme.

Dover Chemists' Association.—Members of this Association met at the Hon. Secretary's house last week, Mr. J. F. Brown taking the chair. The principal business of the evening was to talk over the Pharmacy Bill, and it was decided to keep the borough member, Mr. G. Wyndham, well informed on all its important points. The Shops Bill was also discussed, and other business included the reading of letters from the P.A.T.A. and the Reading and District Chemists' Association.

Chemists as Public Men.—The following gentlemen have been elected to public positions in their respective districts:—Mr. Daniel Davison (Cromer) to a seat on the Norfolk County Council; Messrs. F. W. Bates (Stretford), W. Oldershaw (Strelly), G. C. Row (Braintree), G. Stafford Allen (Long Melford), C. A. Tily (Riverhead), and T. Driver (Much Woolton), to seats on District Councils; and Messrs. W. Elliott (Hammersmith), R. Knowles (Morecambe), J. Butler (West Bromwich), T. P. Pechey (Maldon), H. W. Colley and M. Cook (Grimsby), to seats on Boards of Guardians.

The Distribution of Poisons by Corporations.—At a meeting on Tuesday, the 15th inst., of the Sanitary Committee of the Middlesbrough Corporation, a letter was read from the Secretary of the Tees-side Chemists' Association, calling attention to the indiscriminate distribution of poisonous disinfectants by the Corporation, and enclosing the regulations which chemists who sell carbolic acid are required to observe. Mr. Finlayson also suggested that carbolic acid should be distributed through qualified chemists. After discussion, the Committee decided not to adopt Mr. Finlayson's suggestion.

Fires.—A fire broke out on March 9 at the warehouse of Mr. Fred Sheldon, wholesale druggist, of Bangor Street, Sheffield. The outbreak originated in the cellar, where oils and other highly inflammable stock is stored, and damage to the extent of about £20, which is covered by insurance, was done. On March 11 a fire occurred at the pharmacy of Mr. David John Lewis, chemist and druggist, of 133, Clifton Street, Cardiff. Some camphorated oil which was being prepared on a stove caught alight and ignited some chemicals in the stock-room. The whole of the contents of the shop were destroyed, and the damage is estimated at £500.

Co-operative Electioneering.—The Election Committee of the Bradford Chamber of Trades has determined to present six candidates at the Board of Guardians election, and these have been duly nominated with the concurrence of the various tradesmen's organisations affiliated with the Chamber. It is considered most desirable that Bradford retailers in all trades will combine to show the strength which they undoubtedly possess by securing the return of these candidates. The candidates are a draper, a hosier, a jeweller, a grocer, a hairdresser and tobacconist, and Mr. R. W. Silson, chemist, Church Street. Any political difficulty which might be felt by retailers is overcome by the fact that these six gentlemen are equally divided in respect of political attachment.

The So-called Weather Plant.—In a recent issue (see page 346) reference was made to a lecture given in the rooms of the Society of Arts on the subject of a plant—*Abrus precatorius*—which, it was contended, would, by the movements of its twigs and leaves, "foretell the weather" for nearly a month in advance. At the time, the statements were received with no little reserve. From a letter in the *Times* over the signature of Mr. H. T. Wood, we learn that the authorities at Kew some time ago made very exhaustive tests, and came to the definite conclusion that any connection between the behaviour of the plant and the future weather, either local or distant, was entirely imaginary. Professor Nowack, who gave the lecture referred to, writes to say that the experiments at Kew were not so conducted as to be convincing.

A Social Meeting at Liverpool.—The first social meeting of the employees of the amalgamated firms of Ayrton and Saunders, Liverpool, and W. Kemp and Son, Horncastle, was held on Friday last at the Stork Hotel. It took the form of a dinner, at which a very large number of the employees were present. The chair was taken by the chairman of the company (Mr. Charles Symes, Ph.D.). Three other directors were also present, viz.: Messrs. H. G. Saunders, W. H. Saunders, and E. H. Bentley. The musical part of the programme, contributed by various members of the staff, was of a very high order. The toast of "The Company," proposed by the Secretary (Mr. H. Wadsworth), was responded to by Mr. Charles Symes, Mr. H. G. Saunders, and Mr. W. H. Saunders.—Mr. Stubbs (the auditor) proposed the toast of "The Travelling Staff," which was responded to by Mr. E. H. Bentley.

Pharmaceutical Products in Germany.—The association for the protection of the rights of the manufacturers of pharmaceutical specialties of Wurzburg has forwarded a petition to the Reichstag in connection with the estimates relating to the Imperial Sanitary Board. At the end of the petition it is suggested that Parliament should take steps in the direction of the preparation of regulations for the empire in regard to the trade in medicines, and that until this has been done the regulations which came into force on January 1, 1904, should be abrogated or modified in respect of the specialties placed upon the first (A) list. In connection with this subject Herr Lahr, president of the association, has forwarded copies of a pamphlet advocating equal rights for all, and criticising the regulations concerning proprietary medicines, to all members of Parliament, Chambers of Commerce, and others interested in the matter.

Metric System Bill.—The Select Committee of the House of Lords appointed to consider the Weights and Measures (Metric System) Bill has held its first sitting. Lord Belhaven presided. Sir Herbert Jekyll, assistant secretary to the railway department of the Board of Trade, said it was the opinion of the Board that two years was too short a time in which to make the proposed change, and they suggested that the date fixed for the Bill to come into operation should be postponed from 1906 to 1909. Four years was the shortest time in which the change had been accomplished in other countries. Answers to questions received from foreign countries with reference to the effect upon commerce were vague. Generally it was found that where there were varieties of measures in different localities, the adoption of the metric system facilitated internal trade. The Superintendent of the Standards Department of the Board of Trade also gave evidence.

Mineral Water Combine at Brighton.—The mineral water manufacturers of Brighton have entered into a "combine" with a view to fixing a standard price for waters, and to make a charge for syphons and bottles. They propose to charge a deposit of 6s. per dozen on syphons, and 3d. per dozen on bottles on and from March 1; and, with regard to the syphons shown by the books as in the hands of the retailers on that date, these will be charged 2s. 6d. each, and 5 per cent. charged on the sum they represent until they have been either paid for or returned. The Brighton Association of Pharmacy held a meeting on Thursday, March 10, at 58, King's Road, to consider the matter, and, after considerable discussion, almost entirely adverse to the proposals, a unanimous resolution was passed expressing disagreement with the action of the manufacturers with regard to the charge for syphons, and suggesting that an extra charge of 3d. per dozen for the water would be sufficient to cover any loss of syphons, and that the retailer should not be made responsible.

Messrs. Gallenkamp's Dinner.—On Saturday, March 5, Messrs. A Gallenkamp and Co., Limited, scientific apparatus manufacturers, 19-21, Sun Street, Finsbury, held their first annual dinner at Armfield's Hotel, South Place, E.C. In all thirty-two sat down, which included the staff and a few visitors. The chair was taken by Mr. H. G. Jarrom, managing director (in the unavoidable absence of Mr. A. Gallenkamp), who proposed the toast of "The Firm," which was replied to by Mr. H. Dickert, one of the directors. The good spirit which prevailed during the evening was a token of the pleasant terms existing between the firm and the employees, and the items on the musical programme, especially the one-string violin solos by Mr. Baker, and the songs and piano selections by Mr. W. Brewer-Brown, were all rendered in first-class style. A very enjoyable and successful evening was brought to a close by a toast, "The Chairman," who expressed the thanks of the company to Mr. Brown for the arrangements of the evening, and to Mr. Davies for the excellent musical programme.

Opposition to the Pharmacy Bill.—A meeting of unqualified dealers in drugs was held in Manchester in the 16th inst., under the auspices of the "Patent Medicine Vendors' and Drug-Storekeepers' Defence Association." Several speakers delivered themselves of their opinions, and talked the usual absurd nonsense. Several resolutions were passed, and steps were taken to form a local branch of the Association. One speaker alone deserves to be quoted. Mr. A. Guess, of Leeds, said that he was apprenticed to the trade of a chemist, and his father paid £100 premium, but his master, although a pharmaceutical chemist, neglected to teach him the theory to enable him to go through the Minor Examination of the Pharmaceutical Society. He was now in the position of a dispenser of an immense amount of poisons, working for a gentleman who had the privilege of putting his name up as a chemist and druggist, but for what reason he did not know. He had sold regularly three 6-oz. bottles of laudanum a week to two individuals only for their own consumption. He had sold laudanum to a man in one case who had poisoned himself with it, but he was never questioned as to whether he was a qualified man. His employer was all right, and he (the speaker) was all right. The proprietor of a shop should have no more advantages than the man who did the work.

A Vague Address.—Last week we mentioned that Mr. Gilkes, chemist, of Banbury, had received an invoice from a London house, *viâ* Bombay. This week Mr. J. Wellesley Douglas, M.P.S., of Lambeth Walk, S.E., sends the envelope of a letter which was duly delivered to him, though vaguely addressed thus:—

Dr. Victor's Ointment Co.,
J. W. ———,
22/125, Bridge Road or Street,
London.

This was posted in Scarborough at 7 a.m. on March 11 last, and the official imprints on the envelope indicate that it arrived at the General Post Office at 3.15 p.m. the same day, was received at the South-Eastern District Office at 7.45 p.m., and at the local post-office early the following morning, when, apparently, it was delivered. Mr. Douglas remarks:—"Your note, 'A Unique Envelope,' in issue of March 5 was interesting. Enclosed is an envelope addressed to me, and was duly delivered at my branch, 125, Westminster Bridge Road, promptly. Considering the number of Bridge roads and streets in London, I think it excellent on the part of the postal authorities. Note, also, my name does not appear, and there is no company of the title given; it is merely the name of one of my proprietaries."

A New Journal of Pharmacy.—Under the title of *Vierteljahrsschrift für Praktische Pharmazie* (quarterly journal of practical pharmacy), the German Apotheker Verein has issued, under the editorship of Messrs. H. Salzmann and W. Wobbe, the first number of a journal devoted to the interests of the practising pharmacist. It is to contain notices of new remedies, specialties and proprietary preparations, formulæ of various kinds, therapeutical notes, descriptions of novel apparatus and utensils, new laws and regulations, and literary announcements, but papers of a scientific or political nature are to be excluded. The new publication is to be devoted, therefore, to trade interests rather than to scientific investigations, and may be regarded as an endeavour to meet the demand that has for some time been felt in Germany for a journal that shall neither be so purely scientific as the *Archiv der Pharmacie* nor so largely devoted to political discussions as the *Apotheker-Zeitung*. The first number contains descriptions of a series of new remedies, the great majority of which are patented synthetical compounds, followed by a shorter list of specialties and proprietary medicines. All the information that the pharmacist requires—such as the formula, when known, dose, properties, maker's name, and literary references—is given in a succinct and readable form. Under the heading "Pharmazeutische Praxis" there are collected together numerous formulæ, such as those for the preparation of tablets with cacao butter, as described by Mr. Edmund White. Several useful pieces of new apparatus find a place in the next section, amongst which may be mentioned Jenny's suppository press, Zemsch's ointment mills, and so on. The first impressions of the new publication are not altogether favourable.

While it will certainly be of service to the practising pharmacist, it stands in sharp contrast with the journal issued under the same title fifty years ago, under Wittstein's editorship. The first section, at least, is undesirable from the point of view of the advertisement it offers of patented synthetical remedies, with which the market is flooded. It is to be hoped that the fourth section, which contains pharmaceutical formulæ and apparatus, and is the most useful portion of the journal, will be developed, so as to be of real and valuable assistance to the pharmacist.

SCHOOL AND COLLEGE NEWS.

King's College, London.—Department of General Pathology and Bacteriology.—Classes in bacteriology and chemical bacteriology are held under the direction of Professor R. T. Hewlett for the examinations of the Institute of Chemistry. The course in bacteriology, which may be taken as one of the optional subjects for the Intermediate Examination, consists of demonstrations and practical work on two afternoons a week (or an equivalent amount) during one term (ten to twelve weeks). Inclusive fee, £5 5s. Subjects: Nature of cells, the microscope and methods, general biology of bacteria, staining and culture methods, typhoid and *B. coli anthrax*, tubercle, diphtheria, *B. enteritidis sporogenes*; bacteriological examination of milk and foods, air, water, and sewage. The yeasts and fermentation, moulds. Biological chemistry may be taken as the subject for the final examination. The course for this consists of demonstrations and practical work two afternoons a week (or an equivalent amount) during two terms. Inclusive fee, £8 8s. Subjects: As for the Intermediate, but treated more fully; and, in addition, enzymes, analysis of yeasts, fermentations, testing of filters, nitrification, certain chemical separations—*e.g.*, indol, pigments, etc.

Football League Smoking Concert.—On Wednesday, the 15th inst., a smoking concert, arranged by the officers of the Inter-Pharmacy Football League, was held at the Holborn Restaurant, Mr. W. Watson-Will in the chair. The challenge cup won by the Metropolitan School of Pharmacy was formally presented, and a very enjoyable evening was spent.

Football.—Metropolitan College *v.* "Square."—This match—the last in the Inter-Pharmacy Cup Competition as far as the "Metros" are concerned—was played on Saturday last, and after a keen and interesting game, ended in a win for the "Metros" by four goals to one.

PERSONALITIES, BUSINESS CHANGES, &c.

Mr. W. S. Turnbull, chemist, has removed from Dovemount Place to Station Buildings, Hawick.

Mr. Owen C. Dewar, chemist and druggist, has taken over the business lately carried on by Mr. Alex. Milne at Priory Place, Craigie, Perth.

Mr. Wilfred Rutter, M.P.S., has taken over the business formerly carried on by Mr. John H. Forster at 174, Shield Street, Newcastle-on-Tyne, and has resigned his position as Divisional Secretary for Durham in consequence.

Mr. T. H. W. Idris, J.P., L.C.C., President of the British Pharmaceutical Conference and of the London Chemists' Association, was, as Mayor of St. Pancras, presented to His Majesty by the Duke of Fife, at the Levée held on Monday, the 14th inst.

TRADE NOTES.

Spring Medicines.—Every pharmacist knows that Messrs. Wright, Layman, and Umney, Limited, are at Nos. 48 and 50, Southwark Street, S.E., but not everyone is aware that an important part of their premises is situated at 66 and 68, Park Street, Southwark. It was here that our representative had the pleasure, a few days ago, of inspecting some of the operations involved in the manufacture of pharmaceutical products. Pill-making by machinery was in vigorous operation on one floor, on a floor above tablets compressed by the latest and most up-to-date machinery were being turned out to perfection with astonishing rapidity. But most interesting of all was to see the world-renowned Wright's Coal-Tar Soap in the process of manufacture. At this time of the year, however, spring medicines are most seasonable, and particulars were obtained of citrates, health salts, sarsaparilla mixtures, and blood-purifying mixtures generally, and inspection was made of the excellent products which are supplied to chemists in these lines by Messrs. Wright, Layman, and Umney, Limited. All these preparations are attractively got up with labels nicely printed in colours, and, for orders of three dozen, amounting in value to 12s., bearing the chemist's own name. Mention need only be made of the Effervescent Universal Saline, in 6-oz. bottles, 7s. 6d. dozen, 8-oz., 8s. 6d. dozen, neatly wrapped in coloured wrappers. The demand has already begun for Tonic Blood Purifying Mixture (iodised sarsaparilla with Peruvian bark), 6-oz. bottles, 7s., 12-oz., 12s., but chemists should obtain the list and select for themselves.

Houghton's, Limited, is the style of a new company, particulars of which will be found in another column. For the present the various amalgamated businesses will be carried on exactly as heretofore. As soon as practicable, however, arrangements will be made to simplify the distribution.

F. Newbery and Sons.—To have seen Charterhouse Square is to have seen the huge building (at least, the outside of it) which is now necessary to carry on the business of Messrs. F. Newbery and Sons. While on the premises the other day our representative caught a whisper with reference to the products of Japan which were on view there, and forthwith dived for further information. The diving process, however, resulted in the ascending of many weary stairs, past various spacious floors packed with druggists' sundries, and on the topmost floor of all was set out such a display of brushes of every description as has seldom been the lot of anyone to behold. Tooth brushes, complexion brushes, nail brushes, hair brushes, military brushes—there they were in infinite variety, shape, and quality. All Japanese-made, turned out by the Imperial Brush Factory of Japan, from whom Messrs. F. Newbery and Sons hold the sole agency for England and the colonies, excepting Canada. The dainty workmanship of Japan is abundantly evident, and the originality of design displayed in some of the specimens will cause them to readily "catch on." The goods are well made and the materials of the best, and we understand that large wholesale orders are being received. From Japan to India is not a far cry, and attention was next called to a curiosity in the shape of what is termed "Nature's tooth brush." This is a piece of twig about nine inches long, cut from the Neem tree (*Azadirachta indica*), and used by the natives of India for teeth-cleaning purposes. The end of this twig is frayed into a kind of brush, with which the teeth are to be groomed, and the medicinal properties of the wood then manifest themselves. These are neatly done up to sell at 6d.

Sponge Bags, etc.—Messrs. F. Schutze and Co., 89, Southwark Street, S.E., are one of those firms to whom the coming of spring means the reawakening of trade in certain lines. "New Season's Goods" is their bold announcement just now, and visions of aquatic revelry and holidays on shining sands at once come to mind at the sight of a large assortment of bathing-caps, bathing-dress bags, and kindred articles which are on show at the firm's premises. Flesh and bath gloves in great profusion are there, turco and loofah varieties from 7s. doz. to 11s. 6d. doz.; washing squares, with loofah centres, from 3s. doz. A good window display of such articles would incite a whole neighbourhood to cleanliness, and then Messrs. F. Schutze and Co. have their famous buttermilk soap to complete the conversion. In sponge bags the "Duchess" pattern is a new line. It is in check twill, pinked tops, gilt runners, and silk tasselled cord, from 11s. 6d. to 15s. per doz., and in pure silk from 12s. 6d. to 16s. 6d. Loofah bath straps are 9s 9d. and 11s. 6d. a doz., the latter price for loofah both sides. Travelling toilet rolls (waterproof) are a very good line, containing compartments for tooth-brush, tooth powder, soap, comb and hair-brush, and sponge, and range in price from 26s. to 60s. per doz. The materials are in some instances very fancy—check, sateen, and silk. The "Hydrodot" combination douche, hot water, cold water, and ice bags is, as described, the most unique combination of its kind yet put on the market; capacity, two quarts, 3s. 6d. each. This is something new, and worth stocking. Space forbids us going fully into the merits of the numerous other articles which come under notice. Mention may, however, be made that Messrs. Schutze are now proprietors of the perfumes which formerly were connected with the name of Messrs. Corbyn, Stacey and Co., and a very pretty sixpenny line has just been added to the list. They also hold the agency for the Hausa Platz brand of eau de Cologne. Chemists should write up for the special circular, which describes fully these and other articles. The prices are extremely reasonable, and the goods are well made and attractive. The usual discounts of 10 per cent. and 5 per cent. are allowed off prices quoted. Our South African readers will be interested to learn that the firm's representative, Mr. F. J. Horn, is returning to the Cape at the end of the present week.

REVIEWS AND NOTICES OF BOOKS.

'Revue des Médicaments Nouveaux.' By C. Crinon. Eleventh Edition. Pp. 432. Price 4 francs. Paris: M. Rueff, 106, Boulevard St. Germain. 1904.

Several important additions have been made during the past year to the list of medicines described in this useful work of reference. The plan of the work remains substantially the same, the alterations consisting in condensation or excision of the less important matter, and in the additions rendered necessary by the work of the year 1903. No doubt the volume will meet with the same good reception which has been accorded to earlier editions.

'Qualitative Chemical Analysis,' and Analytical Charts for Pharmaceutical and Chemical Students. By Frederick Davis. Pp. 32. Price 3s. net. London: Henry Kimpton, 13, Furnival Street. 1904.

The charts in this book are possibly as accurate, probably as useful, and certainly as dangerous to the elementary student of practical analytical chemistry as such charts usually are. No reader can complain that the information given is too full. Condensation and abbreviation have been carried almost to the vanishing point. It is, indeed, possible to worry out the meaning of such a phrase as "residue, wht., and infus. and incand.," but the printing bill would not have been much larger if all the words had been spelt in full. For a book of this sort to be at all a safe guide much fuller directions for the performance of the tests should have been given. For example, the calcium chloride test for citrates and tartrates is bound to lead the student astray unless some instruction is given with regard to the conditions to be observed and the quantities of the reagents to be employed. Students cannot be warned too often of the danger of relying on a ready-made chart, however carefully compiled. If a chart is used at all students should be encouraged to compile their own, after experiment. Mr. Davis uses old-fashioned names and symbols throughout this book. Thus, a solution of sulphuric acid is spoken of as hydrogen sulphate, and the "ammonium carbonate" of the B.P. is referred to as $N_3H_{11}C_2O_5$. It was only after several minutes' thought that the meaning of the latter formula dawned on the reviewer. The printing of the book is irregular and the punctuation execrable.

'Second Stage Botany.' By J. M. Lowson, M.A., B.Sc., F.L.S. Pp. 452. Price 3s. 6d. London: University Tutorial Press, Limited, 157, Drury Lane. 1904.

'Second Stage Botany' is described by the author as an adaptation of his 'Textbook of Botany' to the requirements of the second stage examination of the Board of Education, S. Kensington, an effort having been made to anticipate, as far as possible, the more general questions which are a feature of that examination. The earlier part of the book is devoted to a general treatment of morphology, histology, and physiology. Wisely, as we think, Mr. Lowson has also treated the Angiosperms generally, and has used the type-system only for the Gymnosperms and Cryptogams. Mr. Lowson knows the value of short sentences in descriptive writing. In addition the book is well and attractively illustrated. The fact that 'Second Stage Botany' is avowedly prepared for the purposes of a particular examination need deter no one from reading it. For pharmaceutical students it is likely to prove exceptionally useful.

'Memoranda on Infectious Diseases, for School Teachers.' By J. W. Allan, M.B. Pp. 23. Price 6d. Bristol: J. Wright and Co. 1904.

This pamphlet is well calculated to assist school teachers in preventing the spread of infectious diseases. It is fairly accurate, though the sections on chicken-pox and typhoid fever are not quite on a level with the remainder, while an occasional tendency to the alternate use of lay and medical synonyms is regrettable. The booklet is at least as good as any other similar literature with which we are acquainted, and without doubt fills a distinct want.

'Formulaire des Médicaments Nouveaux pour 1904.' By H. Bocquillon-Limousin. Pp. 322. Price 3 francs. Paris: J. B. Baillière et Fils, 19, Rue Hautfeuille.

The new edition of this well-known formulary contains a great number of monographs on medicines recently introduced into therapeutics. In particular may be mentioned methyl-acetyl salicylate, atoxyl, magnesium cacodylate, helmitol, mesotan, pyridine tannate, and veronal; also many colonial and exotic plants. Each article deals successively with the synonyms, appearance, composition, therapeutic properties, methods of use, and dose. In an age when new remedies follow one another with such rapidity a volume of this kind is necessarily useful.

MARKET REPORT.

The quotations given below are the lowest prompt cash prices for bulk quantities, to which other charges have to be added. It is important that this should be borne in mind in making any comparison between the prices quoted and those of the wholesale drug trade.

The Drug Sales.

LONDON, THURSDAY, MARCH 17, 1904.

New goods only were offered at to-day's auctions. The offerings comprised sixteen catalogues. The demand generally was a trifle better than at the last sales. The Japanese articles catalogued were, for the most part, bought in. Neither Menthol nor Camphor found buyers. A bid of 2s. 11d. for Japanese refined Camphor was refused. There was a good supply of Cardamoms, and practically all sold at higher rates, being from 1d. to 2d. dearer. Decorticated sold at 11½d. to 1s. The quality of the Senna offerings was extremely poor, and sold at very good rates indeed, small brown leaves fetching 1¾d. to 2d. All the offerings of Cape Aloes found buyers at prices ranging from 27s. for black hard to 31s. for fair hard bright. For good liver Curaçoa Aloes 35s. to 38s. was paid, and for Capey character 21s., and 11 packages of Zanzibar sold without reserve at 35s. All the offerings of Japan Dementholised Peppermint Oil were held with the exception of 10 cases of sea-damaged, which were sold without reserve at 6s. For very fine green Ceylon Coca Leaves 1s. 3d. was paid, and for fair green, 1s. 1d. and 1s. 2d. brown were knocked down at 10½d. Russian Ergot was sold without reserve at 1s. 6d. Some fine Shenshi Rhubarb sold before the sale; flat high dried sold with competition at 1s. 1d. Since the sales 1s. 2d. per lb. is asked for this article. The fair supply of Ipecacuanha met but slow demand; for good stout Rio (Mattogrosso) 5s. 4d. was paid; 4s 11d. and 5s. were obtained for grey thin wiry. Cartagena was held for 5s. 3d. 10 bales of Minas sold at 5s. for good. Gum Myrrh realised £4 12s. 6d. for sorts. One lot of Gum Benzoin sold at £7 5s. for good fair Sumatra seconds. For Lime Juice 11½d. was obtained. Lime Oil sold at 1s. 8d. A fair quantity of Madras Seablac sold at from £5 10s. to £7 2s. 6d., according to quality. For Gum Olibanum 42s. 6d. was paid for drop, and for blocky garblings 23s. 6d. Balsam Copaiba sold as follows:—Light Maranham, 1s. 5d. and 1s. 6d., and dark Para 1s. 2d. China Star Aniseed Oil, offered without reserve, was disposed of at 5s. 2d. A small lot of Californian Honey sold without reserve at 28s. 6d.; for Cuban, 17s. was paid, and a small quantity of Jamaica sold at 22s., but the bulk of the offerings were held. Jalap sold without reserve at 4¾d. for slightly wormy Veracruse. Japan Wax sold without reserve at 65s. and 66s., and Zanzibar Wax at from £6 2s. 6d. to £7. Nux Vomica: 6s. 6d. was paid for common dark Calcutta, and 10s. and 10s. 6d. for fair medium Cochin. 8 bales Guayaquill Sarsaparilla sold at 10d. and 10½d., 4 bales Jamaica at 1s., 1 bale of Mexican at 4¼d. Russian Aniseeds sold without reserve at 18s. An offer of 200s. was refused for Newfoundland Cod-liver Oil. Cannabis Indica sold at 4s. 3d., being 3d. dearer. First-hand stock is exhausted, and only a few bales remain in second hands. The next drug auctions will be held four weeks from to-day.

General Markets.

The market in drugs and chemicals has been neither brighter nor duller. During the past week Japanese articles have been rather flat, but prices are about unchanged. Neither Camphor nor Menthol are dearer. Cod-liver Oil is unchanged. Makers of Hypophosphites have fixed prices. German makers of Quinine have raised the prices to 1s. 1d. per oz. following on the small shipments of bark. Opium is quiet and unchanged. The price of Codeine at the time of writing is unaltered.

ALUM.—Lump, £5 12s. 6d.; Ground, £6 2s. 6d.

ANISEED.—Alicante is selling at 35s. to 36s.

ARROWROOT.—None was offered at the spice sales on Wednesday.

BELLADONNA ROOT.—Sales of good stuff have been made at 38s. to 42s.

BICARBONATE OF SODA.—£7 5s. per ton, landed.

BISMUTH.—Carbonate, 8s. 1d.; Subnitrate, 7s. 4d.

BLEACHING POWDER.—English, £4 15s. to £4 17s. 6d.

BORACIC ACID.—Powder, £1 4s. 6d.

BORAX.—In powder, 14s. 6d.; crystals, 13s. 6d.

CAMPHOR—Is flat. Prices, however, are unchanged.

CARBOLIC ACID.—Crystals, 39° to 40°, 7½d.

CASCARA SAGRADA.—New bark has been sold at 85s. There is less than 50 tons left in California.

CASTOR OIL.—Belgian 1sts, £19 10s.

CHLORAL HYDRATE.—The price is now 3s., "duty paid."

CINCHONA BARK.—The shipments at Java during the first half of March were 172,000 Amsterdam lb. against 646,000 Amsterdam lb. last year.

CITRIC ACID.—1s. per lb.

CLOVES.—Bold dark and rather damp Penang were held for 10d. at the spice sales. Zanzibar are quiet in the private market.

COCAINE.—11s. 9d. to 12s. 3d. per oz. for the Hydrochloride, according to quantity.

COCOANUT OIL.—Cochin, £30 spot; Ceylon, spot, £26.

CODEINE.—8s. 11d. per oz. for the pure alkaloid.

CREAM OF TARTAR.—98 per cent. foreign powder, 87s.

GINGER.—Cochin was in slow demand at the spice sales. A quantity sold without reserve at rather easier prices. 112 barrels Jamaica sold at slightly easier rates, good ordinary small at 37s.

HYPOPHOSPHITES.—Prices have now been fixed. For the lime quotations are 1s. 8d. to 1s. 9d., according to quantity; soda and potash 2d. per lb. extra.

IODIDES.—The prices are now: Sodium Iodide, 11s. 10d. to 12s. 1d.; Potassium Iodide, 10s. 3d. to 10s. 9d.

IODINE.—Resublimed is now 12s. 3d. per lb.

IODOFORM.—13s. 10d. to 14s. 1d.

MENTHOL—Is flat. For "Kobayashi" 18s. is the price quoted.

MERCURIALS.—Calomel, 2s. 8d.; Corrosive Sublimate, 2s. 4d.; Red Precipitate, 2s. 11d.; White Precipitate, 2s. 11½d.; Mercuric Sulphate, 2s. 4d.

MORPHINE.—4s. 6d. per oz. for the Hydrochloride.

OXALIC ACID.—2⅝d., delivered free London.

PEPPERMINT OIL.—H.G.H. is decidedly firmer; there are buyers at late prices, but no sellers. Sales of American Oil in tins have been made at 11s. 9d. on the spot, but this is lower than it can be imported for.

PILOCARPINE.—The new prices now quoted are as follows:—For the muriate and nitrate, 1s. 5d. per Gm. and 30s. 6d. per oz.; for the pure 1s. 11d. per Gm. and 44s. 6d. per oz.

POTASSIUM BROMIDE.—1s. 11½d. per lb.

QUICKSILVER—£8 5s. The following is abstracted from Mr. Alexander S. Pickering's report :—Imports : February, 1904, 622 bottles; 1903, 10,040 bottles; Exports : February, 1904, 1,293 bottles; 1903, 3,952 bottles; Average Price : February, 1904, £8 5s.; 1903, £8 12s. 6d.

QUININE.—German makers have raised the price to 1s. 1d., following on the small shipments of bark. The spot quotation for 1,000-oz. lots of the Sulphate in the second-hand market (German brands) is 11¾d. and 1s., according to holder. For June delivery 1s. 0¼d. is asked.

SHELLAC.—Spot demand is quiet and prices unchanged. Sales of fair TN have been made at 208s. for March delivery.

PATENTS AND TRADE MARKS.*

New Patent Applications.

PREPARATION OF NATURAL MINERAL SALTS FOR MEDICINAL PURPOSES (No. 3,189 of 1903).—E. Langheld, Lindenstrasse, 35, Wansbeck, near Hamburg, Germany. To render mineral salts—such as those obtained from the waters of Wiesbaden, Ems, Carlsbad, Vichy, and the like—more easily assimilable by the patient, they are worked into cakes, biscuits, pastry, or the like, whereby the said salts lose their disagreeable taste, and may be sent to tropical countries without any fear of decomposition, which usually results when they are sent in the form of tablets or lozenges, or kept in bottles or jars, as at present. For this purpose the mixing and drying is effected within a vacuum at such a temperature as shall not cause chemical decomposition or chemical change of some of the salts, such, for example, as the reduction of sodium bicarbonate into sodium carbonate. In the case of unstable or sensitive salts, which would be decomposed at the high temperature necessary for baking, the salts may be added in a concentrated solution to the complete biscuit or cake, which may then be dried at a low temperature.

PROCESS FOR PRODUCING CARBON MONOXIDE (No. 3,347 of 1903).—R. Pearson, of Jewin House, Red Cross Street, London. Calcium carbonate is mixed with fuel, and by the combustion of the latter raised to a temperature high enough to effect its complete decomposition into caustic lime and carbon dioxide, according to the equation $CaCO_3 = CaO + CO_2$. The carbon dioxide given off by the decomposition of the calcium carbonate (and any other gases given off by the combustion of the fuel, together with atmospheric nitrogen, is conducted from the kiln to a retort or converter containing carbon, which has been previously raised to incandescence. The carbon dioxide, as it comes into contact with the incandescent carbon, reacts with the latter according to the equation $CO_2 + C = 2CO$, the dioxide being reduced by the carbon to carbon monoxide.

HYPODERMIC SYRINGES, INJECTORS, AND THE LIKE (No. 9,020 of 1903).—J. G. Paillard and F. L. Ducatte, both of 17, Place de la Madeleine, Paris. Relates to a syringe or injector for making hypodermic injections, which, by simply reversing the valve device, becomes an exhauster for removing aseptically from the body any normal or pathological liquid. Comprises a pump with a piston, each provided with a valve, the piston being fitted with a coiled spring which automatically brings the piston back to the top of its stroke. The pump is provided with an extension pipe or nozzle, containing a plug of sterilised cotton, into which can be inserted the end of a separate bulb or receptacle containing the liquid to be injected. By pressing down the piston the air is forced through the cotton plug and acts upon the contents of the bulb, which is provided with a needle, and forces same into the body through said needle. To use the apparatus for extracting purposes it is only necessary for the operator to push the piston down to its lowest point, insert the needle of the bulb (which in this case will be empty) at the point required, and allow the coiled spring to draw the piston back to its original position.

MANUFACTURE OF NON-CAUSTIC SOAP DEVELOPING ACTIVE OXYGEN AND HAVING AN ANTISEPTIC AND BLEACHING EFFECT (No. 22,580 of 1903).—Professor H. Giessler, Alexanderstrasse 105″, and Dr. H. Bauer, Kornbergstrasse 13″, both in Stuttgart, Germany. Consists in mixing with the ordinary soap 10 per cent., 20 per cent., or more of sodium perborate or ammonium perborate; for instance, $NaBO_3(Na_2B_4O_3)$, or (NH_4BO_3) respectively, or percarbonate of sodium (Na_2CO_4). These salts lose oxygen if exposed to the air in consequence of the action of the carbon di-oxide contained therein. To prevent this they are enveloped in solid saponaceous masses or glycerin free fatty bodies, such, for instance, as lanoline, spermaceti, vaseline, and paraffin. When dissolved by use in water the oxygen in said soap is slowly and continuously liberated. It is particularly useful in removing fast stains without damaging the material.

NOTE.—Opposition to the grant of any of the above Patent applications must be filed at the Patent Office on or before April 18, 1904.

MANUFACTURE OF ALUMINIUM SULPHATE (No. 6,458 of 1903).—H. Spence and Peter Spence and Sons, Limited, of the Manchester Alum Works, Holland Street, Manchester. Relates to a process for producing crystallised sulphate of alumina containing two molecules of SO_3 for each molecule of Al_2O_3, which consists in subjecting alumina in excess to the action of hot sulphuric acid under pressure so as to obtain a solution of sulphate of alumina containing an excess of alumina, treating this solution with lime or carbonate of lime, until the desired basicity is obtained, filtering the resulting mixture, evaporating the filtered solution and separating the crystallised basic sulphate therefrom. The said basic sulphate is easily soluble in water.

MANUFACTURE AND PRODUCTION OF CELLULOSE ACETATE (No. 7,346 of 1903).—H. E. Newton, 6, Bream's Buildings, Chancery Lane, W.C. (Communicated by the Farbenfabriken vormals F. Bayer and Co., of Elberfeld, Germany.) Relates to a process for producing a new derivative of cellulose soluble in alcohol. Example:—A mixture of 80 parts of acetic anhydride, 80 parts of glacial acetic acid, 4 parts of concentrated sulphuric acid and 20 parts of cellulose (*e.g.* cotton yarn) is allowed to stand at from 20-25° C., stirring from time to time. After about ten hours the whole mass is transformed into a thick syrup. When the precipitate, obtained by diluting a test portion with water, contains only a small quantity of unchanged particles of cellulose and is still soluble in hot acohol, the production of the new cellulose acetate is completed. The reaction mass is then mixed with a large quantity of water by stirring, and the precipitate thus obtained is filtered off and pressed.

MANUFACTURE OF ALBUMINOUS COMPOUNDS SOLUBLE IN WATER (No. 10,845 of 1903).—F. W. Howorth, 46, Lincoln's Inn Fields, W.C. (Communicated by Bauer and Co., of 231, Friedrichstrasse, Berlin, Germany.) Relates to the manufacture of albuminous compounds wholly or considerably soluble in water, according to which animal or vegetable casein or alkali albuminate is caused to combine, under suitable conditions, with—(1) salts, preferably alkali salts, of fatty acids, substitute glycerin phosphoric acids, such as the mono- and the di-stearyl-glycerin phosphoric acids, the mono- and the di-palmityl-glycerin phosphoric acids, and the mono- and the di-oleyl-glycerin phosphoric acids; or (2) with salts, preferably alkali salts, of hexite-substitute phosphoric acid, such as mannite phosphoric acid, dulcite phosphoric acid, and sorbite phosphoric acid. Albuminous substances so treated have an increased capacity for absorption and assimilation. Example: 95 parts of casein are mixed with 10 parts of a 50 per cent. solution of di-sodium di-stearyl-glycerin phosphate, and the mixture heated in suspension in an aqueous or alcoholic liquid, after which it is dried (preferably *in vacuo*) at as low a temperature as possible, but in any case not exceeding 140° F.

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* These abridgments of new patent applications and particulars of new applications for trade marks have been specially compiled from official sources, for the *Pharmaceutical Journal*, by Mr. Reginald W. Barker, agent for procuring patents and registering trade marks and designs, 56, Ludgate Hill, London, E.C., from whom any information on the subjects may be obtained. Mr. Barker will also send copies of his 'Trade Mark Notes' and 'Patent Notes for Inventors' free on application.

Note.—Opposition to the grant of any of the above-mentioned Patent must be filed at the Patent Office on or before April 25, 1904.

New Trade Mark Applications.

"**CRYSOFITE,**" for a product to be employed in photographic development, by Société Anonyme des Plaques et Papiers Photographiques, A. Lumière et ses Fils, 21 and 25, Rue St. Victor, Lyon-Monplaisir, France. 260,082.

SIGNATURE "Charles Sanderson" and words "Sanderson's Emulsion" (words disclaimed), for a medicinal emulsion for dogs and pheasants, by C. Sanderson, Gamekeeper's Cottage, Castlemilk, Lockerbie, N.B. 258,751.

"**INODO,**" for substances used for agricultural, horticultural, and veterinary purposes, by A. H. Higginbottom, of Simmondley, Jesmond, Newcastle-on-Tyne, and A. B. Lennox, 30, Highbury, West Jesmond, Newcastle-on-Tyne. 259,297.

"**BOROLYPTOL**" ("Boro" disclaimed), for chemical substances used for agricultural, horticultural, veterinary, and sanitary purposes, by F. W. R. Eschmann, 583, Warburton Avenue, Yonkers, N.Y., U.S.A. 259,419.

"**SEMRAD,**" for horse and cattle medicines, by T. Foden, Bridge Mills, Water Street, Manchester. 260,497.

"**BRAXO,**" for chemical substances used for agricultural, horticultural, veterinary, and sanitary purposes, and for perfumery, etc., by Co-operative Wholesale Society, Limited, 1, Balloon Street, Manchester. 260,757 and 260,759.

"**PULVOID,**" for powders for veterinary use, by Willows, Francis, Butler, and Thompson, 40, Aldersgate Street, E.C. 260,818.

"**KURALL**" and portrait ("Kurall" disclaimed), for chemical substances prepared for use in medicine and pharmacy, by J. Bottomley and Sons, Limited, of Mint Rock Works, Queen Street, Keighley. 260,025.

"**PHYRCREAM**" label ("Phyrcream" disclaimed), for a liniment (for human use), by W. E. Hart, jun., 733, Abbeydale Road, Sheffield. 259,402.

"**EDWILL**" label, for a medicine for the kidneys, etc., by Edwards and Co., 599, Green Lanes, Harringay, N. 260,002.

"**DAKOS,**" for a liniment for human use, by Cooper and Shelmerdine, 36, Elleray Road, Irlams o' th' Height, Salford. 260,107.

"**STERULES,**" for chemical substances prepared for use in medicine and pharmacy, by W. H. Martindale, 10, New Cavendish Street, W. 260,408.

"**NOMIS,**" for medicine for human use, by M. Simon, 89, Park Road, Regent's Park, N.W. 260,726.

"**MANOSSAIRE,**" for instruments, not medicated, for manicuring, by E. Estelle, 71, New Bond Street, W. 258,463.

Note.—Opposition to the registration of any of the above-mentioned trade marks must be filed at the Patent Office on or before April 9, 1904.

"**FAVELLA,**" for liquorice, by N. G. C. D'Alife, Rione Amedeo, Naples, Italy. 260,402.

"**LLYGADW**" and device of Welsh girl coming down a mountain path, for medicinal preparations for human use, but not including any medicinal preparation containing whisky, by A. B. Hall, Southfields, Sowerby, and W. Bowen, Solva House, Victoria Avenue, both in Thirsk. 258,436.

"**DORICENE**" ("Doric" disclaimed), for chemical substances prepared for use in medicine and pharmacy, by W. E. Robinson, Derby Buildings, Long Row West, Nottingham, 260,778.

"**VARIUM,**" for chemical substances prepared for use in medicine and pharmacy, by H. S. Wellcome, Snow Hill Buildings, E.C. 260,858.

"**PULVOID,**" for compressed drugs used in medical practice for human use, by Willows, Francis, Butler, and Thompson, 40, Aldersgate Street, E.C. 261,165.

"**LINTANEL**" ("Lint" disclaimed), for surgical bandages of all kinds, by E. M. Sello, 12a, Finsbury Square, E.C. 260,084.

"**KUMA**" and device, for a preparation for the teeth and a mouth-wash, by H. T. Woodward, 6, Holland Park Court, Addison Road, W. 259,758.

"**A LA CORBEILLE FLEURIE**" and device of cyclist "looping the loop," for a perfume, by V. Klotz, 18, Place Vendôme, Paris. 260,399.

"**PEECHONA**" ("Peach" disclaimed), for perfumery (including toilet articles, preparations for the teeth and hair, and perfumed soap), by E. Cook and Co., Limited, East London Soap Works, Bow, E. 260,834.

Note.—Opposition to the registration of any of the above-mentioned marks must be filed at the Patent Office on or before April 16, 1904.

PRACTICAL NOTES AND FORMULÆ.

White Pond Lily Bouquet.

Essential oil of almonds, 3 minims; essence of vanilla, 1 fl. oz.; spirit of rose, 1 fl. oz.; extract of jasmin, 1 fl. oz.; orange-flower extract, 1 fl. oz.; rose extract, 2 fl. oz.; cassie extract, 2 fl. oz.; tuberose extract, 8 fl. oz.—*Spatula*, **9**, 479.

Artificial Colours for Sausages and Meats.

J. Frankel has examined certain colours prepared for tinting sausages, meat, and preserves. A preparation in powder form, known as *blood red powder*, was found to consist of Ponceau 2 R, with 6·6 per cent. of salt and 21 per cent. of borax. *Meat juice blood red*, a reddish solution, unaffected by either acids or alkalies, consists of practically a 1:40 solution Ponceau 2 R, with salt and borax. *Sausage red liquid* was merely an aqueous solution of eosine; *lobster red* liquid consists of a solution of Ponceau R.T. 1·5 per cent., with a little salt.—*Annales de Chim. Analyt.*, **8**, 194.

Rosamund Lotion.

J. F. O'Connell gives the following formula:—Almond oil, 6 troy oz.; spermaceti, 10 troy oz.; boric acid, 2 troy oz.; glycerin, 10 troy oz.; rose water, 18 troy oz.; tincture of benzoin (simple), 3 fl. oz.; alcohol (90 per cent.), 3 fl. oz.; otto of rose, 20 drops, neroli oil, 20 drops. Melt the spermaceti in the almond oil on the water-bath, and transfer the hot liquid to a warm mortar. Dissolve the boric acid in the glycerin and the rose water, and gradually add the solution, with vigorous stirring, to the melted fats. Dissolve the oils in the alcohol and the tincture of benzoin, and add this to the cream first formed, mixing all thoroughly.—*Amer. Drugg.*, **41**, 269.

LETTERS TO THE EDITOR.

All Communications for the *Pharmaceutical Journal* must be addressed to the Editor, 17, Bloomsbury Square, London, W.C., and, if intended for publication in the current week's issue, should reach the Office not later than Wednesday, unless specially arranged for in advance. The matter should be written clearly and concisely on one side of the paper only and must be authenticated by the names and addresses of the writers, as no notice can be taken of anonymous letters. Articles submitted for the Editor's approval should be accompanied by stamped addressed envelopes, otherwise no guarantee can be given that they will be returned if not found suitable. Reprints of articles cannot be supplied unless the authors communicate with the Editor before publication. The right to reproduce all original matter and illustrations published in the Journal is strictly reserved.

Mr. Campkin's Co-optation.

The vacancy which has occurred on the Council of the Society in consequence of the lamented death of Mr. John Taylor has been filled by the Council according to the powers vested in the members by the bye-laws of the Society. I should like to congratulate Mr. Campkin on his election, or rather selection, though, without in any way wishing to speak or write disparagingly of Mr. Campkin or his abilities, I cannot but feel that the action of the Council shows a very weak place in the constitution. Here we have a member elected who has time and again been rejected by the members, appointed over their heads by the other members of the Council. I think we could not have a stronger argument in favour of territorial representation, which I advocated some time ago in papers read before some of our local associations. Had we had such a scheme in existence, I think Mr. Campkin would not have been appointed, but some member from the district in which the previous member had resided. As I say, I do not wish to speak of Mr. Campkin personally, but merely to use this as an instance of a condition of things which requires remedying, and one that territorial representation alone will put right.

Bradford, March 12, 1904. Alfred H. Waddington.

The Use of Poison Bottles.

A few weeks ago (see *P.J. antea*, p. 238) I noticed a letter by one of our friends *re* "poison bottles," and thought it was a splendid idea, so, prompted by it to do likewise, I interviewed Mr. T. P. Watson, M.A., head master of the Keighley Technical School, and he very kindly consented to bring the matter before the students. I am convinced if they were taught to recognise the difference between ordinary bottles and those set apart for poisons, there would be less difficulty in dealing with the poison question. It seems almost an insurmountable task to teach the public how essential it is to bear this in mind. If all our large towns were to take the matter up in a similar way, this persistent method of bringing bottles, other than those specially set apart for poisonous preparations, would gradually disappear.

Keighley, March 9, 1904. A. S. Dean, Ph.C.,
Divisional Secretary.

Mostly About Bougies.

I was questioned concerning a prescription from a rhinologist lately which called for some cocaine, and a sufficiency of glyco-gelatin to make a bougie. The points which I submit are not yet decided thoroughly amongst pharmacists or physicians regarding such instructions are: (1) What is glyco-gelatin? (2) what is the orthodox shape of a nasal bougie? (3) what is the proper weight? Regarding the first, the proportions of gelatin, glycerin, and water generally used are, I think, those mentioned by Squire—5 parts of gelatin, 6 of water, and 6 of glycerin. But it is a matter of grave importance that intra-nasal medicaments should become fluid in a comparatively low temperature, and I fear that with this proportion of gelatin that bougies, kept for a time, may become insoluble. Where one works with Oleum Theobromatis, soluble form 88° F. to 94° F., one is on safe ground; but where the glyco-gelatin is ordered it, of course, must be supplied. The point is to define exactly what glyco-gelatin should be. Again, as to the shape and weight. The word bougie suggests something candle-shaped (*buginaria* is often given as the Latin plural, but is it Latin?), and 40 grains is given as the weight. But 40 grains of a bougie of the size of a No. 10 catheter would surely be too long for ordinary use, and even urethral bougies weigh only 20 to 30 grains. A wedge-shaped mass or conoidal or cuneiform suppository might easily and properly be made of this weight, but then one would not style it a bougie. The urgency of the matter is this: that a prescription for nasal bougies would probably be differently dispensed in every considerable town of the United Kingdom at the present day.

Dublin, March 6, 1904. J. C. McWalter.

Veterinary Posology.

I have sympathy with Mr. Harold Leeney in the complaint he makes against the chemist's ignorance of veterinary posology. This is largely due, I think, to the absence of a good and comprehensive veterinary posological table. If Mr. Leeney or some other authority would publish such a book at 6d. or 1s. it would, I am sure, prove a success.

March 14, 1904. "W. S. W." (293/14).

The Nutritive Value of Patent Foods.

I notice in the report of my paper on the nutritive value of patent foods in your issue of March 12, page 367, several errors, which I trust you will allow me to correct. At line 11 of first column from foot of page 367 the following table has been omitted:—

Albumin
|
Syntonin
(Acid Albumin)
|
Albumose
|
Peptone.

In the last line of the same paragraph the word "proteids" should read "products." At page 368, second column, the two footnotes refer to first table on page 369; in the fifth line, after this table, for "maltose" read "cane sugar."

Sheffield, March 16, 1904. J. Evans.

The 'P.J. Formulary.'

The 'P.J.F.' to hand, for which I thank you. Though somewhat belated, I am pleased to add my expressions of opinion to those already given. I think it a marvellous production for the money, and contains almost all the heterogeneous subjects in one book that the chemist of to-day has to be familiar with. (By-the-bye, I miss an alcohol conversion table.) To give a practical instance, a few weeks ago I had a customer who attends the chemistry classes at the local technical school, and also dabbles in photography, who asked me the constitutional formulæ for potassium metabisulphite. I did not remember for certain, but promised to look it up. I could not find it in any of my text-books, so went into the attic to rummage amongst some back numbers of the *Pharmaceutical Journal* for a photographic supplement that I had seen. After half-an-hour's search I gave it up in disgust. On receiving my 'P.J.F.' the first thing I looked for in the Photographic Section was for the formulæ, and I found immediately what I required. This shows the advantage of having a book of reference which deals with the varied subjects connected with the trade. The Legal Supplement should be particularly valuable, for no trader is more hedged round by Acts of Parliament than the chemist, and by studying the 'P.J.F.' he will be *au fait* on that score. My experience is that the intelligent chemist who takes an interest in his business is far better versed in all legal matters connected with the trade than the majority of lawyers are.

Halifax, March 16, 1904. W. R. FIELDING.

It will be an invaluable acquisition to the chemist and druggist's outfit, and sincere congratulations are due to the Editor on completion of the work, a copy of which, it is hoped, will be found in the possession of every member of the trade.

Glasgow, February 26, 1904. GEORGE GARRY.

It is a most useful book of reference, although the special reasons that gave rise to its publication do not apply in this country, pharmacists here not being troubled with the Stamp Act—for which let us be truly thankful.

Co. Down, Ireland, March 4, 1904. J. J. MACAULAY.

An agreeable feature of your handsome and encyclopædic 'P.J.F.' is the entire absence of the crabbed notation which forms such a distracting element in the ordinary dispensing formula as it is commonly printed.

Dundee, February 27, 1904. "DRACHMA" (282/31).

It will be exceedingly useful, especially to the retail chemist, who ought to have the book within easy reach for consultation daily. It is also a great convenience to have handy the notes on urine analysis, poisons and antidotes, legal hints, etc., for easy reference.

E. CRAWSHAW, F.R.G.S., F.R.M.S.

Aldersgate Street, E.C., February 27, 1904.

I am sure I shall find it of very great use to me in my hospital work. Sections IX., X., XI., XIV., XV. are very acceptable. I congratulate you on turning out such an excellent book, and for having got through such an enormous amount of work in compiling it so well and so thoroughly.

Leicester, February 27, 1904. RICHARD ESAM.

A smart business will find it to be a veritable gold mine. I look upon it as being by far the best collection of recipes I have met with in my forty years' business life. Accept hearty congratulations.

Worthing, February 27, 1904. WM. FROST.

It is a great success. Style of get-up and method of arrangement are highly satisfactory, and as a mine of information it is well-nigh inexhaustible.

Birmingham, March 6, 1904. GEO. WHITTLE.

It is an excellent work, and will prove very useful. The *Pharmaceutical Journal* has also improved very much of late, and I should like to see every registered chemist a member of the Society.

Widnes, March 7, 1904. J. CLARKSON.

The 'P.J.F.' contains a surprisingly large amount of valuable information which appeals to all interested in general chemistry. To me, as a public analyst, the various formulæ will prove most useful.

Bradford, March 7, 1904. F. W. RICHARDSON, F.I.C.

It is a marvellous production at the price, and cannot fail to be of immense service to those who have secured a copy.

Newcastle-on-Tyne. FRED A. WILCOCK.

A wonderful production at the price, cheapest and most useful book of reference have ever seen.

Smethwick, March 5, 1904. H. G. BETTS.

It is better than all my other books of formulæ put together. Every chemist should have one.

Rochdale, March 4, 1904. W. BAMFORD.

It is marvellous value for the price charged. From a hurried glance through its pages (having only just received it) I think it worth the money several times over.

Wolverhampton, March 2, 1904. G. H. LLOYD.

The "Society" has done a great thing for its members in publishing it. Everything a chemist can want in the way of formulæ is there; and the price is marvellous.

Shoreham, Sussex, March 2, 1904. H. G. GLASSPOOL.

It is truly a wonderful book. I did not expect anything so large, but you have treated every item in a thorough and exhaustive manner, so that as a book of reference it is invaluable.

Ventnor, March 4, 1904. J. GREEN.

It is a most useful manual, and should be found in the hands of every chemist.

Bridgtown, Staffs, February 26, 1904. E. A. FEREDAY.

It is well got up, and with the numerous recipes and the variety of other information given therein, is likely to prove a useful book of reference.

Croydon, March 1, 1904. H. LONG.

It will be wonderfully useful to every chemist in business throughout the world, and its value in no way represented by the price paid for it.

Brighton, February 27, 1904. H. CHURCHILL.

It is an unusually good advertisement of the Pharmaceutical Society, and should prove a veritable spring of remuneration to a diligent user of its pages.

T. H. LIVESLEY.

New Mills, *viâ* Stockport, March 1, 1904.

Every chemist will find it a most useful addition to his library.

St. Leonards-on-Sea, February 29, 1904. T. W. JONES.

It will be of great use and benefit. You deserve a word of praise for the excellent collection of formulæ and notes.

A. W. HANKINSON.

Grange-over-Sands, February 29, 1904.

In the course of my life I never laid out 5s. 6d. to better advantage. It is a marvel of usefulness.

Stoke-on-Trent, February 29, 1904. R. G. EMERY.

To such as myself who contemplate commencing business on our own account, the £ s. d. value of the book cannot be over-estimated. I must say I am delighted with it.

D. CAMPBELL.

South Kensington, S.W., February 25, 1904.

It is excellent, and a great boon to chemists in business.

Manningham, March 1, 1904. W. T. ARMITAGE

It will prove of great utility in business. I have already found some serviceable information and expect to find more as my knowledge of it increases.

Colchester, February 29, 1904. A. Weddell.

To a retail chemist it must be a most valuable book of reference—while to all others connected with the business it will be very interesting.

London, S.E., February 29, 1904. A. W. Smith.

Derbyniais y 'P.J.F.' yn ddiogel, ag mae yn bleser genyf ddyweyd ei fod yn fy moddhau yn fawr. Mae yn anhebgorol anghenrheidiol i bob fferyllydd.

Blaenau Festiniog, March 5, 1904. Hugh Jones.

It will prove a great acquisition to the chemist. Great credit is due to the compilers—the book is well got up.

G. Goldfinch, Ph.C., F.C.S.

Hendon, N.W., Feruary 27, 1904.

BIRTH.

Gibson.—On March 14, at Roseneath Cottage, Hexham, the wife of John Gibson, Ref.D., F.C.S., M.P.S., chemist and druggist, of a daughter.

DEATHS.

Brearey.—Last week, Arthur Wm. Brearey, Pharmaceutical Chemist, Douglas, Isle of Man. Aged 54. Mr. Brearey, who was well known and highly respected in the Isle of Man, was found lying dead in his greenhouse. An inquest was held on Saturday last, and the evidence showed that death was due to syncope, the result of a fall

McMillan.—On March 12, John McMillan, Chemist and Druggist, Glasgow. Aged 62. Mr. McMillan, who had been a member of the Pharmaceutical Society since 1871, was one of the best-known chemists in Glasgow. He served his apprenticeship to Messrs. Murdoch Brothers, Sauchiehall Street, Glasgow, with great credit, and about forty years ago started business in Great Western Road. From the very beginning success attended his efforts. His genial and straightforward manner soon won for him many friends among the medical men, and his place of business quickly became a rendezvous for all kinds of inquiries. He was a model pharmacist, paying the utmost attention to the smallest details of his business. Very jealous for the honour of the craft, he did all in his power to maintain a high reputation—and succeeded. Mr. McMillan was a frequent contributor to the Journal on subjects of practical interest, such as the making of ointments, the use of the metric system by pharmacists, the assistants' problem, poisons regulations, etc. Mr. McMillan did not take much part in public affairs, and his voice was not much heard in the pharmaceutical arena; but his views, when he did speak, were always listened to with the utmost attention. His devotion to business absorbed all his time, and probably helped in large measure to shorten his life. He was much esteemed among his fellow chemists and by a very large circle of friends. The funeral took place on Tuesday afternoon amid every manifestation of sincere regret. A short service was held in Hillhead Parish Church, of which church Mr. McMillan was an elder. There was a large congregation of mourners, among whom were many medical men and a very large number of chemists from all parts of the city. The service, conducted by the Rev. Dr. D. Strong, was very impressive, and at its close Chopin's "Funeral March" was played by the organist. The respect and esteem in which Mr. McMillan was held was evidenced by the fact that for nearly half a mile on the way to Cathcart Cemetery shops were partially closed and all blinds down. Nearly all the officers of the local association were present, as well as representatives from the Clan MacMillan Society, of which body Mr. McMillan was a chieftain. Thus has passed away a figure in pharmacy whose place will be difficult to fill.

Owen.—On March 14, George Bargh Owen, Chemist and Druggist, Sheffield. Aged 70. Mr. Owen carried on business in Dixon Lane and Mary Street for many years, and at one time took considerable interest in the Sheffield Pharmaceutical and Chemical Society.

Rees.—On March 4, Joseph Rees, Chemist and Druggist, Cardigan. Aged 59. Mr. Rees, who died somewhat unexpectedly, was an ex-Mayor of the borough and member of the Town Council.

Robb.—On March 9, James Robb, Chemist and Druggist, Glasgow. Aged 59. Mr. Robb, who was never a robust man, had always found the winter trying, but the east winds of a week ago proved too much for an already weak frame, and nature gave way. He had been manager in the Hillhead branch of Messrs. Frazer and Green, Limited, for over thirty years, having previously been dispenser in the Royal Infirmary. His retiring and gentle disposition made him a great favourite in Glasgow, and the intimation of his death came with a shock to all who knew him. He occupied the position of President of the Assistants' Association for several years, and during his term of office the work done was of a very high order. His personality was very marked and his influence considerable. He was extremely popular with assistants, and there are many now scattered over the world who will ever cherish the kindly advice given them so earnestly by Mr. Robb. His wife predeceased him many years ago, and his loss is now mourned by two daughters and one son, who is qualified, and now in South Africa. His funeral on Saturday was attended by, among many others, Mr. J. W. Sutherland, managing director of Messrs. Frazer and Green, and the managers of their other establishments.

Thomas.—On March 8, Isaac Jenkin Thomas, Chemist and Druggist, Maesteg. Aged 48. Mr. Thomas, who was a member of the Pharmaceutical Society, had been in business in Commercial Street, Maesteg, for ten years, and was one of the founders of the Llynfi Lodge of Masons.

Wylde.—On March 7, George Wylde, Chemist and Druggist, Fulham. Aged 83. Mr. Wylde was the youngest son of Mr. James Wylde, chemist, of Bishopsgate Without, London, E.C., who was in business in the seventeenth century. Mr. George had two brothers, viz., Mr. James Wylde, pharmaceutical chemist, of Manchester, and Mr. John Wylde, pharmaceutical chemist, of Macclesfield. These three brothers each left their sons in the same craft. Mr. George Wylde served his apprenticeship to his uncle, Mr. Walter Lowe, chemist, of 53, King's Road, Chelsea, London. In the year 1845 Mr. G. Wylde joined his brother John in partnership in Manchester, but after a few months he was recalled to Chelsea on the death of his uncle Lowe, and subsequently he carried on a very successful dispensing business for nearly half a century, retiring from business about ten years ago. He was a constant contributor to the Benevolent Fund. Mr. Wylde was twice married, and leaves one son by his first wife and six children by the second wife, now all grown up. Mr. Wylde's greatest delight was in swimming, and in winter he frequently broke the ice on the Serpentine to have his morning dip.

REPLIES TO CORRESPONDENTS.

Information required by readers will be published in this column as early as possible, but the Editor cannot undertake to reply by post, even though stamped addressed envelopes accompany the queries. Replies will, in all cases, be referred to the sender's initials, and the registered number added in each instance should be quoted in any subsequent communication on the same subject. When formulæ are given without definite weights and measures, it should be understood that the solids are to be weighed and liquids measured. Plants for recognition should be addressed to the "Curator, 17, Bloomsbury Square, London, W.C.," accompanied by a stamped, directed envelope for reply. No notice can be taken of anonymous communications.

Labels (J. H.—109/12).—You have omitted to enclose the labels.

Slip Label (J. R.—109/2).—If all the active medicinal ingredients are named upon the slip label, your plan will suffice.

Label (W. C. R.—109/3).—See reply to "W. G. M." in last week's issue.

'P.J.F.' (H. E. H.—293/23).—See reply to "W. I." in this week's issue.

Liniment (O. I. J.—109/7).—It appears to consist chiefly of olive oil emulsified with yoke of egg.

'P.J.F.' (W. R. B.—293/13).—An addendum is in preparation as was announced last week. See also page 396.

'P.J.F.' (W. I.—293/21).—It will make no difference. The error will be included in a list which will be published shortly.

Labels (J. G. H.—293/17).—The old labels may be used if you give thereon the letters 'P.J.F.,' and the respective registered numbers.

Soap Liniment (A. H.—109/11).—The company in question has been fined for selling as "Soap Liniment" a preparation made with methylated spirit.

Lozenges (W. H. S.—109/10).—They may be sold by anyone, provided they do not contain any scheduled poison, but they should not be called "Chlorodyne" lozenges.

Cochia Pills (A. W.—109/9).—(1) The name alone will not incur liability. (2) Not unless they are held out or recommended for the treatment of human ailments.

Liability to Duty (W. M. E.—109/6).—Presumably, the name "Antiseptic Foot Powder" might be held to incur liability, but it is far from certain that such a claim would be upheld.

Infusum Rhei Opiatum (J. E. H.—109/4).—There is no such formula in the Danish Pharmacopœia. Hager gives the following formula, which is incorrectly attributed to the U.S.P.:—Aqueous tincture of rhubarb, 25; spirit of ether, 10; tincture of opium with saffron, 5.

Confectio Cubebæ, etc. (C. T. J.—108/23).—(1) Cubebs, in powder, 12 oz.; copaiba, 4 fl. oz.; white beeswax, 1 oz.; oil of cassia, 1 fl. drachm; syrup, *q.s.* (2 and 3) There are no such mixtures recommended by the Board of Trade. You should procure a copy of 'The Ship Captain's Medical Guide' (Simpkin, Marshall 2s.), for further information on the subject. (4) A file ought to answer the purpose as well as anything.

Powder (R. S.—109/8).—It may be a modification of the official preparation, in which magnesia is replaced by magnesium carbonate (see 'P.J.F.,' p. 49). A kindred preparation is the German Pulvis Magnesiæ cum Rheo, which consists of magnesium carbonate, 10; rhubarb, 3, and oleosaccharate of fennel, 7. The oleosaccharate may be prepared by rubbing oil of fennel with powdered sugar, in the proportion of one drop to thirty grains.

Book of Reference (M.P.—109/35).—As you will see on referring to page 396, the Board of Inland Revenue has intimated that the letters "P.J.F.," followed by the registered number of the recipe, will be accepted as a sufficient indication of the source from which the formula is taken. As the abbreviations "Pharm. Form." and "P.F." may refer either to Braithwaite's 'Pharmaceutical Formulary' or MacEwan's 'Pharmaceutical Formulas,' neither is likely to be regarded as sufficient by the Board of Inland Revenue.

Medicine Stamp Duty (C. H. W.—109/5).—(1) Yes; provided you do nothing that might be regarded as converting the bottle into a dutiable inclosure. (2) In our opinion, the presence of poisonous ingredients in such preparations should always be indicated. Why not replace the paregoric by compound spirit of camphor, 'P.J.F.'? (3) The name "chlorodyne" ought not to be applied to lozenges which are innocent of that ingredient. Apart from that, it hardly appears necessary to apply a poison label. (4) If the reference is to a recipe in the 'P.J.F.,' your label does not express the fact clearly, and it will not suffice. (5) This is a point which remains to be decided.

Veterinary (C. B.—108/12).—Judging from the symptoms described, the malady you describe is either apoplexy or anthrax. If the former, purgation with one-drachm doses of aloes, one or two drachms of powdered ginger, and one to one and a-half ounces of magnesium sulphate, is the lesser evil. If anthrax, one-drachm doses of sodium hyposulphite should be given daily to the whole flock as a preventive, estimating for the whole number, and mixing it with meal or other food, damped. The uncertainty of the dose per sheep must not offend the pharmaceutical mind, as one cannot well handle large numbers, nor is it desirable to use force with pregnant ewes. Abortion is more easily excited in sheep than in any other species of domestic animal, and a comparatively small pinching of the flank sets up fatal enteritis.

Calendar for the Week (March 20—26, 1904).

Days of		Events of the Week.	Sun	
M	W		Rises	Sets
20	S	**Fifth Sunday in Lent.**	6.5	6.11
21	M	Cantor Lecture, Society of Arts.	6.2	6.12
22	Tu	Bradford and District Chemists' Association, Royal Hotel, at 9 p.m.—Ordinary Meeting. Edinburgh Pharmacy Athletic Club, 36, York Place, at 9 p.m.—Annual General Meeting. Royal Photographic Society, 66, Russell Square, London, at 8 p.m.—Technical Meeting.	6.0	6.14
23	W	British Optical Association, Lecture Room, St. Vernon Hospital, Fitzroy Square, W., at 8 p.m.—Ordinary Meeting. Wolverhampton and District Chemists' Association, Star and Garter Hotel, at 8.30 p.m.—Address by G. E. Perry, ex-President of the Midland Pharmaceutical Association. Edinburgh Chemists', Assistants' and Apprentices' Association, 36, York Place, at 9.15.—Open Meeting.	5.58	6.19
24	Th	☽ First Quarter, 9.37 p.m. Burnley and District Chemists' Association, Empress Hotel, at 8 p.m.—Annual Meeting. Chemists' Assistants' Association, 73, Newman Street, London, at 8.30 p.m.—"Fruits," by R. E. Lownsbrough.	5.55	6.17
25	F	Royal Institution, Albemarle Street, London, at 9 p.m.—Professor Dewar on "Liquid Hydrogen Calorimetry."	5.53	6.19
26	S	Supplemental Charter granted to the Society, 1901.	5.51	6.21

LETTERS, NEWSPAPERS, QUERIES, and other COMMUNICATIONS have been received from Messrs. Allen, Aukland, Baines, Bennett, Birkett, Birnie, Black, Bond, Borrowman, Bott, Bowden, Bratley, Bryce, Buckley, Butler, Coleman, Colley, Cooper, Crombie, Dean, Dewar, Dolbear, Douglas, Douthwaite, Dyson, Ewell, Fernie, Fielding, Flanders, Flint, Fowler, Frost, Gibson, Gilmour, Girling, Goldby, Gold, Greenish, Grier, Grisbrook, Halloway, Harrison, Hayllor, Haynes, Haythornthwaite, Hickin, Hill, Hodgson, Hole, Hunt, Izon, Jamieson, Jarrom, Jones, Judge, Laing, Latham, Lewis, Lloyd, Long, Lucas, MacEwan, Mason, Matthews, Meldrum, Metcalfe, Middleton, Millidge, Napier, Nock, Ockwell, Onion, Paine, Philp, Pinchbeck, Pinchen, Plenderleith, Postlethwaite, Power, Priestley, Ramsay, Ratheram, Rayson, Reid, Richards, Roberts, Rogers, Rose, Rutter, Sadler, Sankey, Scott, Shacklady, Sleigh, Smalley, Smith, Snow, Stacey, Stewardson, Stooke, Sutcliffe, Thorp, Tocher, Tunbridge, Waddington, Wain, Walker, Whyte, Wilkins, Williams, Williamson, Wood, Wylde.

Telegrams: "PHARMACEUTICAL JOURNAL LONDON"
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The Journal circulates widely in the United Kingdom, France, Germany, Austria, Italy, Russia, Switzerland, Canada, the United States, South America, India, Australasia, South Africa, etc. It is supplied regularly to the majority of the Chemists and Druggists in business in England, Scotland, and Wales, and to the whole of the members of the Pharmaceutical Society of Great Britain. Orders for Advertisements or for Copies of the Journal should be addressed to the Publishers, 8, Serle Street, London, W.C.

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Annual Subscription, 20s. Post Free; Single Copies, 4d. each, by Post, 4½d.

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CHANGES OF ADDRESS.

Instructions from Members of the Pharmaceutical Society, with reference to the transmission of the Journal, should be sent to the SECRETARY, 17, Bloomsbury Square, London, W.C.

The Pharmaceutical Journal Office.

THURSDAY, MARCH 24, 1904.

THIRTY-TWO CANDIDATES have entered for the Students' Competition, the results of which will be published as soon as possible after the papers have been marked.

THIS NUMBER OF THE JOURNAL contains the annual Photographic and Optical Supplement, which readers interested in the subjects dealt with should preserve. It contains much valuable information concisely put together.

SUBSCRIPTIONS FOR RENEWAL of membership of the Pharmaceutical Society should be forwarded to the Registrar not later than Thursday, March 31. Members of the Society are requested to make careful note of the fact.

"TO HIRE OUT RADIUM" is what a London pharmacist recommends other members of the craft to do. Particulars as to how a chemist may put to practical use this precious substance are given in an article which also shows how the strength of radium may be estimated.

A GOVERNMENT PHARMACY BILL will be introduced in the House of Lords after Easter. The Registrar of the Pharmaceutical Society has written to request Divisional Secretaries to be prepared to see their parliamentary representatives with regard to the measure as soon as the text is published.

THERE IS NO OBJECTION to the source from which the formula of a preparation is derived being disclosed on a slip label instead of on the label itself, provided the slip be placed on the bottle immediately below the label. The Secretary of the Board of Inland Revenue has informed a chemist to this effect.

MR. GIFFORD'S SUGGESTION that an Organising Secretary of the Pharmaceutical Society should be appointed is discussed this week by a well-informed contributor. His article is of interest, especially when read in conjunction with the series which has recently appeared from the pen of "An Ordinary Pharmacist."

THE PHARMACY BILL was down for second reading on Monday, but the debate on the vote of censure with reference to the Chinese labour question did not allow of any progress being made. The second reading is now fixed for April 18. The number of members who have blocked the Bill is six.

VOL. 72. No. 3414. (4th SERIES, VOL. 18. No. 1761.)

THE "TABLOID" CASE has been on the list in Appeal Court 2 all this week, but the time occupied by the causes which precede it has up to the time of writing prevented their lordships from hearing the case. The hearing will, almost certainly, begin to-morrow morning. We understand that the same counsel are engaged on either side as at the last hearing, but Mr. FLETCHER MOULTON will probably conduct Mr. WELLCOME's case in person.

THE NEW SYLLABUS of the examinations of the Spectacle-Makers' Company, which is published in the special supplement this week, includes an examination in sight-testing, a new departure which is not regarded with favour by the medical press. It is hinted that any medical man who accepts an examinership in sight-testing will incur the displeasure of the General Medical Council.

MR. C. B. ALLEN'S IMPENDING RETIREMENT from the Council of the Pharmaceutical Society has caused some members of the London Chemists' Association to reconsider the desirability of taking united action in support of new candidates. The result of a remarkable Committee meeting, to which members of the Press had been invited, is that the Association will not, after all, "run" any candidates.

MR. R. B. BETTY will, however, stand for election as an independent candidate. Another addition to the list of those who aspire to be Councillors of the Pharmaceutical Society is, according to a Brighton correspondent of the *Pharmaceutical Journal*, Mr. W. H. GIBSON, President of the Brighton Association of Pharmacy. It is also rumoured that Mr. JAMES PATERSON, of Aberdeen, will again enter the lists. If that be so, the new candidates for the Council now number five, but that number may, of course, be increased before March 31, the last day fixed by the Bye-laws for intimating acceptance of nomination. Mr. C. E. PICKERING, Mr. J. C. PENTNEY, Mr. P. H. BURTON, and Mr. T. H. W. IDRIS, who were nominated by members of the London Chemists' Association, are not expected to accept nomination.

THE PRICE OF CODEINE has been reduced 7d. per oz.; morphine is firmer and new prices have been fixed; eserine is 1s. 6d. per gramme lower; cod-liver oil is very much dearer again.

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THE PROSPECTS OF LEGISLATION.

THE Government will cause a Bill to amend the Pharmacy Acts to be introduced into the House of Lords after Easter. Such is the gist of the reply which Mr. BALFOUR has now given to that pertinacious seeker after the truth, Mr. O'MALLEY, M.P. What the provisions of the Bill may be, it is for the present impossible to foretell with any accuracy, but we are in a position to state that the Government approves in the main of certain principles underlying the Pharmacy Bill now before the House of Commons. The drafting of the Government Bill has not yet been completed, but we understand that some of the recommendations of the Majority of the Committee on Poisons will be embodied in the measure. The Board of Agriculture is moving actively in the matter, and it is, therefore, imperative that chemists and druggists in country districts should be prepared with evidence to convince members of Parliament that no needless difficulties are interposed by them to prevent farmers and others from obtaining poisonous substances required for technical purposes. But chemists and druggists should not, in a panic, write to members of Parliament on the assumption that the Government Bill will necessarily be of a hostile character, though—since it is well to face the matter squarely—they should be prepared for action when its provisions are known. The first step has already been taken. On March 18, the day when the Prime Minister's statement was published, the Secretary of the Pharmaceutical Society despatched the following letter to all Divisional Secretaries throughout the kingdom:—

> Pharmaceutical Society of Great Britain,
> 17, Bloomsbury Square, London, W.C.
>
> Dear Sir,—I have to acquaint you that the Prime Minister, replying to Mr. O'Malley last night, stated that a Government Bill dealing with the subject of the sale of poisons will be introduced into the House of Lords after Easter.
>
> I have thought it desirable to give you this early intimation in order that you may be fully prepared, when the text of the Bill is printed, to arrange for seeing your Parliamentary representative thereon.
>
> I am, yours faithfully,
> Richd. Bremridge, Secretary.
>
> March 18, 1904.

There is little reason to doubt that both the Privy Council and Mr. Balfour—better, perhaps, than chemists in general—have realised that a large proportion of members of the Lower House have definitely pledged themselves to support the Society's Bill. It may be true that on all Ministers, most Irish members, many Peers, and a few other legislators, the chemists of Great Britain are not able to make much impression, in a general way. But if the pages of the *Pharmaceutical Journal* for the past year or more be turned over, it will be seen that an extremely large proportion of the rank and file of both (or all?) the great political parties have promised their unqualified support to the Pharmaceutical Society's Bill. It may be taken for granted that the Government will not be so ill-advised as to bring in a Bill which in any way makes for free trade in poisons, and that the many Conservative members who have promised to support the Society's Bill will not have to choose between voting against their party and breaking their word; while the Opposition may safely be trusted not to go out of their way to object to such steps being taken as will further protect the public safety against the encroachments of capitalists, and at the same time remedy an anomalous state of affairs.

Among the latest of the members of Parliament who have expressed their willingness to co-operate with the Society and to give hearty support to its Bill is Sir Gilbert Parker, one of Mr. Chamberlain's most active adherents. On March 18 the distinguished novelist conferred with Mr. E. Millhouse, Mr. H. N. Pryke, and Mr. R. Feaver Clarke, representing the North Kent and District Chemists' Association. Sir Gilbert Parker showed a thorough knowledge of the Bill, promised to vote for its second reading, and offered to assist the Society to obtain facilities for its passage through the House of Commons. From a communication in the correspondence columns this week (see page 458) it will be seen that the use made by the Patent Medicine Vendors' Association of the name of Mr. W. W. Rutherford, M.P., is in no way justified by that gentleman's present attitude on the subject of pharmaceutical legislation. There is also little doubt that some of the few members who have declined to support the Bill have been influenced by mis-statements which only need exposing by a calm and clear statement of facts.

OPTICS AND PHOTOGRAPHY.

Modern conditions of pharmaceutical practice frequently render it necessary that a chemist and druggist in business should take up a side-line. This week a special supplement to the *Pharmaceutical Journal* has been prepared for the benefit of those who deal in microscopes, photographic goods, spectacles, and other optical instruments. For trading in each and all of those articles, the chemist, particularly the pharmaceutical chemist, is by his training thoroughly well fitted. In an article published in this issue, Mr. Robert Tocher clearly demonstrates that there are particularly good openings for pharmacists in the optical trade. But it cannot be pointed out too emphatically that a special training in optics, preferably a course such as that prescribed for the examinations of the British Optical Association or the Spectacle-Makers' Company, is very desirable. The principle of the "education of the vendor" applies to the sale of spectacles as well as of poisons. No better preliminary training—for a thorough knowledge of optics—than the instruction in physics which a pharmaceutical chemist must needs have assimilated could well be conceived, and, on referring to the new syllabus of the examinations of the Worshipful Company of Spectacle-Makers, printed on the second page of the Special Supplement this week, it will be seen that the fact receives some little recognition, as persons holding the Major diploma of the Pharmaceutical Society are excused Section (*a*) of the "Special" Examination. That is, doubtless, a step in the right direction, but it does no go far enough. A more sensible course would have been to excuse a "Minor" man Section (*a*), and to accept a Major certificate in lieu of the whole of the Special Examination. For it will be found that the requirements of the two examinations of the Pharmaceutical Society give ample assurance that the successful candidate has attained a standard at least as high as that demanded by the Spectacle-Makers' Company in Section (*a*) and the whole of the Special Examination respectively.

There are persons who deprecate the adoption of "side-lines," such as optics, by the pharmacist, because, they assert, pharmacy is his legitimate calling. For the same reason, they hold that it is not in accord with the dignity of the pharmacist to become a dealer in photographic goods. There is more than one aspect of the matter, however, and the object of these remarks is to direct attention to a point which appears to be worthy of consideration. This point is that the amateur photographer is usually not only a person in receipt of an income sufficiently large to allow of a fairly generous expenditure on his hobby, but also one who takes some little interest in more or less scientific matters. That being so, it is necessary for the photographer dealer to be something more than a mere retailer of chemicals and apparatus, and, if the chemist who caters for the requirements of the amateur photographer is wise, he will make good use of his opportunities of acquiring a sound practical knowledge of photographic principles. He will also keep well posted in the latest developments in processes and materials. In short, the "photographic chemist" must be a practical, if not an enthusiastic, photographer, able and willing to help his customers to solve any chemical problems which may arise in working out new processes. Thus a bond of mutual respect will be established between customer and chemist, much to the advantage of both. And it should not be overlooked that the amateur photographer is frequently the head of a household, and the goodwill of paterfamilias is a thing to be desired by any tradesman or professional man who wishes to enrol the family on his books.

ONLY FIVE DAYS MORE.

Thursday next, March 31, is the last day appointed by the Bye-laws of the Pharmaceutical Society for payment of annual subscriptions. If subscriptions be not sent before that day, the trouble and expense of carrying on the work in the Secretary's office is greatly increased, as members are struck off the list, and have to be re-elected by the Council if their subscriptions are received later in the year. Also, if the subscriptions be allowed to "drop," it becomes necessary to discontinue sending the *Pharmaceutical Journal* to the defaulters, who may, in addition, not be restored in time to vote at the forthcoming and important Council election. The prospects of pharmaceutical legislation render it imperative that as many chemists in business as possible should be in touch with the Pharmaceutical Society and with the progress of political matters affecting the trade. Divisional Secretaries are therefore asked to note that, although it is not now "looked upon as a necessary part of their duty" to act as collectors of subscriptions, they are not, and never have been, discouraged from making efforts to ensure that the members in their district discharge their obligations to the Society as such obligations fall due. It should not be necessary to advance again the reasons which now make support of the Pharmaceutical Society more than ever desirable. It should suffice to state that the cause of pharmacy cannot make proper progress unless, within the next five days, all those who have hitherto delayed continue their membership and renew their strength.

RADIUM ON HIRE.

It may not have occurred to many pharmacists that radium is an article which they will be expected, sooner or later, to add to their stock-in-trade. There can be little doubt that its use medicinally may, when supplies are more readily obtainable, be a matter of daily occurrence. This in spite of the announcement that as a cure for cancer it is not so effective as had been hoped. A chemist practising in a London suburb has already been the means of enabling medical practitioners to test the therapeutic value of radium; and the manner in which he does this is so simple that it is a wonder it has not occurred to many others. As some members of the craft may wish to follow his example, it may be well to explain how he does it, which can be done in a very few words. This transpontine disciple of Galen hires out to doctors a small glass tube (which can be easily sterilised) containing 5 Mgm. of radium bromide, at a certain charge per hour. Sometimes, however, the doctor prefers that the application of the radium should be made by the chemist at his direction, in which case the patient attends the pharmacy, when the tube of radium is placed over the affected area for a period of about ten minutes. By this system of hiring many patients have been able to take advantage of a method of treatment which otherwise would have been impracticable. For it is absolutely impossible for more than a very limited number of medical men to have a private supply of this precious substance. Moreover, in view of the fact that it is estimated that the amount procurable in London at the present time is considerably less than a grain, it would savour of selfishness for anyone to allow what little there is to be idle when so much good might be done with it. It will hardly be necessary to warn chemists against hiring radium for other than *boná-fide* medicinal purposes, or of applying it except at the direction of a medical practitioner. The harm that might be done with this weird chemical in the hands of the ignorant or the mischievous is impossible to calculate, and every possible precaution should be taken against its misuse.

SURGICAL DRESSINGS AND SULLY'S FAILURE.

On Friday of last week it was announced on the New York Cotton Exchange that Daniel Sully, who was carrying between 300,000 to 400,000 bales of cotton, the value of which might have been anything from 24 to 36 million dollars, had come to grief, or in other words, that he had failed in his efforts to corner cotton. The direct effect on the American market was a slump of 196 points, or nearly two cents on the day. Chemists are now probably asking themselves what effect this latest development in the cotton market will have on the value of surgical dressings. And the answer to this question is, as far as can be seen at present, that it will probably have no effect at all. The price of cotton had been gradually falling during the week beginning March 14, on which day the closing price of spot cotton stood at 8·78d. in Liverpool, while on Friday of the same week the figure was 8·24d. This fall was in some measure due to the slackened demand, as well as to anxiety on the part of wary speculators to sell. On the Saturday following on the announcement of Sully's failure the price fell to 7·74d., but on Monday the value again rose, closing at 8·10d., owing to large buying orders from America, Alexandria, and the Continent.

It will naturally be some days before the full effect of the collapse can be seen, but at the time of writing the general feeling seems to be that while it will ultimately be for the good of the trade, the failure cannot alter this season's prices to any very sensible extent. While the collapse of the notorious "bull" operator should under normal conditions cause a considerable drop in the prices, the news comes that a firm of well-known cotton experts has reduced its crop estimate to 10,500,000 bales, a shortage on the world's estimated requirements of 500,000 bales. The visible supply in this country is some 200,000 bales less than at this time last year, and the quantity of cotton afloat is about 130,000 bales below that of the corresponding week of 1903. The total shipments this cotton season thus fall fully 300,000 bales short of last year's scanty supply. Taking all the circumstances into consideration, manufactured goods can hardly be expected to fall much below the present level, and Mr. Sully's suspension will, therefore, leave the chemist in much the same position as he was before the collapse came.

ABSTRACTS—SCIENTIFIC AND TECHNICAL

A REVIEW OF CURRENT WORK IN PHARMACOPEDICS AND ALLIED SCIENCES

Electrolytic Preparation of Iodoform from Acetone.

J. E. Teeple has succeeded in obtaining a good yield of iodoform by a method based on the electro-chemical application of Suilliot and Raynaud's method for the preparation of iodoform. The author electrolysed potassium iodide in the presence of acetone. The chief conditions were low anode current density and very high cathode current density, no excess of alkali, thorough stirring, and work at room temperature. It is essential that excess of alkali be neutralised as fast as it is formed. The neutralising agent may be carbon dioxide, hydrochloric acid, hydriodic acid, or iodine. The method has led to almost theoretical current yields.—*Journ. Amer. Chem. Society*, **25**, 170.

Adulteration of Potassium Cyanide.

L. F. Kebler complains that potassium cyanide, labelled "98 to 100 per cent. pure," is frequently imported into the United States in a state of gross impurity. Analysis of four samples showed the percentages of KCN to be 33·65, 13·62, 31·75, and 65·90 respectively, the remainder consisting of sodium cyanide in very large quantity, with potassium carbonate, and in two instances sodium chloride as well. The author remarks that present methods of detecting and determining chlorides in the soluble cyanides are not satisfactory, and more expeditious and accurate tests are desirable.—*U.S. Dept. of Agricult. Bulletin*, 80.

Pharmacology of Selenium, Tellurium, and Arsenic.

In a thesis presented for the degree of M.D. (Victoria), H. J. Compton has given the conclusions drawn from a series of experiments which had for their object the determination of the pharmacological effects of selenium, tellurium, and arsenic. The author's conclusions are as follow:—When locally applied to the voluntary muscle of the common frog solutions of the compounds of selenium, tellurium and arsenic have very little effect. They are not direct muscle poisons. Solutions of sodium arsenite have a distinct preliminary stimulant effect upon voluntary muscle, but the selenite and tellurite of sodium have no such action. Locally applied, the solutions of selenium, tellurium, and arsenic are not directly poisonous to motor nerve trunks. Alkaline solutions of the compounds of arsenic and selenium cause contraction of the blood-vessels. As neutralised solutions have practically no effect this result is to be explained by the alkalinity of the liquid. The solutions cannot be termed direct poisons to cardiac muscle. Solutions of the arsenite, selenite, and tellurite of sodium tend to accelerate the beat of the heart.—*Med. Chron.*, **39**, 304.

Determination of Formaldehyde.

C. Kleber suggests the following method for the quantitative determination of formaldehyde:—To commercial concentrated sodium bisulphite solution, which generally contains a considerable quantity of free sulphurous acid, a solution of pure caustic soda, preferably made from the article purified with alcohol, is added, until the odour of sulphurous acid has completely disappeared. No special care is required in this operation, as a slight excess of caustic soda over the quantity necessary for deodorising is immaterial. Then this solution is diluted with water, until 30 C.c. of it exactly neutralises 50 C.c. of normal caustic soda, using phenolphthaleïn as an indicator. Towards this solution formaldehyde behaves like an alkali, and can be titrated accordingly.—*Pharm. Rev.*, **22**, 94.

Distinctive Reaction for Cobalt and Nickel Salts.

G. Guérin states that if a solution of a cobalt salt is precipitated by excess of caustic potash and then treated with an excess of iodine in potassium iodide, after a few moments the whole of the cobalt is precipitated as a black hydrated sesquioxide. Nickel gives a light green hydroxide. The same behaviour is shown by cobalt and nickel when already precipitated by other radicals, except when precipitated as ferricyanides. In this case the potash alone produces a black precipitate of cobalt hydrated sesquioxide.—*Journ. Pharm. Chim.*, **19**, 139, through *Journ. Soc. Chem. Ind.*

Determination of Unsaponifiable Matter in Linseed Oil.

C. Niegemann has found in eighteen determinations on pure linseed oil that the maximum amount of unsaponifiable matter was 2·15, the minimum 0·74, and the average 1·35 per cent., this average being exceeded in seven of the samples. The author, therefore, concludes that it is not justifiable to condemn a linseed oil solely because the amount of unsaponifiable matter exceeds the highest limit (1·3 per cent.).—*Chem. Zeit.*, **28**, 97, through *Journ. Soc. Chem. Ind.*

Adulterated Beeswax.

L. F. Kebler has recently examined a scientifically prepared mixture closely resembling beeswax, for which it was offered. The article consisted, for the greater part, of a ceresin, of high melting point, and Japan wax, the mixture being flavoured artificially to resemble the genuine product The physical characters were:—Melting-point, 61·5° C. sp. gr. at 15° C., 0·959; acid number, 14·2; ether number, 73·6. Another sample recently examined was found to contain 33 per cent. of cassava starch. On inquiry it was found that $800 worth of this fraudulent material had passed through the New York Custom House, having been imported from Mexico.—*U.S. Dept. of Agricult. Bulletin*, 80.

Identification of Alkaloids.

P. Kley has devised a rapid method, by means of which, with the aid of the polarising microscope, he claims that the different alkaloids can be identified by their refractive indices. A very small crystal, which acts to some extent as a convex lens, is placed on the object-glass of the microscope, together with a liquid of known refracting power. In making the examination, parallel light is used; on adjusting the microscope, one can recognise by certain phenomena whether the liquid is more or less refracting than the crystals. The liquid is then replaced by another and so on, until, when the refractive indices of the crystals and of the liquid are identical, the contour of the crystal can no longer be perceived, but only coloured rings. In this manner definite values can be obtained for the various alkaloids, without determining the crystalline form, angles of the two optical axes, etc. The author examined in the above manner the alkaloids of nux vomica, of opium and of cinchona bark; also cocaine, atropine, hyoscyamine, hydrastine, berberine, cytisine, physostigmine, sparteïne sulphate, aconitine, delphinine, veratrine, cantharidin, piperin, caffeine, and theobromine. By setting out the results graphically, a right-angled field is obtained, in which the different substances are represented by points; the diagonal separates the positive and negative crystals, and the distance from it indicates the intensity of the double refraction. The points representing different alkaloids coincide only in a few cases, and then only when the alkaloids in question can be easily distinguished by other means. On the other hand, alkaloids which can only be distinguished with difficulty by other means (*e.g.*, strychnine and brucine) are represented by points widely removed one from the other.—*Rec. trav. Chim. Pays-Bas*, **22**, 367; through *Journ. Soc. Chem. Ind.*

MELTING-POINTS.

BY S. JUDD LEWIS, PH.C.

(*Concluded from page* 400.)

In the official process the Pharmacopœia directs the substance to be melted in the capillary tube, then allowed to cool and solidify, and finally heated until it again assumes the liquid phase. The temperature of this second fusion is taken as the melting-point. This modification has for its chief object the reduction of the substance to a constant crystalline condition ; it also eliminates to some slight extent any moisture or solvent the substance may retain from the manufacturing process. It would appear that some chemists regard the preliminary melting as a means of dehydration of the substance. Such a view cannot be altogether satisfactory, for it is not probable that the water vapour would free itself so quickly from the small surface of the melted substance in a capillary tube under conditions when the surface tension is greatest, and the more so if it melts only a few degrees above 100° C. Certainly the fact that the Pharmacopœia leaves it open to experiment on the undried substance (except in the case of acetanilide) favours that view, but the reason given above is the more probable. However, in this it essentially differs from other published methods, and, as shown by Tyrer and Levy, usually gives high, but sometimes low, results. It is advisable to accurately determine the temperature of the first fusion as well as that of the second, and so obtain results by both methods.

Never less than two well-conducted observations should be made, and, if accuracy to the nearest 1/10° C. or other close approximation is required, at least four ; all first-trial and other doubtful experiments must be entirely rejected. As indicated above, it is sometimes difficult to satisfactorily establish the actual point of fusion. It is always safest to stand by the experimental data, and if they are not sufficiently concordant to confidently decide on the mean, it is preferable to record the range of temperature within which the body liquefies.

The following are

Notes on Particular Substances :—

For *Fats, Waxes, and the like* the directions given by the B.P. under Cera Flava may be followed ; the "three hours" should be lengthened to "over-night" whenever time permits.

Paraffinum Molle offers some difficulty on account of the very slight alteration in appearance accompanying the change of state ; hence it is imperative to adopt some other means of observing the change. Several methods are discussed by Grier (*P.J.* [4], **6**, 293). The following has proved very easy and satisfactory ; it gives constant results, and differs but slightly from that referred to under Cera Flava. Draw out a capillary tube, which tapers regularly from an internal diameter of about 1·1 Mm. at the lower end to 0·5 or 0·6 Mm. at a point 3 Cm. higher up. Suck up into the larger end sufficient of the paraffin to fill 1 Cm. of its length ; then the mean diameter of the column of hydrocarbon is 1 Mm. After setting aside for some hours, preferably over-night, attach to the thermometer in the usual way, and immerse in the bath, so that the lower end of the capillary is 3 Cm. below the surface of the water. Observe the temperature at which the substance rises slowly but promptly through about 1 Cm. The movement is induced by hydrostatic pressure of known magnitude and controlled by the tapering of the tube. The notes appended to the figures given above are of interest.

Oleum Theobromatis.—A paper by Clague on its melting-point appears in *P.J.* [3], **23**, 247.

Fixed Oils are described by the B.P. as congealing at certain temperatures, but the phenomena are not very regular. The absorption of heat may be effected by a good freezing mixture or in the apparatus described in *C. and D.*, **50**, 17. The test-tube must not be too small, for it is a physical principle that solidification is apt to be greatly retarded in very small tubes ; also it should be assisted by agitation and friction. Notice also Squire's remarks under Olive Oil.

Acetic Acid, Glacial.—Preferably by the solidification process described by Squire in *P.J.* [4], **15**, 413 ; see also below.

Carbolic Acid.—The melting-point is affected by the presence of water and by that of impurities. If it be required to eliminate the water, boil off about 10 per cent. of the acid, and take the melting-point of the remainder. It is desirable to do this in addition to experimenting on the original acid, as it reveals the character of the anhydrous acid.

Cocaine Hydrochloride.—It is questionable whether this has a proper melting-point. Figures by various authorities range from 181° to 202° C. Francis considers it a variable decomposition point. The B.P. allows a range of 6° C., and it invariably turns more or less brown with effervescence at the "melting-point." The temperature of the bath should be only 2° or 3° C. below, and then quickly raised to, the fusion-point ; but the determination is valueless unless made under the most precise standard conditions, and therefore should be omitted from the Pharmacopœia.

Anise Oil.—The B.P. says :—"It congeals, when stirred, at temperatures between 10° and 15° C., and should not again become liquid below 15° C.," but this is too indefinite to be of value as a test. By taking the solidifying point in a definite manner the test becomes a trustworthy criterion of the quality of the oil. It may be taken in a Beckmann's freezing-point apparatus, using an ordinary thermometer ; a suitable form can be improvised from a couple of test-tubes and a glass jar. It is better to work by the more simple flask method described in 'The Volatile Oils,' by Gildemeister and Hoffmann, p. 360, which consists in placing 200 Gm. of the oil in a flask, cooling "to about +6 to 8°," then inducing crystallisation and observing the highest point which the mercury reaches, which is the congealing point ; but as shown below crystallisation should be started at a definite temperature, and not at "about 6 to 8°," as there recommended. In Schimmel's Report of an earlier date (October, 1896) a fixed temperature of +5° C. was prescribed.

This process of determining the solidifying point of anise oil bears *primâ facie* some resemblance to that for ascertaining the depression of the freezing point of a solvent by a body dissolved in it ; generally known as Raoult's method. In any case a comparison of the method in question with that of Raoult will serve to throw light on the subject. There are, however, most important differences between them. For purposes of comparison it will be convenient to regard the Anethol as the solvent, especially as it constitutes 80 to 90 per cent. of the oil, and the other portion as the substance dissolved.

In the former case the solution is dilute, and is cooled a little below its freezing point, and on inducing solidification the heat evolved by the change in state of a portion of the solvent is communicated to the whole system, raising it to the temperature at which equilibrium between the solution and the separated solid is attained, and this temperature is a perfectly definite one.

It may be mentioned here that Squire's method for glacial acetic acid is virtually that of Raoult; the concentration of the solute (water and impurity) is small, and if the initial temperature be not too low a small part only of the acid will solidify and a system obtained in which the solid is in equilibrium with the solution at a definite temperature—the depressed freezing-point.

In the latter case the conditions are quite different. Consider an example. The solution is comparatively highly concentrated. The quantity of crystals separable from one gramme of the oil evolve during formation x calories, and raise the temperature of the whole system through t° C. Similarly, the quantity of crystals separable from m grammes of the oil generate during formation mx calories, and raises the temperature of the whole system mt° C. Now, if the oil be cooled to 5° C., and solidification induced, the resulting temperature will be $(5 + mt)^\circ$ C., and if crystallisation be started when the oil is at a temperature of 7° C. it will rise to $(7 + mt)^\circ$ C. But if the maximum of anethol separates when the oil is cooled to 5° C., less will separate when it is cooled to 7° C., and consequently the rise in temperature will be less; let it be lt° C., so that the final temperature is $(7 + lt)^\circ$ C. Now, if $mt - lt = 2$, the final temperature will be the same in both cases—*i.e.*, $5 + mt = 7 + lt$. This is quite possible, but certainly not probable, and if it can be proved to be so in some cases it could not be so in all, since the oil is not invariable in the nature of its composition. Again, suppose a small but variable proportion of the crystals to separate, as in Raoult's method, the temperature will rise until the crystals and the solution are in equilibrium; but, since the composition and stability of the solution varies sensibly with each fractional separation of the solvent, no constant maximum temperature is possible.

From these considerations, and the fact that we are dealing with a series of highly concentrated (10 to 20 per cent.) solutions of uncertain composition in anethol, it is evident that the test is a purely arbitrary one, and is not of the physically constant character indicated on p. 560 of 'The Volatile Oils,' where it says:—"The oil can, under certain conditions, be cooled far below its solidification point without becoming solid, and can be kept for a long while in this over-cooled condition. The falling-in of a particle of dust, touching with a crystal of anethol, a sharp agitation, or scratching of the walls of the flask with a glass rod, produces a sudden solidification of the entire mass, with considerable rise in temperature, the thermometer rising up to the true solidification point of the oil. This is, as it is dependent on the anethol-content of the oil, a good indicator of the quality of the oil." The expression "*true* solidification point," when applied to such a complex mixture, needs some definition. From what has been said, the anethol-content can have but a limited relation to this factor; indeed, the solidification point changes on keeping the oil for some time. Nevertheless, the phenomena are fairly constant for any particular oil under prescribed conditions, and the method is sufficiently satisfactory for practical purposes when the initial temperature is definitely fixed.

A refinement I have always adopted consists in placing the flask in a bath of water 0° to 0·5° C. below that indicated by the thermometer in the oil. In hot weather this is very desirable, as it takes several minutes for the thermometer to register the maximum temperature, explained by the fact that the thermometer absorbs a considerable quantity of heat, so cooling the adjacent layers of oil, and these layers being badly conducting, it takes some time for the temperature of the body of the oil to be communicated to the thermometer. Heat from without is thus prevented from reaching the thermometer, and the maximum temperature may be awaited with confidence.

All these limitations, however, recall Squire's earlier appeal for the melting-point (*P.J.* [3], **24**, 104), especially in view of the large quantity (200 Gm.) of oil necessary for the solidification test not always being available. Success in determining this factor may be looked for in some way such as that in the following suggestion:—Place a little of the oil in a capillary tube, cause it to solidify at once, and keep it at a temperature several degrees below its melting-point for some hours (as directed for fats, etc.); then continue in the usual way, observing the temperature of complete liquefaction (as for Chaulmoogra oil).

Thymol.—The Pharmacopœia says the crystals "sink in cold water, but on heating the mixture to a temperature of 43·3° to 51·7° C. they will melt and rise to the surface." This probably is intended merely to describe a property of its change of density relative to that of water on a given rise of temperature. It is not likely that it has reference to the melting-point. Good Thymol fuses sharply at 50° to 51° C., according to Gildemeister and Hoffmann. For commercial specimens I have found 50° to 50·5° C.

In this paper no attempt is made to settle matters of dispute. The object is rather to lay before those to whom they may be useful certain of the principles to be recognised and to indicate some of the conditions which experience has shown to be inseparable from successful experiment. It is also hoped that it may fall into the hands of some authors, who shall be induced to include in their textbooks sufficiently precise directions to enable the student to appreciate the delicacy of the work he undertakes. Unfortunately, at the present time it is rare to light upon such articles, and one frequently comes across men from our schools and colleges who are ignorant of all but the most crude ideas of determining so important a factor as a melting-point.

Camphorated Oil for Hypodermic Morphine Injections.

Camphor in oily solution has been much prescribed on the Continent as a stimulant in the form of a hypodermic injection, and is often indicated in cases in which morphine is also required. In order to combine the two active ingredients in one solution the injection may be prepared by means of morphine oleate, thus:—Dissolve morphine alkaloid, 1, in just sufficient oleic acid, add camphor, 10, and dissolve in sufficient olive oil to make 100 fluid parts. The oil used should be first washed with alcohol, then sterilised. One C.c. contains 10 Cgm. of camphor and 1 Cgm. of morphine.—*Journ. Pharm. Chim.* [3], **18**, 344.

THE STUDENTS' COLUMNS.

PRACTICAL CHEMISTRY (2).

The Use of the Blow-pipe.

In a previous paper the effect of heating substances in a test-tube was dealt with. The next test in an examination of a substance is heating it on charcoal in the blow-pipe flame. In this flame a higher temperature is reached than can be used when heating in a glass tube, and the substance is also subjected to the reducing action of the red-hot charcoal and of the gas. The proper use of the mouth blow-pipe is frequently a difficulty to the student, and some practice is required to become expert. The beginner usually takes a long breath, blows vigorously, and in a very short time, having exhausted all the air in his lungs, he has to gasp for breath, and then start again. When the proper trick is learnt a steady flame can be kept up for as long as may be desired, the operator breathing naturally the whole time. This is done by using the pressure of the cheeks to produce the blast of air and not blowing from the lungs. The blow-pipe should be applied to the lips and the cheeks inflated, it will then be found that air can be blown through by compressing the cheeks, and, with a little practice, the operator can breathe through the nose at the same time. When the cheeks have fallen to their natural position the mouth can be re-filled by blowing from the throat without interfering with the stream of air. Until this art is learnt it is impossible to take full advantage of the use of the blow-pipe. It may here be noted that 2 in. of thin rubber tubing placed over the end of the blow-pipe forms a much more comfortable mouthpiece than the one usually supplied. For charcoal either large pieces of wood charcoal or the blocks of gas carbon sold by the apparatus makers may be used; the former is more absorbent, but burns away much quicker. When about to use the blow-pipe the ring at the bottom of the Bunsen should be turned so as to give a yellow luminous flame, and the flame turned down until it is not more than 2 in. high. It is better to grease this ring with a little vaseline when the burner is first used, as otherwise it is liable to become fixed, and cause great inconvenience when required for use; a spirit lamp may be used without preparation. The nozzle of the blow-pipe should be placed just in the flame at the bottom, and then the air blown through; the article on "Flame" in some text-book of chemistry should be consulted, to learn the difference between an oxidising and a reducing flame, and the student should practise until he can produce either at will by altering the position of the nozzle. The use of these flames may be illustrated as follows:—Scrape a small hole near one end of the charcoal with an old knife, place a little lead oxide (litharge) in it, and direct the reducing flame upon it; the oxide becomes reduced, and small bright beads of metallic lead are produced. This is carrying out on a small scale the operation which on a large scale is known as smelting, and illustrates the principle on which most of the commercial metals may be obtained. The reaction may be put down as follows:—

$$PbO + C = Pb + CO.$$

So that the carbon takes away the oxygen from the lead oxide and *reduces* it to metallic lead, while it is itself *oxidised* by the oxide to carbon monoxide. This carbon monoxide is an inflammable gas, and therefore when it reaches the outside of the flame it burns to carbon dioxide,

$$2CO + O_2 = 2CO_2.$$

If now the extreme tip of the oxidising flame be directed on to the bead of lead, it will become re-oxidised, and owing to the high temperature partly volatilised, and the oxide will be deposited on the cooler portions of the charcoal, a little distance from the flame, forming a yellow incrustation,

$$2Pb + O_2 = 2PbO.$$

These incrustations are characteristic of many metals, and the student should heat salts of cadmium, bismuth, antimony, and zinc, and note that cadmium gives brown, bismuth white or yellowish, and antimony and zinc white incrustations. Arsenic and mercury salts give incrustations, but they also give off white fumes that are very poisonous, and therefore they should not be heated in the blow-pipe; if it is desired to try the experiment very small quantities should be taken, and great care observed. The student should also see what happens when calcium sulphate, magnesium sulphate, and alum are heated, and try various salts of sodium and potassium. Care should be taken that all remains from any previous experiment are scraped off the charcoal before a new one is commenced.

A further blow-pipe reaction is to heat the substance, mixed with dry sodium carbonate, in the reducing flame, the object being to obtain beads of the metal. In the case of lead oxide, metallic beads may be obtained without the use of sodium carbonate, but in other cases it helps by forming the carbonate of the metal, which is usually more easily reduced than the original salt. For example, lead chloride fused with sodium carbonate gives lead carbonate and sodium chloride—

$$PbCl_2 + Na_2CO_3 = PbCO_3 + 2NaCl.$$

The heat converts the lead carbonate into oxide—

$$PbCO_3 = PbO + CO_2,$$

which is then reduced by the charcoal according to the equation given before. As this reduction is due to the carbon, it is aided by mixing some powdered charcoal (scraped off the block) with the sodium carbonate and the substance before heating. This experiment should be tried with silver nitrate, and some convenient salt of bismuth and of antimony, as well as with lead, and beads should be obtained in each case. The beads should be separated and crushed under the blade of a knife; the silver and lead beads will go flat—are "malleable" as it is termed—while the antimony and bismuth beads will break up into small fragments, being "brittle." An attempt should then be made to reduce "putty powder" or stannic oxide. This should give a malleable bead of tin, but it will probably be found necessary to mix a little potassium cyanide with it before fusing; this substance being a strong reducing agent, being itself oxidised to cyanate—

$$KCN + O = KCNO$$

Copper sulphate will readily yield scales of metallic copper, but considerable heat is required to make them run together into a red bead. Ferrous sulphate treated in this way will be found to leave a black powder, which is metallic iron, and is attracted by a magnet. It does not form a bead because the highest temperature attainable by the mouth blow-pipe is lower than the melting-point of iron.

THE MICROSCOPE AS A HOBBY.*

BY W. NEALE ELLIS.

The microscope, as everyone knows, is an instrument for rendering visible extremely minute objects and structures. In its simplest form it consists merely of a bi-convex lens suitably mounted; in its most elaborate form, as represented by the present-day compound microscope for research work, the mathematician, the scientist, and the skilled workman have united in producing an instrument which, to say the least, is a credit to human ingenuity. The action of the microscope, whether it be the single lens of the simple instrument or the combination of perfectly adjusted lenses of the compound instrument, may be summed up in the one word—refraction. We all know what happens to a ray of light passing from a rarer to a denser medium—say from air to glass—it is bent, refracted; and we all know what a useful thing a triangular prism is for exhibiting refraction phenomena. Now, imagine two such prisms with their bases in contact, and we have the theoretical framework, so to speak, of the simple microscope. Before going any further let us look at the optical apparatus with which nature has provided us in various grades of perfection, so that we may the more readily understand how it is that a modification of these two prisms can give to the eye a power which, assuming that human evolution has not passed its zenith, it may possess, but which at present it possesses only to a limited extent. Very few people trouble to ask themselves (or somebody who knows) why an object appears larger the nearer it approaches the eye. They would probably be surprised to learn that the eye is, in a sense, a microscope, and that, given the power of practically unlimited accommodation—*i.e.*, the power to alter the convexity and the aperture of the crystalline lens almost indefinitely—we should be able to dispense with opera glasses and pocket magnifiers, if not with astronomical telescopes and compound microscopes.

The eye of man and animals, in the existing stage of their evolution, is to all intents and purposes a photographic camera. The only points of difference which need be mentioned between the natural and the artificial instrument are that in the former the picture is produced not in air, as is the case in the latter, but in the highly refractive jelly known as the vitreous humour which occupies the greater part of the ball of the eye; and the focussing is done not by altering the distance between the lens and screen (or retina), but, as already suggested, by altering the shape of the lens itself. Now, the normal crystalline lens can by this wonderful provision comfortably throw a sharp picture of—*i.e.*, bring to a focus upon the retina—light rays proceeding from an object, say, ten inches or as many miles away. At eight inches there is a little difficulty, at six inches considerable difficulty, at four inches the ciliary muscle is taxed to its utmost to bring about the necessary convexity of the lens, and at three inches it gives up the struggle altogether, with the result that the object appears blurred. At this point—or perhaps it will be better for the sake of our eyesight if we do so at the four-inch stage—let us interpose an ordinary magnifying glass. What happens? The difficulty is at once removed, and, more than that, the object appears larger and details which before were invisible are now plainly to be seen. The explanation is simple. Our eye is adapted for dealing only with parallel or nearly parallel rays. But the rays from a near object are more or less divergent, and, also, the nearer the source of the rays is to a converging lens the further off will the rays themselves be brought to a focus on the other side. Consequently the blurring of the object indicates that most of the rays from it are focussed behind the retina. The artificial lens comes to the aid of its fleshly brother by altering the course of these too divergent rays, but in so doing misleads him. In fact, one might define magnification as the fraud of the eye, since, as Carpenter (or is it Dallinger?) puts it, it is only the ghost of the object that one sees under such conditions. In other words, the rays from the object, having passed through the artificial lens, enter the eye under an angle corresponding with that under which they would have arrived from a larger object situated at a greater distance. This, briefly, is the action of the simple microscope, and it should be remembered that the object lies always between the lens and its principal focus when this ghostly—or, to use the proper term—virtual image is seen.

From the simple microscope to the compound microscope is a big step, but with the fundamental principle of the former before us, it is comparatively easy to understand the working of the far more complex instrument. The great point of difference between the two is that in the latter it is not the virtual image which plays the principal part—at any rate, from the point of view of cost of production—but the real image (*i.e.*, the inverted picture) of an object which a convex lens will throw upon a screen providing the object be placed beyond its principal focus.

In the compound microscope the set of tiny lenses near the object, and known as the objective or object glass, the object being outside its principal focus, projects an inverted and enlarged real image of the object within the principal focus of the eye-piece or eye-glass, which in its turn acts precisely as a single microscope, and deals with this enlarged image exactly as if the latter were the object itself. Thus a specialised double magnification is brought about in which rests the secret of the immensely greater power of the compound over the simple microscope. Bearing in mind the fact that, within the focal limit before mentioned, the nearer the object glass is brought to an object, the farther off and larger will be the real image it produces, we can understand the use of the draw-tube in obtaining quite a variety of different magnifications. Bearing also in mind a fact that was adduced to explain the limitations of ordinary vision—namely, that the closer one approaches an object the larger it appears—we can understand why an objective of $\frac{1}{8}$ in. focus is stronger, to use a popular expression, than an objective, say, of $\frac{1}{2}$ in. focus.

Seeing, then, that the compound microscope consists, in essence, of two convex lenses, so placed that the one behaves as a simple microscope with regard to the real and enlarged image produced by the other, it will probably occur to most of my hearers that the necessity for so many distinct lenses in the modern compound instrument arises from some inherent defect or defects in the simple lens *per se*. It is possible, too, that those present who have not altogether forgotten their physics will have no difficulty in calling to mind what they learnt about spherical and chromatic aberration under the heading "Optics," and, broadly speaking, these—the two greatest bugbears of practical optics—are the "inherent defects" just referred to, and, incidentally, are to blame for the extremely high prices of first-class objectives.

Spherical aberration, I may remind you, is due to the fact that rays of light striking the curved surface of a lens are unequally refracted. The focal point of a ray entering nearly at the circumference of a lens will fall appreciably closer to the lens than that of a ray entering nearer to the optical axis of the lens, consequently an image formed by such a lens is not, to use simple language, sharp all over. This defect is combated in two ways: First, by means of a diaphragm whereby rays are permitted to impinge only on the central part of the lens, thus shutting out the more oblique rays coming from the object; secondly, by making use of combinations of lenses so disposed that their opposite aberrations shall correct each other. For, as the aberration of a concave lens is just the opposite of that of a convex lens, the aberration of a convex lens placed in its most favourable position may be corrected by that of a concave lens of much less power placed in its most unfavourable position, so that although the power of the convex lens is weakened, all the rays which pass through this aplanatic combination, as it is called, will be brought approximately to one focus.

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* Read before the Chemists' Assistants' Association, on Thursday March 10, 1904.

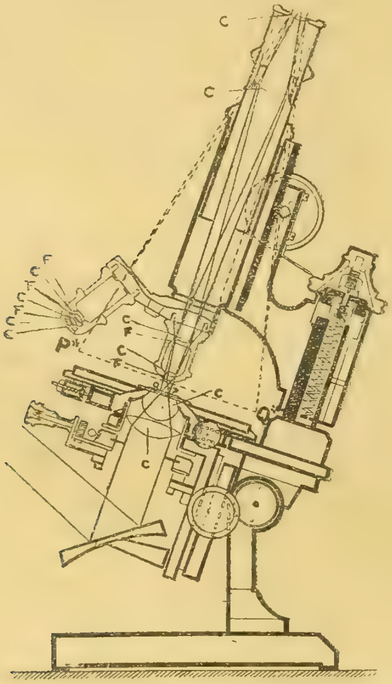
Chromatic aberration is due, as you are aware, to the unequal refrangibility of the coloured rays which together make up ordinary light. It is this difference in their refrangibility which causes their more or less complete separation or dispersion by the prism into a spectrum; and as we have likened our magnifying glass to two prisms, it will be obvious that this particular defect is very much in evidence in an uncorrected lens. Chromatic aberration is to a certain extent neutralised by the diaphragm used to correct spherical aberration, since the more oblique the direction of the rays the greater will be the refraction they will undergo and the greater also will be their dispersion. But it is to the concave lens that we turn again for the means of efficiently reducing this colour difficulty to a minimum. Advantage is taken of the great difference in refractive power between crown and flint glass, and, once more speaking very broadly, a concave lens of flint glass will compensate for all the shortcomings of a convex lens of crown glass. By bringing mathematics to bear upon the perfect solution of these two problems and by experimenting with all sorts of crown and flint glass combinations, very creditable objectives were produced and very powerful ones too. But when Abbé came forward with what is known as his diffraction theory, and suggested that it was all a mistake for opticians to expend so much time and energy in turning out dry objectives of 1/40 in. and 1/50 in. focus, when a drop of cedar oil on a specially and easily made 1/12 in. set of glasses would give as good, nay better, results; when, in other words, Abbé, after laborious researches and subsequent practical demonstrations, drove home the fact that largeness was not necessarily distinctness or truthfulness in microscopic vision, the construction of microscope objectives underwent an entire revolution. The drop of cedar oil referred to—cedar oil, by the way, being nearly of the same refractive index as crown glass—not only suppresses spherical aberration in front of the objective, but it allows the objective to be worked at its full aperture, whereas in the very best of the old achromatic dry objectives at least one-tenth part of the light which could theoretically pass through the lenses had to be sacrificed. Moreover, the homogeneous immersion system—to give it its technical name—allows of a greater working distance between the objective and object than is otherwise attainable with the same extent of aperture, thus removing in a great measure the difficulty of manipulating objectives of extremely short focus. But beyond all these reasons for the superiority of this system is the fact that it admits into the lens a larger number of diffraction spectra than can possibly be admitted by a lens working in air, and upon this depends the perfect presentation—*i.e.*, the truthfulness—of the image.

Abbé, however, has done more for microscopists than point out the advantages of the immersion objective, for he also called attention to the obvious additional advantages which would accrue to this system if efforts were made to produce a glass answering as nearly as possible theoretical requirements. Such a glass is now being manufactured on the Continent, and the result is seen in the so-called apochromatic lenses (I think Messrs. Watson call theirs holoscopic lenses) which have quite recently been placed upon the market, and which represent the high-water mark of practical and theoretical optics from the point of view both of scientific value and of price. In bringing Abbé's theories into this paper I find myself in somewhat deep waters, but, having ventured thus far, I cannot go back without alluding very briefly to an attempt made by two German scientists, Drs. Siedentopf and Tsigmundy, to render visible what they termed ultra-microscopic particles.

The theoretical limits of microscopic vision have been mathematically fixed at half a wave length—that is to say, if the size of an object be less than half a wave length of the light employed in illuminating it the true character of that object cannot be demonstrated to the eye with the most powerful and the most perfect optical combination theoretically producible, for just as the astronomer sees only the diffraction disc of a star and not the star itself, so the microscopist sees only the diffraction appearance of, for example, those excessively fine markings on the valves of certain diatoms if the markings—or, rather, the distance between them—is less than half a wave length. Arguing, therefore, that what is absorbingly interesting to the astronomer should be interesting to the microscopist, and that if we are unable actually to see certain objects it might be a good thing to have the means of revealing their presence, these two men set to work, and, by an ingenious reproduction and modification of what one sees when a beam of sunlight is admitted into a darkened room, the air of which, so far as one can tell beforehand, is apparently free from suspended dust, they succeeded in showing particles of gold in a colloidal solution of the metal, as also in a particular kind of German glass—namely, gold ruby glass—a feat before impossible.

The apparatus brought over by Drs. Siedentopf and Tsigmundy, and exhibited at a meeting of the Royal Microscopical Society last year, consisted of an optical bench, at one end of which was an arc light, at the other a microscope with a ¼-in. objective. The illuminating rays passed through a condenser, then through a spectroscopic slit, a reducing lens, and from a low-power lens used as a condenser, were thrown on to the object. By this arrangement an exceedingly thin beam of light was made to impinge upon a small plate of the ruby glass mounted close to the long edge of an ordinary 3 in. × 1 in. slip, so that the particles of gold in the glass were rendered self-luminous, and, at the same time, in consequence of the thinness of the illuminating beam, their diffraction discs were seen, on looking through the microscope, separated from those which would have appeared immediately above or below them had the beam of light been thicker. In short, the end Drs. Siedentopf and Tsigmundy had in view was to produce a beam of light as nearly as possible half a wave length in thickness, and thus prevent overlapping of the diffraction discs. Drs. Siedentopf and Tsigmundy suggest that their method might be useful in solving pathological problems, where, for instance, a disease is suspected to be due to a micro-organism, but the organism cannot be found. This seems to me a very important consideration. Who knows, for instance, that in the investigations now being made to confirm the relationship between the spore mother-cells of plants and spermatocytes of animals on the one hand, and certain deep-seated cancer cells on the other—investigations requiring the utmost skill in the use of the very highest powers of the microscope—who knows, I say, that we may not be overlooking the real cause of the disease, a micro-organism too minute to be revealed by ordinary optical means?

So far it has been all microscope and no hobby, and I am afraid I have wearied you with a jumble of optical facts more or less badly expressed. Even now I find that I have totally ignored the humble but essential eye-piece. The photograph which has circulated amongst you will, however, save many words. The drawing is a modern microscope seen in vertical section, and fitted, as you will see, with a substage condenser, a double nose-piece, carrying high and low-power objectives, etc. The glass used in the different lens combinations is marked "C" for crown and "F" for flint. The eye-piece is that devised by Huyghens years and years ago, and consists of two plano-convex lenses separated by a diaphragm. The function of the lens further away from the eye is to change the course of the rays in such a manner that the image formed by the objective may be of dimensions not too great for the whole of it to come within the range of the eye-glass. The eye-glass is, of course, the second magnifying factor, and produces the much enlarged virtual image P.′ Q.′ of the object P. Q. Chromatic aberration having been so effectually dealt with in the objective, the eye-piece has practically nothing to do in that direction, hence both its lenses are of crown glass. For critical work, however, achromatic eye-pieces are used, and with apochromatic objectives it is a *sine quâ non* that the eye-pieces and condenser too should be of special construction. With regard to the numerous devices for rendering work with the microscope as reliable and easy as possible I shall say nothing. All that is necessary is to get your microscope, preferably a good one, and the few requisites comprising an initial outfit, and the manufacturer will see that you are properly coached in their peculiarities.



Now, in the preface to this paper I referred to microscopy as peculiarly a chemist's hobby. In saying this I had two facts before my mind—(1) That a chemist, in the course of his studies, has a good deal to learn by the aid of the microscope, and as a rule he finds it necessary to procure one; (2) that, having qualified, he usually accepts a retail berth in London or in one of the big provincial towns, where chemists are expected to be "on duty" at all hours of the day and night; and as he is now an assistant, not the indulged apprentice, on certain evenings of the week, Sundays included, he is called upon to remain indoors with, very often, his own thoughts as his only company, so that, if he is not busy in the shop, frequently the question with him is: What shall I do to pass the time away? It is this question that is mainly responsible for this paper, and I am very sorry to say that so far as my own experience goes the subject of the latter is very rarely called into requisition as a practical answer to the former; on the contrary, the microscope, after the actual need of its assistance is past, seems to be regarded by the majority of chemists as a reminder of terrible and anxious moments spent in the vicinity of Galen Place, and is, therefore, sooner or later sold, or, more often, perhaps, merely packed up and sent home out of the way. If this Galen Place theory will not hold water it is difficult to suggest another to account for the disrepute into which the instrument I am about to champion has fallen in all but ultra-pharmaceutical circles. It may be, of course, that the practical botany and materia medica in our curriculum are on such cut-and-dried lines that a man becomes sickened by the constant repetition of certain vegetable structures—bast, cambium, parenchyma, parenchyma, cambium, bast, etc.; but, on reflection, I think we must look a little beyond this. May it not be indifference—or, to put it more bluntly, the laziness—of the individual himself which leads him to throw over his microscope, either temporarily or permanently, as the case may be? Candidly, I believe this is the top and bottom of the whole matter.

Now, what is it that, as a rule, breeds indifference?—non-success, failure. And what is responsible for the failure here? Just this—that a man during his Minor and Major courses becomes so accustomed to having his objects and structures placed under his very nose, so to speak, that when he cuts the college apron-strings, and has a yearning to see things for himself—other things, certain wonderful things which his professors may have alluded to or about which he has read—he is astonished to find that he is unable to do so. This is certainly discouraging, and perhaps the degree of disgust or despair which prompts him to pack his instrument off home is excusable under the circumstances, as, anyway, there is always the chance of his repenting his haste and sending for it back again. The extreme disgust, however, which leads him to sell his microscope is quite inexcusable, for the words of the old song, "If at first you don't succeed, try again," are applicable to every good thing undertaken. A man, as a rule, makes a dreadful hash of his first few analyses in the laboratory, although he may have watched the senior fellows paying their visits to the H_2S, or deftly using their wash-bottles, and apparently getting out their salts with the greatest ease, and have come to the conclusion that to do likewise must be as simple as A B C. But he doesn't throw up the sponge when he finds that even with the chart before him it isn't as easy as it looks. The same may be said of a man who takes up photography. It is the simplest thing in the world to snapshot anything and everything, and send the plates or films away for the maker of the camera to "do the rest." But what happens when he tires of this mechanical photography, invests in a stand camera, and does his own developing, toning, etc.? You know as well as I do. But does he sell his camera? Very, very rarely; and once an amateur photographer, in the proper sense of the word, always an amateur photographer. And so it should be with the man who buys a microscope. Ready prepared and mounted objects are all very well in their way, but there is no real satisfaction in examining over and over again a collection of microscope slides. One misses the thrill which one involuntarily feels when observing living protoplasm, whether in active motion or otherwise.

It is necessary, therefore, for a man, if he wishes to derive true mind-expanding pleasure from the microscope, first to know the capabilities of his instrument, and secondly to know how to present structures and objects in such a way that their characteristics may be readily and properly observed. To acquire these two essentials needs perseverance—not much, but *q.s.* may I say?—and the perseverance must be backed up by the naturalist part of a man's *ego*. "But," somebody may remark, "I am not a naturalist!" We are all naturalists. A man who finds absolutely no satisfaction in contemplating Dame Nature and her ways must be utterly depraved or mentally deficient. True, I have met more than one chemist who, when the question was put to them "What is (or was) your driest subject?" have promptly answered "Botany." But for the life of me I could never understand these men, and told them so, since, granted that repetition of structure tends to become monotonous, the infinite variety of plant form is surely more than sufficient to neutralise monotony in structural details, although I, for one, will never allow that even structural details can rightly be termed monotonous. When anyone speaks to me disparagingly of botany my stock reply is a question. "Have you ever examined the flower of our commonest British orchid?" I ask. If my botany-hating friend agrees with me—as he cannot help doing—that the drooping of the pollinium stalk after its extraction is not merely a marvellous but an awe-inspiring sight, I am satisfied. But I invariably follow up this question with another, viz., "Have you a microscope?" If his reply is in the negative, as it usually is, I advise him to get one without delay; if in the affirmative, I beg him to use it, recommending him to direct his particular attention to the lower algæ, feeling perfectly confident that by following my advice his pessimistic views with regard to botany will undergo a complete change.

Speaking of Dame Nature and her ways brings me back to the chemist cooped up in a town who can enjoy her beauties only occasionally and with difficulty. Think how the microscope comes to the rescue here. Granted it does not give us the fresh air of the country nor the butterflies and flowers, yet in an ounce or two or pond-water we can carry nature home with us, and we are thus enabled to study and enjoy her by its means under the only available conditions open to us. Æsthetically considered, it seems absurd to mention fresh air, butterflies, flowers and pond-water in the same breath, yet in this ounce or so of pond-water, however improbable it may sound, we are brought face to face with nature at her simplest and best. With this initial two ounces of water there is practically no limit to the variety of living forms which may be produced. Algæ, fungi, bacteria, infusoria, molluscs, crustaceans are all there in different stages of development and change. I have at this very moment at my house three ounces of pond-water got for me by a friend over six months ago, which has yielded me material sufficient to fill a sixpenny exercise book with sketches and notes, and shows no sign of exhaustion yet. In fact, only last week I was startled to see several baby water-snails adhering to the sides of the bottle. These infant molluscs certainly had not given evidence of their existence before, and, I assumed, were the progeny of the large individual which, for the sake of the algæ, I found it necessary to remove soon after the water came into my possession.

Before concluding I would again call attention to what I believe is a fruitful source of dissatisfaction to those taking up microscopy as a recreation, and that is the tendency to overlook interesting objects. I well remember the time when amongst the denizens of our ponds (I must confine myself to pond-life to-night) nothing of less size than the common hydra or a good big water-flea, cyclops or paramoecium would interest me, consequently my range of objects was somewhat limited. However, this state of things did not last long, I am glad to say, and when one day I happened to catch a contractile vesicle belonging to one of my paramoecia just in the act of contracting a distinct fillip was given to my pond-life researches. From contractile vesicles—which, by-the-way, are the gills of animalcules—I went to cilia, and many a persevering hour have I spent in endeavouring, with the limited power at my disposal, to see—really see—the cilia constituting the wheel apparatus of rotifer vulgaris, or those producing the feeding whirlpool of vorticella, or, again, those fringing the whole body of paramoecium. Having trained my eye and hand in the special methods of illumination necessary for resolving such excessively minute appendages as cilia and flagella, I paused, and, metaphorically, patted myself on the back. But one need not stop at these comparatively large objects. I think Dallinger has left a good deal to do amongst the life histories of some of his monads. The true nature of the markings on the glassy valves of certain diatoms is still undecided, and there is always karyokinesis to fall back upon. Still, I regret to say that, in order to carry out researches in either of these directions, one must put one's hand very deeply into one's pocket, for apochromatic oil-immersion lenses are essential for this work, and cost a great deal of money. On the other hand, there are problems in plenty waiting to be solved with quite moderate powers. De Bary, in his well-known work on fungi, has left a great many gaps to be filled, so that anyone wishing to distinguish himself could not do better than look these up. Bacteriology is, of course, a distinct branch of microscopy. The omnipresent, all-pervading, ubiquitous microbe, constituting as it does a world power, needs special attention—and receives it too. It has created a profession, but, when all is said and done, the microbe is an uncanny anachronism, and as such I dismiss it.

In conclusion, then, let me urge those chemists who possess microscopes to use them often and use them well; and to those chemists who have not microscopes my advice is to get one, and prove for yourselves what I unhesitatingly assert—namely, that the miscroscope, apart from its scientific value, can give intense pleasure, not only to its owner, but also to his family and friends—and what more can be said for any other hobby?

THE PHARMACIST AS AN OPTOLOGIST.*

BY ROBERT TOCHER.

Before proceeding with my paper, a definition or two will have to be made, viz.:—A definition of, first, an optician; and, secondly, a refracting optician, refractionist or optologist (or optometrist, if you like). An optician may also be an optologist and *vice versâ*, but not necessarily so.

(1) Opticians are persons who deal in optical goods. There are manufacturing opticians, wholesale opticians, retail opticians, retail and dispensing opticians, retail and refracting opticians. Under the two latter would come the myriads of spectacle-sellers, such as the overwhelming majority of pharmacist-opticians, general opticians, jewellers, ironmongers, chandlers, pedlars and other meddlers.

(2) An optologist is a person, of course, skilled in refraction—a person who can estimate and correct the refraction of the eye—a person skilled in sight-testing. To be more explicit, he is a person having a thorough knowledge of general optics and a special knowledge of visual optics. He is complete master of, and can handle "light" just as he pleases. He can twist it, deviate it, converge it or diverge it in any manner or in any direction he wishes by means of curved lenses and mirrors. He can find out where and how man's optical instrument is out of focus and harmony, and can also find the remedy.

Keeping these definitions in mind, you will the more easily follow me. Now there are some optologists to be found among medical men, some among pharmacists, some among general opticians, and a few amongst jewellers, photographic dealers and others, and I am safe in saying there are almost none amongst ironmongers, chandlers, pedlars and the rest; but I will attempt further on to give an estimate of the proportion of optologists to spectacle-sellers, the proportion of the qualified to the unqualified.

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* Read before the Glasgow and West of Scotland Pharmaceutical Association, on Thursday, February 18, 1904.

Now I take it that the pharmacist does not wish to become a general optician. Am I right in assuming that he only wishes to become an optologist? I think so. When taking up optics as a side-line, as a specialty or as a hobby, it is refraction, it is sight-testing he takes up, and not the sale of general optical goods. That being so, the history of the optician does not concern the pharmacist so much as does the history of the optologist. However, a short sketch of the history of the optician will not be out of place, as I wish it to lead up to the optologist.

The optician has been known from time immemorial, and has tested sight in a way more or less by trying on different glasses; but it is only since a comparatively recent date that proper examinations and corrections of the eyesight have been made.

By the discoveries of Sir Thomas Henry Layard it has been proved that glasses were in use amongst the Assyrians and the Egyptians at least 700 years B.C. Emperor Nero wore a concave jewel. Roger Bacon, who died at the end of the thirteenth century, is reputed to be the first wearer of glasses in Europe. He had evidently got his information from the writings of one Alhazen, who died in Cairo 200 years previous to that, Alhazen himself having had his information handed down to him from the Assyrians and the Egyptians.

A Florentine nobleman took to himself the credit of the discovery of the use of glasses; but this was actually due to a Florentine monk, Alessandra di Spina, who publicly made known their use. There was, however, nothing much known about the science of optics till Kepler studied and propounded it about the end of the sixteenth century.

It was more than 200 years later ere astigmatism was discovered by Sir David Brewster, who himself had it; but it was left to Sir George Airy to not only rediscover astigmatism, but also to invent a correction of it. The study of the refraction of the eye seems to date from that time—less than seventy years ago. I think it is less than twenty years ago since we were first able to make anything like a satisfactory correction of the more complicated errors of refraction. So it seems that we are only just beginning to be able to do refraction work with anything like exactitude—with anything like the exactitude of, say, quantitative chemical analysis. Thus you see that refraction becomes a new profession, and this is the profession that the pharmacist is trying, however wisely or unwisely, to take up.

It is found that the persons who ought long ago to have taken up refraction seriously and thoroughly have not done, and are not even now doing, so to any great extent. I refer to opticians and jewellers, as refraction is naturally their inheritance. But as optologists—competent optologists—were not generally to be found amongst them, they had to be found somewhere; for there is a greater need, a greater demand, for a good optologist than there is for any other known expert.

This specialist in refraction has been found here and there amongst opticians, jewellers, and pharmacists; but the bulk of these specialists, up till now, have had to be drawn from the medical profession, and you see that it has been absolutely necessary to seek optologists from professions entirely outside the optical industry. It is to try and meet this enormous demand for optologists that pharmacists are taking the subject up just as medical men are doing.

Now, it is a well-known fact that the pharmacist is a person exceptionally well adapted for the study of any subject he may care to take up, and that he is, therefore, eminently suited for the study of the science of optics. He is so because of his good elementary education, his business as well as his scientific training, and his habit of study. In other words, he has been "through the mill." He is "triple-milled," for he has been compelled to undergo a preliminary examination in general knowledge, to go through a business training, and to train for and pass scientific examinations.

I have it from the best authorities that the pharmacist makes the best student of optics; whether it is judicious on his part to take up refraction work is a point which every pharmacist will have to think over and answer for himself. It is a very difficult and delicate question, considering the relations between medical men and pharmacists.

It is surprising to find how many medical men there are who are opposed to pharmacists testing sight, as if the former had any more right to test sight than the latter. And the fun of the thing lies in the fact that these very medical men do not offer the slightest objection to persons who sell glasses without having previously tested the sight of purchasers. According to them, you can go on selling glasses for all you are worth, for all defects and diseases under the sun; but the moment you advise or give the slightest help to the purchaser in the selection of his glasses, or attempt to test his sight, you commit a most unpardonable sin.

There is, however, one consolation, and that is that all medical men are not like that. My own views are in quite the extreme opposite direction to those of the medical men who encourage spectacle-selling without sight-testing. I hold that spectacle-selling should be absolutely prohibited unless when the glasses are made according to the prescription of the refractionist. The pharmacist is the best detective of quackery in existence. He has unique opportunities for finding out what is quackery and who are quacks, and I say that of all persons in the world the pharmacist ought to be the last to practise it. Of course, he is not infallible in this respect, but if he does practise quackery for any time it is done unconsciously, and he is not long in finding out his mistake and rectifying it.

The unfortunate thing about the rectifying of the mistake of his optical quackery is the cost. I refer to the large number of chemists who are actually gulled into buying large stocks of ready glazed spectacles—proprietary spectacles—as if there could be such a thing.

I do not say it is a bad thing for the pharmacist, to begin with, to stock a small quantity of ready-glazed spectacles, for there is nothing better than that for teaching him his total ignorance of the subject. That is his first step. No sooner does he start to handle these goods and to try to fit a person than he discovers that there is something wrong, and from his scientific training and his habit of study and reasoning he at once sets to work to find out the source of the trouble. That is his second step. He searches for and finds standard works on the subject, and perhaps writes to some expert for advice about it. That is his third step. He now starts in earnest to study the subject, taking lessons from a teacher of optics, and having now got a start in the right direction he will go on studying the subject, not only till qualified, but after.

Now, before proceeding, I wish to say publicly, for the good of all pharmacists and for the good of pharmacy, that I strongly advise and urge all pharmacists who stock and sell ready-glazed spectacles to discontinue to do so for all time. Send them back if you can, and, if not, take all the lenses out of the frames and put them into a cabinet you can get for the purpose. Do the same with your frames—I mean, measure them, mark them, and put them into a cabinet or into boxes.

As the welfare of the country depends to a great extent on the eyesight of the people, and as most eyes have some kind of optical defect, it is absolutely alarming to find that we have only a matter of about 1,100 competent optologists to correct properly the defects of our 42,000,000 people. It is absurd to think that this number of sight-testing opticians is sufficient for anything like a quarter of that population, and what are the other three-quarters to do? They will just have to put up with anything. But you can fancy what great dangers these thirty-one and a-half million persons run through not being able to have their eyesight examined and properly corrected.

How many of these 31,500,000 unfortunate persons are there whose eyes are being ruined for the want of optologists to examine and correct their eyesight properly? It is too terrible to contemplate. The whole country is crying out for more optologists, more refractionists. If you consider that nearly all jewellers and watchmakers, all opticians, nearly all ironmongers, chandlers, and pedlars, about 2,000 pharmacists, and many medical men sell glasses, you can form a pretty approximate estimate of the vast number of spectacle-sellers we have got in the country.

Roughly speaking, there are over 30,000 people in Great Britain and Ireland selling glasses; 15,000 are represented by all the opticians, ironmongers, and others; 13,000 by watchmakers and jewellers; and 2,000 by pharmacists.

As glasses, if not the correct ones, are very often worse than useless, and as so many people sell glasses with such disastrous results to the wearers, don't you think it is high time that some restrictions should be placed on their sale? Some authorities suggest that neither the general medical practitioner, the pharmacist, the optician, the jeweller, the ironmonger, nor any other person should test sight till he has proved himself to be a competent optologist.

Don't you think it is alarming and nothing short of a disgrace to find that we have at least 28,900 spectacle sellers in this country, who, not understanding the elementary principles of refraction, impose upon the public by making them believe they can test sight, which they attempt by some obsolete and useless optometer, or by trying on different pairs of glasses?

Some of them have even got some of the best modern ophthalmic instruments, but do not know how to use them. You will see them here and there throughout the country, sometimes at exhibitions.

It is amusing to see how they handle these instruments. I have seen one of them attempting, by their use, to examine patients; taking up a retinoscope and flashing it in front of the patient's eyes, setting him in front of an ophthalmometer and giving it a turn or two; performing two or three "sleight-of-hand"-like movements with other instruments, usually upside down (it made no difference!), and the whole manner in which the performance was made proved to me quite conclusively that this man saw nothing, that he had learned nothing by means of his instruments, and that the whole procedure was an imposition. Such an impudent pretence is practically criminal. This character is much worse than the mere spectacle-seller.

Gentlemen, it is not instruments that test sight—it is brains. Not all the finest instruments in the world will accomplish the object if the operator has not a thorough acquaintance with general optics and a special knowledge of visual optics. To attempt to test sight without that knowledge is the worst form of quackery, let him be a medical man, a pharmacist, an optician, a jeweller, or otherwise.

There is infinitely more quackery in a pharmacist selling glasses without previously testing the sight than there is in his selling the most glaring quack medicines.

Of course, the pharmacist is in this no worse than the optician, the jeweller, and others, but I say he ought not to be like them, as he has proved himself to be an educated man, and more or less a scientist, by his State examinations. If you sell glasses without being able to test the sight you are no better than the ironmonger, jeweller, or optician who sells glasses over the counter by trying on different pairs, and no better than the pedlar who goes from door to door selling glasses at 6d. per pair to "suit all sights."

One may at once conclude that persons advertising the selling of glasses at 1s., 2s. 6d., and even 3s. 6d. are not optologists. They cannot be. Can they give from thirty to sixty minutes of their valuable time in a thorough examination of the eyes to supply a pair of glasses at such prices? When does the correction of astigmatism come in here, not to mention the question of fee for skill and time?

Pharmacists should not stock ready-glazed spectacles, because it just leads one to think that when that is done he cannot test sight.

An optologist does not stock ready-glazed spectacles, and, since he does not, there is much more reason why all others should not do so.

If you are a competent man, of course you will test sight, but if you are not competent you should not, you ought not to be allowed to do so. It is the person who should not do certain things who is always the most difficult to deal with, as he has not yet begun to know how little he does know.

As refraction is a branch of physics and not of medicine, there is no reason why medical men should object to pharmacists doing refraction work. A section of the medical profession certainly does take exception to the pharmacist doing that, but the bulk of medical men do not object. The general medical practitioner is beginning to recognise the use of, and in some cases is already employing for refraction purposes, the pharmacist-optologist. The latter he finds of as much service to him in his diagnosis as the X-rayist, the bacteriologist, urine analyst, the food specialist, or any other expert.

What medical men do object to, and rightly so, is the extraordinary amount of quackery that exists in connection with this sight-testing. It is seldom that cases requiring medical skill are referred by these incompetent persons to the proper quarter, whereas with the skilled optologist it is entirely different. He is not only able to detect what is and what is not pathological, but in every case in which he finds it to be pathological he never fails to send the patient to the proper quarter, and for every case that might be sent by the incompetent person there will be twenty or more sent by the optologist.

The pharmacist-optologist must not pose as a medical authority, which he certainly is not. He must not assume knowledge of, nor treat diseases of, the eye, not even slight affections. That is outside his province. If he is an optologist he is that and nothing more, just as he must remember that he is a pharmacist and nothing more. As soon as he finds disease or is unable to explain why he cannot bring vision to normal, he must at once refer the case to an ophthalmic surgeon.

Now, I think I hear you say, "You are departing from your subject. What we want to know is how to best become a competent optologist." Well, I am just coming to that, and mean to answer publicly here the many letters I receive from pharmacists from all parts of the country asking advice about the subject. In doing this I will first have to refer to our educational institutions.

It may not be generally known that some twenty-five years ago a trade journal advocated the sale of spectacles as a side-line for chemists, and more or less from time to time ever since it has been advising in the matter. About five years ago it urged upon chemists the necessity for their taking the matter up scientifically—that is, going through a course of training and sitting for some examination. Twelve or thirteen years ago the *Optician* advocated measures for the education of the optician and the foundation of an institution similar to that of the Pharmaceutical Society of Great Britain, and ever after that many schemes were thought out with that end in view.

Opticians of note met and discussed the subject over and over again, and as the first outcome of this, in 1895 the British Optical Association was founded and incorporated. This Association, with its splendid examinations, is so well known that it is unnecessary for me to enter into here. I have a few copies of the syllabus here, which students may have if they wish, and if more information about the Association is wanted, write to the Secretary, 17, Shaftesbury Avenue, London. No sooner was the British Optical Association formed than another scheme was inaugurated in 1896; I refer to the scheme of the Worshipful Company of Spectaclemakers, its inauguration being due to the initiative of Mr. Thornthwaite. Besides being an examining body, the Spectaclemakers' Company was also an educational one, providing, as it did, optical education in the Northampton Institute.

When the Spectaclemakers' Company withdrew its support to that institute the Optical Society, which was formed in 1899, took the matter up, and gave donations from time to time, the sum last collected and sent being about £105. The optical education provided at that institute is quite a revelation. Not only is optical instruction given in the actual manufacture of all kinds of optical instruments, but instruction is also given in the theory and practice of sight-testing, including recognition of diseases of the eye. It is an ideal school of optics.

Now it will be interesting here to give a few figures with regard to these examining bodies, and with a view to finding out how many are qualified.

The British Optical Association has a large membership, composed of examined and unexamined men. There are about 350 full members, 200 of whom have passed the examinations, and some of these hold also the Spectaclemakers' Company diploma. In addition there are about 600 extra spectacle-sellers who are attached to the Association by what is known as the enrolment scheme. Pharmacists head the list with 82, refracting opticians or optologists next with 65, jewellers 43, photographic dealers 10, total 200.

That means that of the 2,000 pharmacists dealing in spectacles, only eighty-two are qualified by the British Optical Association, or about 4 per cent. Compared with the jewellers and watchmakers the percentage of pharmacists qualified is very much higher, as out of 13,000 jewellers there are only forty-three or 0·4 per cent., or less than ½ per cent. qualified by the British Optical Association. Out of the 30,000 or more British people selling glasses, only 200 are qualified by the British Optical Association, or one in every 150.

Of the many Fellows of the Spectaclemakers' Company, there are about 363 qualified by examination, 135 being opticians, 114 jewellers, and 114 pharmacists. Besides these, there are 46 Freemen admitted without examination, having been admitted by virtue of their having passed the examinations of the British Optical Association. Of these there are eighteen pharmacists, sixteen opticians, and twelve jewellers, making the total number qualified by examination of the Spectaclemakers' Company 409. The Liverymen of the company are not included in these numbers. There are about 350 Liverymen (who, of course, are also Freemen), amongst whom are many very distinguished men in professions not directly connected with the optical. There are distinguished scientists such as Lord Kelvin; Mr. Christie, the Astronomer Royal; Sir Robert Ball, Captain Sir W. de W. Abney, Sir William Crookes Professors Silvanus P. Thompson, Walmsley, and others. There are distinguished ophthalmic surgeons, such as Drs. Lindsay Johnson, W. Ettles, and others. There are one earl (Earl of Rosse), four lords, seventeen baronets and knights, and ten members of Parliament. How would the Pharmaceutical Society feel if it could claim as members such a list?

Of the 30,000 British people selling glasses, 409 are qualified by the Spectaclemakers' Company, or one in every seventy-five.

Now, how many qualified persons have we got amongst these 30,000 spectacle-sellers? We have: British Optical Association men, 200; Spectaclemakers' Company men, 363, making 563, or less than 2 per cent. qualified altogether.

Of these 563 qualified men, 210 are opticians, 196 are pharmacists, 157 are jewellers, or in every 142 spectacle-sellers we find one qualified optician; in every 153, one pharmacist qualified as an optician; and in every 191, one jeweller optically qualified.

If we add together those qualified by the British Optical Association and Spectaclemakers' Company, the ophthalmic surgeons, and a probable number of pharmacists, opticians, jewellers, and others who may be more or less competent men without examination, we will only have a pitiful number of capable optologists for 42,000,000 people. Qualified by Spectaclemakers' Company, 409; qualified by British Optical Association, 200; ophthalmic surgeons, 400; probable number of competent unexamined men, 91; total, 1,100—1,100 refractionists for 42,000,000 people, or one for every 40,000.

It would take more than 10,000 competent refractionists to do justice to such a population.

Now, as you see, there are only two examining and qualifying bodies for refractionists in this country, I want to warn you against all other bodies who attempt to teach, examine, and certify. Have nothing to do with the tuition, examination and certification of private and interested firms. If you want to study optics, study and prepare for either or both the British Optical Association and Spectaclemakers' Company, but do not be led away by tempting offers of flashy diplomas and Doctorates of Optics of the American type, which you can buy.

You would never think of buying a qualification in pharmacy; you would, of course, go to the only qualifying body—viz., the Pharmaceutical Society. In the same way, for an optical qualification there are only the Spectaclemakers' Company and British Optical Association to go to. Now, you, as pharmacists, have proved that you were not content till you became qualified pharmacists. You must now prove that you will not be content till you have become qualified optologists. Of course, I refer only to those who take up optics.

I am sure every pharmacist who takes up refraction work sooner or later has the same desire to become a qualified man as he had at some previous time to become a qualified pharmacist. Let us hope that the 1,700 pharmacists who have not, up to now, sat for examination may do so soon, and so save their reputation as professional men. Now the optologist should be able to examine the condition of the exterior and the interior of the eyeball, estimate the radius or radii of curvature of the cornea, measure the refraction, the accommodation and the balance of the extra-ocular muscles, measure and fit the face for a frame, and prescribe the proper glasses.

Pharmacists are asking, "How am I to become a competent man?" Well, the first thing to do is to get into communication with a teacher of optics for the British Optical Association or Spectaclemakers' Company, and he will advise you what to do and what to study for any particular examination.

If you have not been handling optical goods for seven years you are not eligible for the modified examination of the Spectaclemakers' Company, and it is hardly likely that you will care to go in for the full examination, which includes mathematics, trigonometry, heat and other subjects. You are, however, eligible for the British Optical Association, and you should take it first.

Pharmacists who are studying optics should join forces here and there throughout the country and get up classes, such as, say, the one Mr. Mitchell, of Dumbarton, recently gathered together.

A class of twenty, I understand, is sufficient to command the services of an optical teacher anywhere. It is better to have a good supply of text-books. Two or three books are useless. The student should have some knowledge of anatomy and physiology, and especially that of the eye. Hirschfeld's is a simple and very useful work, and is sufficient for examination purposes.

I think the best and simplest work on visual optics is Thorington's 'Refraction and How to Refract.' Some of the other books you should have are :—'Refraction of the Eye,' by Hartridge; 'The Opticians' Handbook,' Ophthalmic Surgeon; 'Spectacles and Eyeglasses,' Phillips; 'Lens Work for Amateurs,' Orford; 'Optical Tables and Data,' Prof. S. P. Thompson; 'Key to Sight-Testing,' Taylor and Baxter; 'Skiascopy,' Keystone; 'Light,' Edwin Edser; 'Physical Optics,' Glazebrook; 'Physics,' Ganot; 'Lessons on Heat and Light,' Jones.

When the student is more advanced the following books will be of the greatest service to him :—'Students' Medical Dictionary,' Gould; 'External Diseases of the Eye,' Haab; 'Internal Diseases of the Eye' (Ophthalmoscopy), Haab; 'Diseases of the Eye,' Nettleship; 'Diseases of the Eye,' Jackson; 'Diseases of the Eye,' Gould and Pyle; 'Physiologic Optics,' Tscherning. These books can be procured from your wholesale optical house.

By far the most important item to your equipment is your set of trial lenses. Do not be carried away by cheap foreign-made sets. I wish to warn you especially against that, because in many of these sets a great many of the lenses are not accurate, and a greater disaster could not happen to you than the possession of such a set. Get a good English-made set. It is like buying a piano. You only need to buy it once. It will last a lifetime. You will not get a really good English-made test-case under £15. You will perhaps get a cheaper one, but less complete. You should also have an ophthalmometer, it is a most valuable instrument.

There are many other little things that will occur to you after you start fitting up your sight-testing room, such as sets of pliers, screwdrivers, rules for measuring the face and frames, test types and charts, stocks of trial spectacle frames and pince-nez frames, spectacle and pince-nez cases, record-book, prescription order forms, etc., etc.

In fitting up your sight-testing room you have to consider your space. If you live near your shop you should fit up a room in your house. A room of twelve feet square, or even eight feet by twelve feet would do, using a mirror and reversed types. Measure the distance of your patient's seat (which should be two or three feet from the wall) to the mirror on the opposite wall and back to type on wall behind patient. This distance should be at least twenty feet (or six metres).

The illumination of the types should be good and stable, and the furniture of the room should be good, plain, and not showy. If you fit up a room in your back shop it should not be a room where you keep and store drugs. It should be a room devoted entirely to sight-testing, and have nothing in it but the instruments and furniture of the sight-testing room. Perhaps I ought to say something about advertising. The less the pharmacist-optologist advertises the better; and when he does find it necessary to advertise he should not advertise that he has spectacles for sale at various prices. He should rather advertise the fact that he is a person skilled in sight-testing, that he conducts examinations of the eyesight, and when found defective makes the necessary corrections.

RADIUM AS A SOURCE OF PROFIT.

A Pharmacist's Practical Views.

There can be little doubt that radium, as a medicinal agent, has come to stay. And as its production becomes less costly, medical men will, in all probably, find more uses for it than these to which it has already been put. Under these circumstances, chemists will recognise the fact that they will be expected to stock it and to know something of its properties. For it is just one of those potent substances which the training of the pharmacist adapts a man to handle. Mr. F. H. Glew, of Clapham Road, has already turned radium to account, and, with a view to obtaining information which may be useful to readers, a representative of the Journal paid a recent visit to his pharmacy. Mr. Glew is already well known to chemists as a radiographer; he was one of the first pharmacists to take up the study of X-rays as an adjunct to his business. Radium is not the sort of thing a chemist is likely to sell much of, but he can keep a stock consisting of a small tube and hire it out to medical men. And this is what Mr. Glew recommends. He suggests as the quantity required to start this class of business a tube containing 5 Mgm. of radium bromide. The market value of this amount was last week about £7 10s., but at the time of writing, as will be seen in another column, it is impossible to give a quotation, the supply—at any rate, in London—having almost run out. The question of obtaining the 5 Mgm. is therefore the first difficulty, but is, however, probably only a temporary one.

Granted that the chemist is able to obtain the desired radium, Mr. Glew advises that he should have it in a glass tube, the advantage of stocking it in this form being that the tube can be readily sterilised. The glass tube is preferable, for this reason, to the vulcanite box with a mica window, which is also used both for applying the substance medicinally and for lecturing experiments. Having obtained the radium, the next step is to let those who are likely to require it know you have it. With this end in view it will be necessary to circularise the medical men practising in the vicinity.

Radium on Hire.

As regards charges for the hire of the tube, that must be left to the chemist himself. In a good-class district 2s. 6d. per hour might be considered a reasonable charge. The tube of radium is usually stored in thick lead covering; by this means the effect of the rays is less powerful, but, of course, it will not exclude them, for nothing has yet been found that will exclude them. Should the doctor desire that the radium be applied by the chemist, 3s. 6d. for each application suggests itself as a suitable charge to make. It need hardly be stated that the affections for which radium has been employed with more or less success are rodent ulcer, lupus, and cancer. The usual duration of each application is about ten minutes, and these are made two or three times a week. The tube of radium is usually strapped on to the part affected, or used according to the direction of the doctor.

Pharmacists should not think either of hiring out the radium to ordinary customers for medicinal purposes, or of applying it except at the direction of a medical man.

Owing to the scarcity of radium, much of that now on the market is

Adulterated to an Alarming Extent.

The chemist should, therefore, get a guarantee with the sample he purchases, or, better still, test its value for himself. Speaking of this adulteration, Mr. Glew said :—

"I have tested samples of so-called pure radium bromide, which I found to contain rather less than one-fourth of the pure salt, yet the full price was being charged. Apart from the pecuniary loss in purchasing such diluted preparations, the fraud is a particularly cruel one, where the substance is required for the treatment of a grave disease such as cancer.

"The original manufacturer is probably to blame for this lamentable state of affairs, for those who deal in these preparations believe them to be pure, as described, and usually they are without any means of testing the potency for themselves."

With the view of enabling readers of the Journal to estimate the relative strength of samples of radium in a simple manner, Mr. Glew describes below a fairly sensitive instrument which he has made. With great care a much more sensitive instrument can be made, but this one suffices for general commercial testing, and it will distinctly measure the radio activity of the thorium in a cold Welsbach incandescent mantle at a distance of 6 in.; it will also record the radiation from 10 Mgm. of radium bromide 5 yards distant (in another room, with two walls and a passage intervening). With it many interesting experiments can be made with uranium metal—uranium compounds and the value of pitchblendes can be accurately estimated. It is also capable of being used in the lantern. Apart from this, Mr. Glew will be pleased to test any samples sent to him, at 156, Clapham Road, London, S.W., if a subscription of 2s. 6d. for the Pharmaceutical Society's Benevolent Fund is enclosed. Chemists taking advantage of this generous offer should attach a stamped addressed label and stamps for registration.

Simple Instrument for Estimating Radium.

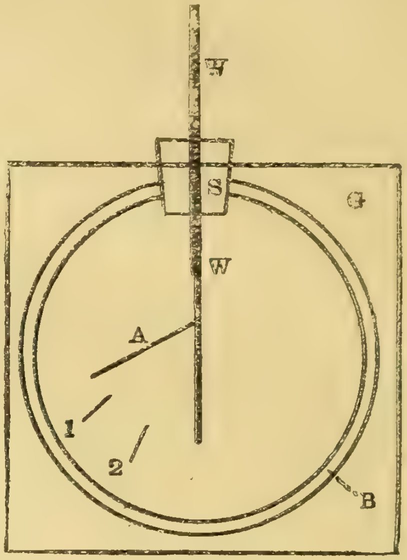
To make the electroscope (shown in the illustration), procure a No. 16 turned wood box and cut out the bottom, drill a hole (about ½ in. in diameter) in the side—this hole can be made with a red-hot poker without risk of splitting the wood—next, flatten the edges of the box (B) by rubbing on sand-paper; now smear these edges with Seccotine, and clamp between two lantern-slide cover-glasses (G). Melt a little stick sulphur in a dish or iron spoon (using as little heat as possible) and pour into a 1-drachm pill-box. When set, the cardboard should be removed and the sulphur plug (S) must be trimmed taper to fit the hole in the box.

Procure a stout piece of copper wire (W), about 4 in. long, and hammer flat a strip (at one end about 1½ in. long by three sixteenths broad), smooth this flat strip and stick on it one end of a piece of aluminium foil (A), about 1 in. long by ⅛ in. broad, as shown.

It is an advantage to have one of the cover-glasses of finely-ground glass, rough side outwards (tracing-paper stuck on plain glass will do).

The upper round portion of the wire must now be made hot, and then pushed quickly through the sulphur plug, until about 2 in. protrudes above the stopper. The wire will quickly set in position, any adhering sulphur may then be scraped off the wire. Now adjust the stopper in position, and fix it in place with a drop of sealing-wax.

The electroscope is now complete. It is best charged by means of a camel's-hair throat brush—just drawing the brush over one's coat sleeve gives the brush a positive charge of electricity—now touch the copper wire with the brush, and the aluminium leaf will be seen to stand out in proportion to the charge so given; and if the surface of the sulphur stopper is clean some charge can be retained for a day or two. Whenever the sulphur gets dirty it should be cleaned by scraping with a knife, the surface should never be touched with the fingers.



It is now necessary to graduate the ground glass by making two pencil marks (No. 1 and No. 2). The instrument is now ready for use.

The graduated ground glass should be turned towards the observer; a candle, or small electric lamp, must now be placed opposite the clear glass window (2 or 3 yards away), so that a sharp shadow of the moveable leaf is thrown on the ground glass.

Always charge the electroscope until the leaf stands slightly higher than No. 1, then note the time required for a fall from 1 to 2; this is the constant of the instrument for the particular room in which it is being used; it may take several hours, but if it falls in less than half an hour there must be a considerable leak over the sulphur, or there is some radioactive material in the room, or it may be in the next room. To prove the sensitiveness of the instrument, place a Welsbach mantle about 3½ in. from the charged wire, the leaf should then drop from 1 to 2 in about sixty seconds.

Place a 5 Mgm. glass tube of radium bromide a yard away, then charge the wire and notice the drop is too fast to be properly timed, therefore the sample should be slowed down by being enclosed in a metal case (a 1 lb. jujube tin is very suitable); place the radium in the tin, touching one side (raised about ½ in. from the bottom), let it be held in place by cotton wool; put on the lid of this box and place it exactly a yard away from the electroscope, and on a level with the wire; now charge the wire as before, and if the radium is pure the drop will take place in about the same time as it did with the mantle when it was 3½ in. distant.

A thorium mantle is far from being an ideal standard of radio-activity for several reasons, which cannot now be explained, besides being variable; but a very rough idea can be obtained in this way. I am trying to devise a more satisfactory standard, but, of course, the best standard is a tube of radium which is known to be pure. If a pure sample produces the drop in sixty seconds, and another sample takes 120 seconds under the same conditions, the second specimen is clearly only half the value of the pure bromide; if it takes 180 seconds, it is only one-third the strength, and so on; it is therefore very easy to compare samples with each other with considerable accuracy. I use Buchler's preparations as standards.

The above method does not serve to measure the total radiation from radium, the Alpha rays never get through the glass. For therapeutic use, therefore, we are only concerned with the Beta and Gamma rays, both of which are thus measured indirectly by the amount of ionisation which they produce in air, and this is by far the most delicate and certain test that can be relied on.

PERSONAL VIEWS ON CURRENT TOPICS.

That Organising Secretary.

BY "ONLOOKER."

Members of the Society, or at least that portion of them which is sincerely desirous of advancing its corporate welfare, owe a not inconsiderable debt to "An Ordinary Pharmacist" for his series of thoughtful articles on organisation which have appeared in the last three or four issues of the Journal. It matters little that the ideal which he appears to favour may be unattainable, even approximately, in pharmaceutical administration; but it does matter a great deal that pharmacists should be stirred to think seriously on such a fundamental principle of self-preservation as organisation. I take it that the first step, chronologically, in the evolution of perfect co-operation is, and must necessarily be, mutual reflection—good, earnest, unselfish thinking—and that condition precedent has, I feel confident, been pretty generally induced by your contributor's studies on the comparative values of the medical and pharmaceutical political armies.

The difference between the British Medical Association constitution and our own does not, to my mind, amount to very much, when one considers the different conditions obtaining in the two callings, but whereas the mobilisation of the members of the British Medical Association is a real and tangible thing, our own organisation is to a large extent a paper affair—excellent, no doubt, in conception, and possibly sufficient in design; but put to no practical use. Our friends in the Strand do not hesitate to spend money on the spade-work of defence; but we seem to think we have done all that is needed in drawing a very admirable plan and section of the spade. I always admire optimism, but I positively envy the Pharmaceutical Council its light-hearted cheeriness in expecting a grand and successful organisation to arise from the periodical distribution by the Secretary of cold circulars and similar office products. The Navy League might just as well try to arouse patriotism by delivering Income Tax papers! In short, enthusiasm requires the personal attention of a strong individuality before it can be made to glow with a business-like warmth, and I am glad to observe that Mr. Gifford is trying to impress upon his colleagues this plain elementary truth.

Where is He to be Found?

An organising officer who should be a peripatetic instructor, guide, philosopher, and friend, is badly needed in our political affairs; but the difficulty will be to secure the right man. Apart from "An Ordinary Pharmacist"—whom we may assume it would be impossible to lure from the shadows of his classic anonymity—there seems scarcely anyone possessing ready-made attributes of the necessary high order. A combination of Bismarck and Martindale, with a flavouring dash of Glyn-Jones and Broadhead, might prove a very effective mixture for the head of an organiser in pharmacy; but, unhappily, we cannot compound the ingredients or administer them if we could. It might, therefore, be as well to fall back on Bloomsbury, and to add organising to the other functions of the Secretary of the Society; in fact, make him *ex-officio* pharmaceutical whip and political wire-puller-in-chief. This, indeed, was contemplated under the Newsholme scheme; and I take it that Mr. Gifford's only object in asking for the appointment of another officer was to draw attention to the fact that the divisional meetings of January and February, 1901 and 1903, have been allowed to die out through sheer inanition. I do not think that two or three spasmodic bursts of activity, followed by a long period of rusting idleness, is a satisfactory way to treat a new piece of machinery; and I rather incline to the opinion that the originator of the Newsholme scheme of local organisation has adequate material for a grievance in the readiness with which the practical possibilities of his plan have been put aside by the Council, or its officers—I do not know which. If Mr. Gifford can dig out those potentialities from the lumber rooms of No. 17, he will do more to justify his election than anything he has yet done—and I wish him joy.

Organiser or Debt-Collector.

Turning to the suggestions made in Mr. Gifford's speech at the Council last month, I am afraid I cannot entirely endorse them with the mark of cordial approval. Suppose, for argument's sake, that the General Purposes Committee is elevated to the dignity of an "Organising Committee," and has allotted to it the services of a salaried officer, what is most likely to happen? Bye-law Sec. VII. requires the proceedings of the Committee (which consists of the whole Council) to report to the Council, presumably in public, or one would have the doubly farcical procedure of the Council in Committee reporting to itself in Committee. Moreover, the new Standing Orders and Rules of Procedure adopted last June necessitate the reports of the General Purposes Committee being at least one month old. My point is that organisation carried on under these conditions will be valueless and not a whit better than what we have already—a more or less imposing piece of paper machinery which is much more likely to rejoice the heart of the official printers than advance the political prestige of the Society. To appoint another salaried officer, in addition to the Secretary, merely to keep a record of Committee talk is the sheerest extravagance and waste, nor would it conduce to the most brilliant results if the instructions of the Committee to its organising servant were held over pending confirmation or discussion by the Council. And touching those instructions, too. Of course, any officer would be, and should be, subject to the control of the Council, but, to be a success, the individuality of the man must have as free a scope as possible. If his discretion requires continual watching, he is quite obviously not the man for the position; whilst, on the other hand, if a good man is secured his energies should not be cramped by having to write reports to a committee every two or three days, or by being obliged to obtain official sanction for every step he contemplates. If it is desired to have a mere mechanical executant of specific instructions, it would be wise to engage a respectable and cheap individual of the pedlar class, who could easily be discharged if he did not save his cost in extra annual subscriptions. But it would be purely a matter of euphony to apply the term organising secretaryship to the appointment. I am afraid that the traditional parsimony of the Council in matters of political defence may lead to the creation of an official debt-collector, who will bear a label with the comforting words "Organising Secretary." *J'ai pas confiance, j'ai pas confiance*, and I therefore most solemnly warn Mr. Gifford not to set up or allow the setting up of a canvasser, commission agent, collector, or circular-deliverer in place of the real organiser, which is the one thing needed. The hoary and discredited policy that no good can, will, or shall, be done until every registered person has joined the Society ought to be discarded now and replaced by practical effort, based upon the fact that a select, well-drilled force is infinitely more useful in defence and in offence than a larger body of undisciplined and unled units.

LIVERPOOL CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Thursday, March 17, 1904, at the Royal Institution, Liverpool, the **President**, Mr. R. C. Cowley, in the chair. Owing to the special interest of the lecture there was a large attendance, which included several ladies and medical men.

Mr. **Thomas Maben**, F.C.S., lectured upon "The Preparation of Sera and Vaccines," and his lecture was illustrated by lantern slides.

A short discussion took place, in which Drs. **H. Gordon Thompson** and **Murray Cairns**, Messrs. **T. F. Abraham**, **Buck**, and **Hornblower** joined.

Mr. **Maben** having briefly replied, a very hearty vote of thanks was accorded to the lecturer, on the motion of the **President**.

NORTHAMPTON CHEMISTS' ASSOCIATION.

MONTHLY MEETING.

Friday, March 18, 1904, in the Black Boy Hotel, Wood Hill, Northampton, Mr. **Evan C. Ashford**, Vice-President, in the chair.

The Pharmacy Bill.

A general discussion upon the Pharmacy Bill, introduced by Mr. Lough, M.P., took place, the **Chairman** remarking that the Bill was not likely to proceed much further during this session of Parliament, or during the existence of the present Parliament.

Councillor **Fred Ashford** moved that the Hon. Secretary write to all members of Parliament for Northampton and the county and seek to enlist their vote and support for the measure. He thought that the chemists would get the support of Mr. Labouchere, one of the members for Northampton, for Mr. Labouchere was one of the best informed M.P.'s upon the Pharmacy Acts, and *Truth* had rendered the chemists more than one service.

Mr. **Dennis** seconded.

Mr. **W. Lucas** thought that the less legislation chemists had to deal with the better it would be for them. To be logical, chemists, if they wanted restrictive legislation, should confine themselves to selling drugs, and should give up perfumery, soaps, and the 1,001 other things which had nothing to do with pharmacy.

The **Chairman** remarked one of the effects of the Bill was to give protection to *boná-fide* chemists in the sale of important articles which were essentially articles to be sold by qualified men.

The **Hon. Secretary**, Mr. F. Cowdery, believed that the Bill would check the growing practice of small shops selling poisons without adequate protection to the public.

The resolution was carried, Mr. Lucas being the only dissentient.

Shops Bill.

The **Hon. Secretary** called attention to Sir Charles Dilke's Shop Hours Bill, which, he said, would affect chemists as well as other tradesmen. The scheme would be unworkable and inconvenient in Northampton. The Bill seemed to him to be a piece of grandmotherly legislation.

Councillor **Ashford** advocated the earlier closing of shops. He proposed that the Association support the Bill.

Mr. **L. North** seconded. The public, he said, could, and should, be educated up to earlier closing. The public were now quite accustomed to drapers and other tradesmen closing earlier than they did twenty years ago.

The resolution was carried without dissent.

Other Business.

It was agreed to hold the annual dinner at Northampton on Thursday, April 14, and the annual meeting on Friday, April 29.

The Association decided to recommend that Mr. L. North be appointed Hon. Secretary of the P.A.T.A. for Northampton and District.

BOURNEMOUTH PHARMACEUTICAL ASSOCIATION.

MONTHLY MEETING.

Thursday, March 17, 1904, at the Albert Restaurant, Bournemouth, Mr. **E. Worth**, President, in the chair.

The **Secretary** reported that he had received a letter from the Secretary of the Federation of Local Associations, stating the objects, etc., of the Federation, and asking that the Bournemouth Association should join. After discussion, Mr. **Botham** proposed, and Mr. **W. Jones** seconded, "That the Association join the Federation, and that the Secretary be instructed to pay the usual subscription." Carried *nem. con.*

Political Questions.

Discussion then took place on the Pharmacy Bill, but very little enthusiasm was shown in the subject, as it was felt that there was very little prospect of its advancement this Session. It was eventually decided, on the proposition of Mr. **Jones**, seconded by Mr. **Morris**, that Messrs. Worth, Toone, and Rose be appointed a sub-committee to watch the Bill and interview the member of Parliament for the district as soon as considered advisable.

The "Shops Bill" was next considered. The **Secretary** presented a copy of the Bill as printed, and sundry papers relating thereto. He read those sections of the Bill which more especially affected chemists, and pointed out the great inconvenience which would arise from its adoption.

Mr. **Morris** thought something ought to be done towards the earlier closing of shops, but certainly thought chemists ought to be exempted from the "employment" clauses. He strongly objected to any interference with adult labour.

Mr. **Bingham** thought the whole Bill ought to be opposed *in toto*.

Mr. **W. Jones** thought it would be sufficient if we asked for a more definite exemption of chemists from the Bill.

Mr. **Worth** proposed that the Association wait until the Bill is more likely to occupy the attention of Parliament before taking action. This was seconded by Mr. **Morris**, and carried unanimously.

HALIFAX CHEMISTS' ASSOCIATION,

SOCIAL EVENING.

Thursday, March 17, 1904, in the Banqueting Hall of the Old Cock Hotel, Halifax, Mr. **Clement Fielding** in the chair.

Mr. **F. Pilkington Sargeant**, of Leeds, entertained the chemists of Halifax and district with an instructive and interesting discourse on "Radium." A large number of ladies were present, and the lecture, which was given with numerous demonstrations, proved extremely interesting. At its close a hearty vote of thanks was accorded to Mr. Sargeant.

BRADFORD CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Tuesday, March 22, 1904, at the Royal Hotel, Bradford, the President, Alderman H. Dunn, in the chair.

In the course of a general discussion on impending legislation, it was stated that, in answer to a resolution against the proposed cash on delivery system which the Association had sent to the local members of Parliament, only Sir Ernest Flower, M.P., had declared himself as positively against the measure. It was suggested that further pressure should be put on the other three to induce them to arrive at a decision and communicate that decision to the Association.

Upon consideration of a request from the Leeds Association that the Bradford Association would receive a deputation to urge the favouring of the candidature of Mr. Pilkington Sargeant for the Pharmaceutical Council, it was resolved to convene a special meeting of members of the Society in the Bradford District next Tuesday for that purpose.

Co-operative Production and Distribution.

Mr. **Broadhead**, of Dewsbury, read a paper prepared by Mr. Maud, of Pontefract, in which that gentleman advocates the appointment of a committee of the West Riding Associations to work out the details of a scheme of co-operative production and distribution for the chemists of the Riding.

The scheme was discussed in a hostile sense by several speakers.

Mr. J. A. **Mitchell** said that whilst the scheme might be feasible it was not likely to be altogether advantageous. If they took up for themselves nostrums under a general label they would have to pay the penalty of sinking their individuality in favour of these productions, and the moment a chemist did that he ran the risk of losing his customers. He still clung to the idea that it was good for a man to have his own distinctive preparations.

Mr. **Waddington** urged that they should fight tooth and nail against doing away with the individuality of the chemist. There was danger arising even from the doings of the P.A.T.A. on this account. But they had also to consider the effect which such a scheme would have upon the wholesale houses.

Mr. **Marshall** said that in his opinion the scheme was not at all feasible.

Mr. **Watson** objected to the proposals on the ground that they involved the surrender of the chemist's individuality, and he thought that whatever else they did they must not surrender the advantage which they obtained from that individuality.

Mr. **Pickard** said the paper contained matter which gave much food for reflection, and he suggested that they should at least give another evening for more detailed discussion of it.

Mr. **Silson** joined in the objection that pursuance of any such scheme would involve injury to the chemists' own specialties, of which they were all proud to some extent. He also thought that these proposals involved enormous expense in advertising, and that wholesalers would be disposed to take effective forms of retaliation.

The **President** dissented from the view that there was anything in the paper which should give serious offence to the wholesale houses, and, whilst he felt that there would be a necessity for large advertising, which would be a drawback, they would all agree that the scheme was desirable, and he should like them to consider the feasibility also.

Mr. **Broadhead** said that Mr. Maud and he had no idea of attempting to disturb the position of the wholesale houses. They simply suggested that chemists might well co-operate to supply themselves with a few simple every-day things which could be sold in competition with the drug stores and the co-operative stores without any great amount of advertising at all. He also did not think it was at all likely that such things would be taken up as would interfere with the specialties of individual chemists. But, in any case, all that was asked at present was that that Association would appoint two members to join a committee representative of all the West Riding Associations to inquire into the matter. The members so appointed, he explained, would commit neither themselves nor their Association.

Eventually it was determined that the Association should appoint two members to join the Committee.

CHEMISTS' ASSISTANTS' ASSOCIATION.

TWENTY-SIXTH ANNUAL DINNER.

Thursday, March 17, 1904, at the Holborn Restaurant, W.C., the **President**, Mr. A. B. Britton, in the chair. There was a large attendance.

The loyal toast given from the chair having been duly honoured,

Mr. **Charles Morley**, in a brief speech, proposed the toast of

The Pharmaceutical Society.

Having referred to the loyalty of chemists' assistants to the Society, he spoke of "two surprises" which had recently been sprung on the Council, one being Mr. Balfour's announcement with regard to a new Pharmacy Bill which was said to be in course of preparation, and the other the recent "concession" which the Board of Inland Revenue had granted in favour of vendors of proprietary medicines who had served an apprenticeship.

Mr. C. B. **Allen**, Vice-President of the Pharmaceutical Society, replied in an interesting speech. At the outset he referred to the absence of Mr. Atkins, whose eloquence on such occasions was always so much appreciated. He had no apologies to make for the Pharmaceutical Society; the organisation of the corporate body had never been better than it is to-day. Pharmacists were more alive than ever to the value of, he might even say the necessity for, co-operation. Referring to Mr. Morley's remarks, he would hardly say that the Council was surprised by Mr. Balfour's statement with reference to the Pharmacy Bill which it was intended to introduce into the House of Lords shortly after Easter. At the same time, he was convinced that no measure inimical to the Pharmaceutical Society could be carried through Parliament. With regard to the Bill introduced by Mr. Lough, every effort had been made this year to educate members of Parliament as to the urgent necessity for such legislation, and he was glad to say that good progress had been made. Turning to the question of medicine stamp duty, he did not think that chemists need be afraid of the recent decision of the Somerset House authorities with regard to patent medicine vendors who had served an apprenticeship. He did not feel justified in telling them what had happened on the occasion of the visit of the deputation from the Council to the Board of Inland Revenue. The interview was of a private character, but he felt sure that the Inland Revenue would consult the Pharmaceutical Society whenever the necessity might arise. Leaving the two great pharmaceutical questions of the day on one side, Mr. Allen went on to say what pleasure it gave him to be amongst them that evening. He had always found that chemists' assistants were a thoroughly reliable body of young men. He could see no reason why there should not be a thoroughly representative assistant on the Council. Speaking of the *Pharmaceutical Journal*, he said the official organ of the Society was full of readable matter. Topics which concerned pharmacy were treated in an interesting manner, and the Journal represented just what readers required. The 'Pharmaceutical Journal Formulary' next came in for a word of praise; that volume had met in an efficient manner the requirements of chemists resulting from the action of the Inland Revenue. The book was a regular "monument of collective industry." In conclusion, Mr. Allen complimented the Association on its twenty-six years of robust existence.

Mr. T. H. W. Idris, in proposing the toast of

The Chemists' Assistants' Association,

said he was pleased to think of the time when he could call himself a chemist's assistant, for then he was happy to look forward to the time that was to come. Referring to the Association as an educational medium, he remarked that it was the acquisition of general information which made a man publicly useful. Membership of their Association would teach them the value of organisation generally, and would also show how necessary it was to support other associations. Co-operation was not only requisite to make progress possible, but in the future it would be necessary, in order that the chemist might maintain the privileges he already had.

The President, Mr. A. B. Britton, replied in a brief speech, in the course of which he gave a *résumé* of the session's work. They were very thankful for the encouragement they received from those who were no longer chemists' assistants. A little encouragement went a very long way.

The final toast was "The Guests," proposed by Mr. A. Latreille, to which Mr. J. W. Bowen replied.

The function terminated at about 11.30 p.m.

ROYAL MICROSCOPICAL SOCIETY.

ORDINARY MEETING.

Wednesday, March 16, 1904, at 20, Hanover Square, London.

Professor A. E. Wright read "A Note on Some New Methods of Determining the Magnifying Power of the Microscope and of Lenses Generally." He said that the common method of looking through the microscope at a stage micrometer with one eye, at the same time using the other eye to view a rule placed at a distance of 10 in., and then combining the two images, was difficult and inconvenient, as was the method of using a camera lucida. He had, therefore, devised an instrument which he called an

Iconometer.

This consists of a brass tube, at one end of which is a plano-convex lens, with a focal length of 1 in. At the focus of this lens a glass screen is placed, on which is ruled a scale, the divisions being a tenth of a millimetre apart. This scale and the image formed by the lens are viewed by a Ramsden eye-piece. As the distance of normal vision is taken as 10 in., and the lens has a focus of 1 in., any object will appear on the screen one-tenth the size it would appear to the naked eye, and, therefore, the divisions on the scale correspond to millimetres. To use it, a stage micrometer is focussed under the microscope and viewed through the iconometer, and the number of divisions corresponding to a division in the iconometer observed, a simple calculation giving the magnification. For example, if the stage micrometer is divided into thousandths of a millimetre, and five divisions correspond to one division in the iconometer, the microscope is magnifying 200 diameters. The instrument can be used in the same way for determining the power of single lenses. As the same eye-piece is used with different objectives, and *vice versâ*, it is useful to find the magnifying power of the two parts separately, the power of the combination being obtained by multiplying together the figures obtained. The magnifying power of the objective may be found by removing the eye-piece from the microscope and using the iconometer as above. The power of the eye-piece is obtained by unscrewing the objective and measuring the diameter of the open end of the microscope tube; the size of the image of this end formed by the ocular is then measured by bending over the microscope, and directly observing it against a scale held in the hand, using a pocket lens to ensure that it is held in the same plane as the image. The ratio of these two measurements gives the magnifying power. These measurements only hold good when using the lenses with microscopes having the same length of tube. A diffraction grating may also be used for this purpose. If a straight line is viewed through a diffraction grating three lines will be seen, and if two parallel lines be looked at, six; if, however, the two lines are a certain distance apart, depending on the grating, two of these will coalesce to form an "intercostal" line, and only five lines be visible. This distance, when the lines are 10 in. from the eye, is found by experiment; similarly, the distance between two lines required to produce this effect, when they are viewed through the lens or microscope, with the grating close to the eye, is found. The ratio between these two distances is the magnifying power.

The Secretary then read a note from Mr. Stringer, supplementing a paper read by him last year, on the production of

Monochromatic Violet Light for Photo-micrography

by means of the electric-arc. He recommended that the light be passed through solutions of ammoniacal copper sulphate and of a uranium salt. Solution of methylene blue and copper sulphate also allows monochromatic violet light only to pass.

Mr. A. Flatters gave an exhibition of hand-coloured lantern slides illustrating

Botanical Histology.

These were prepared by photographing stained sections, and then colouring the slides by hand in the same colours as the sections. The results were exceedingly good, and excited the admiration of all present; a slide showing the pollen tube penetrating the stigma of a wheat-flower, and one showing, in longitudinal section, the layer of cork that cuts off the leaves in autumn and causes them to wither, aroused particular enthusiasm. This method is a great advance on any other for the purpose of demonstrating histology to a large audience, but it is to be feared that the large amount of skill and time required to produce such excellent results as were exhibited on this occasion will prevent it from coming into general use.

CHELTENHAM AND DISTRICT CHEMISTS' ASSOCIATION.

MONTHLY MEETING.

Thursday, March 17, 1904, at the Imperial Temperance Hotel, Cheltenham. There were about twenty members present, and two new members were elected.

Th evening was mainly devoted to a consideration of the

Pharmacy Bill,

and a sub-committee, consisting of Mr. Mansbridge and Mr. Stewart, with the President and Secretary, to draw up a statement of their views, to be presented by the President to Mr.

Agg.-Gardner, the member for the borough, who had made an appointment with the President to give him an interview the following evening. An application was read by the Secretary from the Federation of Chemists' Associations, requesting the Cheltenham Association to join the Federation. As there was a difference of opinion on the proposal, it was deferred to the next monthly meeting for decision on the question.

EDINBURGH CHEMISTS', ASSISTANTS', AND APPRENTICES' ASSOCIATION.

ANNUAL SUPPER.

Friday, March 18, 1904, at the Imperial Hotel, Market Street, Edinburgh, Mr. Archibald Currie, President, in the chair. Messrs. Alexander McCutcheon and J. W. Plenderleith acted as Croupiers.

After an excellent supper and the toast of "The King," Mr. J. P. Gilmour proposed the toast of

The Pharmaceutical Society,

and having referred to the functions of the Society, said they would all have observed the recent announcement that the Benevolent Fund of the Society had been almost exhausted. He earnestly hoped that, although trade had been bad, and there were many claims, the appeal for the Fund would meet with a liberal response. He was sorry to see that the Pharmacy Bill which had been introduced into the House of Commons had been crossed by some "blockheads." Another point which he thought required attention was the readjustment of their system of examinations. He was also of opinion that it was high time that their antiquated and obsolete plan for the election of the Council should be amended. Under a scheme of territorial representation they would ensure that they would always have three representatives for Scotland, as had been proved to be their due proportion by Mr. Tocher. He had pleasure in coupling the toast with the name of Mr. Currie, who had shown that he was a representative able to look after their interests. On a recent occasion he thought, with all deference to Mr. Carteighe, that Mr. Currie did well to emphasise the discrepancy between the treatment of offenders against the Pharmacy Acts in Scotland and in England. Mr. Carteighe had said they should rejoice that the law in Scotland was such that offenders could not escape public punishment, and that they would like to have the same power in England. But their point was that it was unfair that persons should be publicly punished in North Britain while persons similarly offending in South Britain could compound for the offence and escape publicity.

Mr. W. L. Currie, in responding, said the founders of the Society set themselves to a noble work, and it had been ably carried on for more than sixty years. He would say to any present who were not associated with the Society that they were making a serious mistake, because the Society offered the only chance for the organised assertion of their rights. He did not know what to think of those who had blocked the Pharmacy Bill. Some of the reasons given for opposition were utterly absurd. For instance, one set said the Society desired to secure a monopoly in the sale of such articles as Cockle's pills. Others alleged that it desired to secure a monopoly of the sale of arsenical weed-killers. They knew how to characterise the individual who propagated that calumny, and did not admire anyone who sought a place in Parliament to promote personal commercial interests. They would have observed that, in answer to a question by an Irish member, Mr. Balfour had stated that the Government had a Bill dealing with the sale of poisons in readiness to introduce in Parliament. He had not heard that the Council had been consulted, and he thought such action as Mr. Balfour indicated was a breach of contract on the part of the Privy Council. He had been sorry to observe that his remarks at a Council meeting recently had been rather misunderstood in some quarters in the north. He did not for a moment desire that the law regarding punishment for offences against the Pharmacy Acts in Scotland should be reduced to the level of the law in England. What he desired to suggest was that the level of the law in England should be raised to the same level as that of Scotland. He did not know if that could be done in any Bill that might be introduced, but he would certainly do his best to get the law in the two countries equalised in that particular. With regard to readjusting the system of examination, he had long been of opinion that the time had fully come when the Minor or, rather, the Qualifying Examination, should be divided, and that candidates who had passed in so much should not be asked to go over the same ground a second time. Mr. Gilmour had alluded to the approaching election, and that brought out the fact that he (Mr. Currie) was presently merely a *pro tempore* member of Council. Should he have the honour of being again elected he could promise that it would be his highest endeavour to do his utmost to promote the interests of pharmacists not only in Scotland, but also in England. He would like to endorse the appeal in behalf of the Benevolent Fund. One point in connection with the administration of the Fund struck him as a waste of money. He referred to the method of electing annuitants by the expensive process of sending out voting papers. It was not only expensive, but was also inefficient and largely haphazard. On the last occasion they might have elected another annuitant but for the expense incurred needlessly by sending out voting papers. He felt persuaded that the members of the Society would not be averse to leaving the allocation of the annuities to the Benevolent Fund Committee and the Council, as was done in many other public bodies. This was a reform that he hoped to see carried out at no distant date.

The Chairman suggested that they might make a practical response to the appeals that had been made by both Messrs. Gilmour and Currie, and a collection for the Benevolent Fund amounting to £2 7s. 6d. was quickly obtained and handed over to the Assistant-Secretary, Mr. Hill.

Other Toasts.

Mr. Currie proposed the toast of "The Edinburgh Chemists', Assistants', and Apprentices' Association," and referred to the high standard and value of the work done by the Association during the twenty-six years in which it had been in existence.—The Chairman, in responding, alluded to the powerful educative influence of the Association and to its prize schemes.—Mr. William Duncan proposed "Kindred Associations," coupled with the names of Messrs. W. B. Cowie, captain of the Edinburgh Pharmacy Golf Club; W. L. Currie, President of the Glasgow and West of Scotland Pharmaceutical Association; J. P. Gibb, President of the Pharmacy Athletic Club; and W. S. Glass, Chairman of the Edinburgh Chemists' Trade Association.—Mr. Glass responded.—Dr. Coull proposed "The Chairman and Croupiers and the Artistes," and the Chairman responded.—A delightful programme of songs, recitations, violin and 'cello selections was contributed by Messrs. Currie, Duncan, Eadie, Gilmour, Jeffrey, Mason, Murray, Rowland, Sandison, Shaw, W. and J. Streets, and Wood, Mr. J. A. Crichton acting as accompanist. After singing "Auld Lang Syne," the company separated at an early hour "ayont the twal'."

CUMBERLAND AND WESTMORELAND CHEMISTS' ASSOCIATION.

ANNUAL DINNER.

Thursday, March 17, 1904, at the Great Central Hotel, Carlisle. The officers for the ensuing year were elected:—President, Mr. J. R. Mason (Workington); Vice-President, Mr. J. Cowper (Penrith); Hon. Secretary and Treasurer, Mr. T. W. Townley (Keswick). It was decided to hold the next annual meeting at Penrith.

The **President** proposed the toast of "The King." This, with other loyal toasts, having been duly honoured,

The **President** said there were some gentlemen not present whom he would have liked to see. Duties in London had prevented the presence of Mr. Randles, M.P., who had promised that he would do all in his power in Parliament to help forward the questions in which the Society was interested. After giving a short account of the history of the Pharmacy Bill and the Departmental Committee's report, and showing the invalidity of the claims of those persons who were anxious to be empowered to sell certain poisons without first giving a guarantee of fitness by passing the necessary examinations, the President concluded by urging the necessity of unity and the duty of both associations and individuals to do all in their power to promote the interests of their craft by educating those in power as to the justice of their claims.

Mr. **Hallaway** (Carlisle) proposed the toast of

The Medical Profession.

He had been connected with pharmacy for more than half a century, and during all that time had never in Carlisle seen such an assembly as that, the meeting and dining together in fellowship of members of the medical profession and pharmacy. He would just say a word or two on the relations which should exist between the medical profession and the pharmacist. He would be sorry if anything he said should "tread on any toes," but one of the great barriers against the pharmacist was the dispensing of medicines by the medical profession. He was speaking generally, and not of Carlisle, which was a pharmacist's paradise. The State required the pharmacist to serve an apprenticeship and to pass severe examinations to prove his ability to dispense medicines, with the result that when he was ready to commence his work he found very little to do. There was the other side—the giving up of prescribing by the pharmacist. That they ought to do as far as possible, at any rate in Carlisle.

Dr. **Bird** (Carlisle) responded in an able and humorous speech, contrasting favourably the good muster of chemists present with the meetings of the Border Counties Medical Association. Incidentally he mentioned the good relations existing in Carlisle between medical men and chemists.

Mr. **Robson** (Carlisle) proposed the toast of

The Pharmaceutical Society,

coupled with the names of Dr. Symes and Mr. Tocher.

Dr. **Symes** said that he much appreciated the hearty manner in which this toast had been proposed and received. Loyalty to the Society was sure to prove of advantage not only to the Society but to themselves; and he trusted their influence would result in an accession to the roll of members. Amongst the questions before them at the present time, the most important was the Pharmacy Bill, now before the House of Commons. He made remarks on the chief clauses, pointing out that the objects of the Bill could not be gainsaid by any just person. Provision was made for hedging round the sale of poisons with further restrictions than now existed, and for the dispensing of medical prescriptions by qualified persons. All shops or pharmacies where poisons are to be sold or prescriptions are to be dispensed are to be entered on a register, and the qualified person, *bonâ fide*, in immediate charge or control of such place is to be registered also. Clause 7 was framed to meet a reasonable requirement, viz., that, in the case of a limited company, not only the manager, but the director who controls the department, should also be qualified. In fact, it goes further, and demands that all the directors (where there are more than one) should be qualified, and this makes it a somewhat difficult clause. It is, however, to be hoped that should it be in any way modified during its committee stage, that it will still be left protective to the public and just to the pharmacists. The 10th clause may be regarded as a very important one. It provides, subject to alteration of the Bye-laws, that the candidate for examination shall bring

Evidence of Certain Training

before he presents himself; also for division of the examination, and for reciprocity with our colonies as to qualification. It may be doubted whether the present state of our calling justifies the requirement of a long university training for the student of pharmacy; but he will be all the better man for having some such course, or systematic training in a recognised school of pharmacy. His knowledge, too will be all the more permanent if by dividing the examination he is encouraged to study from the time he enters on his apprenticeship. There will be a gradual acquisition of the various branches of knowledge which go to make a pharmacist of him. In this way the final examination will be deprived of its sting. Dr. Symes went on to say that he felt sure it would afford satisfaction to those present who were practical men to find that at length the Council had decided to equip a laboratory at Bloomsbury Square for practical pharmaceutical teaching in the preparation of galenicals. He hoped it would also assume an important feature as a place to which members of the Society visiting London could resort for reference as to the capabilities of apparatus and appliances of this kind, in the event of their requiring any for their own laboratories. He thought, too, that they would be interested in a matter which occupied considerable attention on the part of the Society and the trade generally some years ago, and which he had recently revived, viz., the necessity which existed and the justice which demanded that pharmacists should constitute part of the committee which was intrusted with the responsible duty of compiling and publishing the British Pharmacopœia. This book was a law which they had to obey—it was intended to regulate their practice and to be a means of intercommunication between them and the physician. In all other civilised countries pharmacists had a recognised legal position on the pharmacopœia committees, and he trusted that as British pharmacists were required to be educated men, they would be accorded an equal position. Recently, the Council has shown some interest in the important question of

Stamping Proprietary Medicines

which have hitherto been treated as not liable to duty. The Board of Inland Revenue now seems prepared to administer more leniently than was at first suggested the new reading of the old Act, otherwise it would have operated very unfairly towards us as a body. Every pharmacist will now require to exercise considerable discretion in the drawing up of his labels and circulars, and where it seems advantageous to the sale of a medicament, that its name, nature, and qualities should be fully described. The better plan will, no doubt, be to stamp it and bear the additional tax as cheerfully as we can. It seemed to him the public—and especially the poorer portion—will be much prejudiced if the pharmacist is compelled to put a 1½d. stamp on one-pennyworth of "antibilious pills," or a few pennyworths of "cough mixture"; and it seemed to him the case would have been best met by the Revenue authorities drawing up and permitting the use of a short schedule of descriptive names which could be used when no recommendation occurred and no proprietary right was claimed. Of course, the recognition of published formulæ does, to some extent, meet the case.

Mr. J. F. Tocher said that even territorial representation was a minor matter compared with the regulation of the practice of pharmacy and the systematic training of pharmacists. He said he was whole-hearted in his adhesion to the Pharmacy Bill, and would be the last to suggest loading it with undigested clauses. But he proposed to pass a friendly remark or two upon the clause bearing upon the registration of shops. They might have noticed that when Mr. Newsholme, as President, proposed the adoption of the Bill of 1901 in the Council, he announced that the committee could not see its way to recommend annual registration of shops. He (Mr. Tocher) was strongly in favour of the idea for several reasons. In the first place he thought that the Pharmaceutical Society should be in a position to deal much more effectively than it did with offences against the law, and, since it was a voluntary body, it could not act without funds voluntarily contributed. He therefore thought that registered persons in business should be asked to contribute annually towards the expenses incurred in the vindication of the law and in the protection of their own rights. He did not think that the expenses should continue to be borne by a section of the craft only. He thought that the separate account of law expenses should be met by an annual charge upon every registered person in business. Of course, properly speaking, they ought to have a grant from the Treasury for law expenses, but, failing that, every pharmacist in business ought to pay annually for the privileges of registration of his premises and the consequent vigilance in his district on the part of the Pharmaceutical Society in defence of his rights. In his judgment, he thought that any further compulsory registration should be annual, that no nominal fee should be stated in the Bill, but that the registration fee should be fixed from time to time by bye-law. He hoped that when the Bill had the good fortune to be considered in Committee, annual registration of shops would get some consideration. If the proposal were favourably entertained, there was no reason why such registration should not carry with it the rights of membership. If so, he would be perfectly content to wait ten or twenty years for the realisation of

A Territorially-elected Council.

Now, what was meant by a territorially-elected Council? It would be a council where every member had his seat because members of the Society residing in a certain local area sent him there with a definite programme, which would be the result of consultations and meetings in every part of the constituency or district. He desired to discriminate between the election of a member of Council and the work performed by him. In the first, no matter how pharmacists might preach about the multiplying of organisations, the local and unofficial associations would play an important part. For instance, the election of a member of Council for Northumberland, Cumberland, Westmoreland, and Durham would be a matter of the highest importance to them in that district, and no less than six associations would take part in the selection of a suitable candidate. It was no part of the duty of the Pharmaceutical Society or the Council officially to advance the cause of any particular candidate, and local associations in this case would be merely acting as groups of individuals interested in their own projects. But it would be quite a different matter after the election. The councillor would, no doubt, meet his constituents at association meetings and elsewhere, and would have to come into official contact with the Divisional Secretaries of his district, and be a source of inspiration to them as they would be to him. A meeting of the Divisional Secretaries of a territorial district with their member once a year would realise the idea of the founder with regard to branches throughout the kingdom. Mr. Tocher reminded his hearers of the pharmaceutical meeting held in Newcastle three years ago. Mr. Harrison, their member, he called him, and Mr. Bremridge were there, and if they took the trouble to look at page 10 of the Calendar for the current year they would find the meeting described as the "First Divisional Meeting of the Society, Newcastle-on-Tyne, 1901." Under the territorial scheme, divisional meetings in each district would be of frequent occurrence, and would be educative to the constituents and invaluable to the councillor as an index of the views of the men who placed him on the Council. They got *ad nauseam* the statement that only two kinds of men were eligible for the Council—men who lived in or near London, and men from the provinces old enough to be retired from business. Granting the proposition for the moment, would territorial representation interfere with it? Let them examine

The Constitution of the Present Council.

Out of the whole twenty-one present members only eight or nine could be described as living in or near London. So that, in the words of one critic, at least twelve members "cannot attend committee, or House of Commons work, or, indeed, any kind of work outside ordinary Council meetings." Mr. Tocher left it to the common sense of pharmacists whether that was likely to be true or not. He personally believed that provincial members took a large share of committee work. Again, was it absolutely necessary for the Council to meet monthly? The General Medical Council met twice a year, and did its work very well. A Council meeting six times or four times a year would do its work just as well, and save a great deal of unnecessary journeying on the part of the provincial members. Returning to the more important subject of the Pharmacy Bill, Mr. Tocher expressed the hope that Divisional Secretaries and local associations would do everything in their power to enlighten members of Parliament as to the objects of the Bill, and that it would have the good fortune to become part of the Law of the land during the present Session.

Mr. James Thompson (Workington) proposed the toast of the

Cumberland and Westmoreland Chemists' Association,

coupling with it the name of Mr. Townley, who responded, giving an account of the formation of the Association. That arose from the appointment of Divisional Secretaries for each Parliamentary constituency and the interest taken by them in getting the chemists in their division to meet the Registrar of the Pharmaceutical Society. The outcome was the Association which brought the chemists of the two counties together once a year, enabled them to know each other, and to discuss practical matters relating to their business, such as poison regulations, registration of poisons, and mutual co-operation.

Mr. Ridley (Carlisle) proposed the toast of "The Craft," to which Mr. Nichol (Carlisle) responded in a witty speech.

GLASGOW AND WEST OF SCOTLAND PHARMACEUTICAL ASSOCIATION.

ORDINARY MEETING.

Thursday, March 17, 1904, in the Association Rooms, West Regent Street, Glasgow, Mr. W. L. Currie in the chair.

The Deaths of Mr. McMillan and Mr. Robb.

Before the ordinary business was proceeded with, the Chairman referred to the deaths of Mr. John McMillan and Mr.

James Robb, and in feeling terms expressed appreciation of their life and character, and the sense of loss occasioned by their death.

Mr. Brodie, Mr. Gilmour, and Mr. Sutherland having paid similar appreciative tributes to the memory of the two deceased members,

The Chairman moved that it be remitted to the Secretary and himself to draw up a letter of condolence and send it to the relatives.

This was unanimously agreed to.

Mr. H. P. Arthur next read an interesting paper on

The Pharmacist as a Photographic Dealer,

in the course of which he said that no excuse need be offered at this time of day for the chemist who adopts this side-line. In those days when "cutting" had become one of the fine arts, it was refreshing to come across a branch of the business in which the trail of the "cutter" could not be found. On photographic plates and papers, which were sold at a fixed minimum price, there was a profit of 20 per cent., while the sundry accessories yielded profits of from 20 per cent. to 40 per cent. The first step towards adding this department to a pharmacist's business was to secure a stock. As a venture, £10 might be considered enough at first. The wiser policy would be to stock only the most popular brands of plates and papers. One thing the photographic dealer must have, and that was a dark-room. Very often the possession of a dark-room would bring customers that might otherwise never have been seen. It was remarkable how many amateurs would pay for its use in which to develop their negatives, while many more packets of plates would be sold if cameras could be loaded on the premises. If the dealer was not already a photographer, he should lose no time in becoming familiar with the use of the camera. The chemist frequently got the opportunity of drawing on his stores of scientific knowledge to answer his customer's queries. After touching on the humorous side of the business, Mr. Arthur said a dealer, too, should be practically acquainted with the many printing processes and know something of the action of the various developers, for the ability to settle the photographer's doubts and difficulties might secure many a customer. The lecturer advised the use of the best quality of chemicals for photographic solutions. It always "went down well" when a dealer could inform his customers that he used the same quality of chemicals for photographic purposes as he did for dispensing. In conclusion, Mr. Arthur said that most chemists who had taken up the sale of photographic goods had found it a very pleasant as well as a very profitable part of the business.

Mr. Robertson (Rutherglen) said that he made it a rule always to answer a question when put to him. He began dealing in the goods without a practical knowledge of photography, and he found it impossible to do anything like the work and the amount of it that he could with a practical knowledge.

Mr. Hart expressed agreement with many of Mr. Arthur's remarks, and, as regards developing, he would say that unless they were experts they should not do it. They might take the work in, but give it to somebody else.

Mr. Sutherland thought that photography was an interesting and a very desirable side-line to add to a business.

Mr. Gilmour referred to an extraordinary statement made by an American firm that development could not be controlled at all. That might be an excellent reason why they should use the American firm's developing machine, but his experience was different.

Mr. Arthur was thanked for his paper.

An excellent collection of photographic material was afterwards shown to the members. The material was supplied by the Albion Albumenising Company, 128, Sauchiehall Street, Glasgow.

Next Meeting.

Mr. Gilmour announced that the next meeting of the Association would be held on the 31st inst., when Mr. Maben would read a paper on "Serums and Vaccines."

LONDON CHEMISTS' ASSOCIATION.

COMMITTEE MEETING.

Wednesday, March 23, 1904, at the Holborn Viaduct Hotel, Mr. Albert Cooper in the chair.

The Parliamentary Committee.

Mr. J. C. Pentney, as Chairman of the Parliamentary Committee, reported that the members of the Committee attended at the House of Commons on Monday evening last as a deputation from the Association. The deputation interviewed several members of Parliament, and succeeded in securing promises of support in the matter of pharmaceutical legislation dealing with chemists' grievances from two influential members—one a specialist in matters connected with the working of the Food and Drugs Acts, and the other a gentleman who had made his mark in the House.

Mr. R. Feaver Clarke stated that a deputation of the North Kent and District Chemists' Association had waited upon Sir Gilbert Parker, M.P., and had obtained his promise to support the Pharmacy Bill. Sir Gilbert Parker informed the deputation that he thought chemists had as good a right to protection as doctors, lawyers, dentists, and midwives, and he expressed his regret that he was unable to be present at the dinner of the London Chemists' Association.

The Council Election.

Mr. Pentney then stated that at the last meeting of the Committee he proposed, and it was carried, that no action be taken by the Association in the matter of the Council election for twelve months. He had since learned, however, that there would probably be several Councillors retiring, and he thought if that were so the Association ought not to lose the opportunity of trying to secure representation on the Council. He, therefore, communicated with the Secretary of the Association, and suggested that the whole of the officers and the members of the Parliamentary Committee be nominated. That had been done, and it was now open for the Association, if it were thought desirable, to choose candidates from among those nominated to stand in the interests of the Association.

Mr. R. H. Jones wished to know what was the position of the Association in the matter. He pointed out that there were already four members of the Association on the Council of the Pharmaceutical Society, and he thought it might perhaps be considered that the selection of other candidates was putting a slight on them, or implied that the Association were not satisfied with their work as members of the Council.

Mr. Pentney disclaimed any wish to make any reflection on present members of the Council.

After some discussion, Mr. Pond moved, and Mr. Clarke seconded, that two candidates be selected.

Messrs. Betty, Pentney, and Truman having intimated their willingness to stand if selected, they retired from the meeting, and during their absence the Committee discussed the advisability of running candidates at the forthcoming election. Eventually it was decided that, taking into consideration the necessary expense and lack of time required for the promotion of candidatures, the Committee was unable to recommend any one candidate for the present year, but it was optional for any or all of the gentlemen to persevere with their candidature at their own expense.

This concluded the business of the meeting, and the Chairman announced that the next meeting of the Association would be on April 20.

LEICESTER AND LEICESTERSHIRE CHEMISTS' ASSOCIATION.

ANNUAL MEETING.

Wednesday, March 16, 1904, at the Oriental Café, Leicester, Mr. G. J. B. Woolley in the chair.

The reports of the Hon. Secretaries and Hon. Treasurer were considered very satisfactory, there being a balance on the right side. The membership was about the average.

Mr. W. Thirlby was elected President for the ensuing year. The other officers were re-elected, except Mr. Handley (who has retired from business), and with the addition of Mr. Harrison to the Committee.

WAKEFIELD AND DISTRICT CHEMISTS' ASSOCIATIONS.

ANNUAL DINNER.

Wednesday, March 23, 1904, at the White Horse Hotel, Wakefield, Mr. T. C. Whaley, President of the Association, in the chair.

The loyal toast having been honoured,

Mr. R. C. Walshaw (Huddersfield) proposed that of

The Pharmaceutical Society of Great Britain.

They had reason to be proud of a Society which had done so much to raise the educational status of chemists, who had rendered the State inestimable service without any adequate recognition. The work of the Society was of a twofold character—educational and protective. The chemists could justly claim to be the best educated traders, and they were looked up to as such. The protective work, both in the interests of the chemists and of the public was fairly effective. The weak spot in the Society was its lack of penal powers over its members. If these were available, company pharmacy could be effectively dealt with. He urged the great importance of combination, and he also advocated the appointment of an Organising Secretary to the Pharmaceutical Society.

Mr. Chaplin (Vice-President of the Wakefield Association) responded. He pointed out that the Pharmaceutical Society had always been subjected to adverse criticism, but that now much of the criticism was most favourable. The introduction of new blood upon the Council had led to its policy being adapted more to meet the requirements of country chemists than formerly. They were now looking forward hopefully to the outcome of the candidature of Mr. Sargeant for a seat upon the Council, as his intellectual ability, scientific attainments, and business capacity fully qualified him for the position.

Mr. Billington (Barnsley) proposed the toast of

The Wakefield and District Chemists' Association,

and in doing so referred to the improved feeling which associated effort had brought about.

Mr. W. Pollard acknowledged the toast in felicitous terms.

Mr. F. Pilkington Sargeant proposed the toast of

"Kindred Associations."

The Chemists' Associations had, he said, infused life into the Pharmaceutical Society. And if these Associations had done nothing more than demonstrate the value of organisation they had fully justified their existence. In alluding to the general benefits which followed combined effort, he incidentally alluded to the folly shown in some quarters in advertising the benefits procurable from co-operative buying. He believed that local associations were better able to deal with railway companies and public bodies, and also with assessment committees, than individual traders. Alluding to the Pharmacy Bill, he said that what might prove a Bill of greater importance would be introduced into the House of Lords after Easter. If this Poisons Bill was framed on the lines of the majority report of the Select Committee, it must be opposed at all costs. In regard to the constitution of the Council he advocated district organisations, the chief objection to which appeared to be that a change in the present method of voting would be necessary. Each member had now seven votes, and if he voted for one man his other six votes were practically wasted. He therefore favoured the cumulative vote, which would give the West Riding or other important district a chance of obtaining a representative familiar with its special requirements.

Mr. Hebden (Halifax), in responding, adversely criticised some of the methods of the P.A.T.A.

Mr. Barker (Heckmondwike) also responded, and he alluded to the fact that it was owing to the missionary enterprise of Dewsbury that the Wakefield Association had been established. In Dewsbury, he said, they had a dispensing price-list, which was faithfully adhered to.

Mr. Clyde proposed the toast of "The Visitors," and Mr. Priestley (Bradford) and Mr. Broadhead (Batley) responded.

A collection was taken on behalf of the Pharmaceutical Society Benevolent Fund, and the amount realised was £2 13s. 6d.

LEGAL INTELLIGENCE.

Pharmacy Act, 1868.

Proceedings Under Section 15 at Maidstone.

Pharmaceutical Society v. Filmer.

On Thursday, March 17, 1904, at the Maidstone County Court, before his Honour Judge Emden, the case of the Pharmaceutical Society against Edward Filmer, an unqualified manager of Vinson and Co., Limited, of Middle Row, Maidstone, came on for hearing.

Mr. Brennan, who appeared for the Society, stated that the claim was in respect of penalties incurred by the defendant under Section 15 of the Pharmacy Act, 1868, by selling poisons, he being an unregistered person. Defendant had admitted the facts in a letter, but he (Mr. Brennan) was not in a position to prove the handwriting in the absence of defendant.

His Honour gave judgment for the Society for the penalties claimed, with costs on the higher scale, subject to a signed consent to judgment, which has since been given.

Medicine Stamp Duty Acts.

"Magic" Cures.

On Wednesday, March 16, 1904, at Marlborough Street Police Court, London, before Mr. Plowden, the Century Thermal Bath Cabinet Company, Limited, 203, Regent Street, W., was summoned for selling, without stamps, certain articles, named "magic foot draft" and "magic regulator" respectively, which were so held out and recommended as to be liable to medicine stamp duty.

The magistrate imposed a nominal penalty of ten shillings and two shillings costs on each summons.

Sale of Food and Drugs Acts.

Gregory's Powder.

On Thursday, March 17, 1904, at St. Albans Petty Sessions, before the Mayor and other magistrates, Mr. Albert C. Wells, chemist, of High Street, St. Albans, was summoned for an alleged offence under the Sale of Food and Drugs Acts.

Mr. A. H. Debenham appeared to prosecute, and stated that on March 8 Mr. Wells sold to the sanitary inspector an ounce of Gregory powder. That sample had been submitted to the public analyst, and found to be adulterated. The real article should contain 66·5 per cent. of magnesium oxide, and should contain no magnesium carbonate, which the analyst proved was contained in the sample before them. This offence was made a serious one by the law, and chemists must be taught that they must supply the public with what the public demanded.

Defendant stated that magnesium oxide was prepared by heating magnesium carbonate. If it was removed from the heating apparatus before a change took place, a portion remained as magnesium carbonate. He was unfortunate enough to get hold of the not wholly prepared article. He had absolute confidence in the wholesale house.

The Bench imposed a penalty of £1 and costs.

Milk of Sulphur.

On Wednesday, March 16, 1904, at Leven Police Court, William Myers, grocer, of Brandesburton, was summoned under the Act for selling adulterated milk of sulphur.

An inspector stated that the public analyst found that the "milk of sulphur" contained 50·75 parts of sulphur and 49·25 parts of calcium sulphate.

The Bench imposed a nominal fine of 2s. 6d. and the costs.

POISONING CASES AND INQUESTS.

The deaths by poisoning reported during the seven days ended Wednesday, March 23, 1904, include five by carbolic acid and five by laudanum. The total number of cases is twenty-one:—

Poison.	Accident.	Suicide.
Carbolic Acid	1	4
Chloroform	3	—
Coal Gas	—	1
Hydrochloric Acid	—	1
Laudanum	2	3
Morphine	—	1
Oxalic Acid	—	1
Potassium Cyanide	—	2
Ptomaine	2	—
Total	8	13

Carbolic Acid.—A woman at Birkenhead, and three men at Liverpool, Manchester and Durham respectively, committed suicide by taking carbolic acid. At the Durham inquest, the coroner said it was less than a week since he held a similar inquiry, when he remarked on the painful nature of death from carbolic acid poisoning. He had been asked what was the use of preaching a sermon if nobody listened? He thought it was perfectly disgraceful that such a state of things should be allowed by the law of England—that people could obtain poison so easily. He was ashamed of the powers in office. It took twenty years before any notice was taken of their representations in regard to revolver pistols. They were a long way from being perfect yet, and they had nothing to congratulate themselves upon.——A town councillor of Congleton died from an accidental dose of carbolic lotion, taken in mistake for medicine.

Chloroform.—Three deaths under chloroform are reported from Enfield, St. George's Hospital, and Guy's Hospital.

Coal Gas.—At Kidderminster a man committed suicide by inhaling gas.

Hydrochloric Acid.—A woman at Evesham committed suicide by taking spirit of salt.

Laudanum.—Five deaths have occurred from laudanum poisoning. Of these two, at Hanley and Coventry respectively, were accidental. A woman at Hull, a man at Ventnor, and a man in West London, committed suicide with the same drug.

Morphine.—Charles Philip Hemery, of Nottingham, described as a chemist, committed suicide at Horncastle by taking a solution of morphine hydrochloride.

Oxalic Acid.—This acid was taken with fatal effect by a woman at Norwich.

Potassium Cyanide.—Wm. Shaw, a young analytical chemist, committed suicide at Manchester by taking potassium cyanide. A clerk at Camden Town, who put an end to his life in a similar manner, had bought the poison from a chemist, saying that he was a photographer.

Ptomaine.—Ptomaine poisoning caused the death of a child at Woodbridge, and another at Hanley.

Attempts at Suicide.—The reported cases of attempted suicide present no characteristic of especial interest.

REVIEWS AND NOTICES OF BOOKS.

'Contributions to Practical Medicine.' By Sir James Sawyer. Fourth edition. Pp. 227. Price 3s. Birmingham: Cornish Bros. 1904.

The publication of a fourth edition within two years of the third bears testimony of the continued popularity of this work, and has afforded Sir James Sawyer further opportunity for revision and addition. The most interesting of the new matter is the paper in which the author records his favourable experience of the apparently revolutionary addition of potatoes to the diet of diabetic patients which was suggested by Mossé in 1902. As was to be expected, the practical character of the previous editions pervades also the latest addenda.

'The Infectivity of Enteric Fever.' By Alexander Collie, M.D. Pp. 47. Price 1s. 6d. net. Bristol: J. Wright and Co. 1904.

The author of this book believes that personal contact is a much commoner means of spreading enteric fever than is generally supposed; and that the usually received theories as to water pollution will not always explain epidemics of the disease. Dr. Collie confines himself chiefly to three small outbreaks between the years 1863 and 1873, but his remarks would have carried more weight had he selected recent and more readily investigated cases; nor are all his inferences from the facts, as he states them, strictly legitimate. Further, it is not denied by medical authorities that aërial transmission does sometimes occur; but equally Dr. Collie's cases do not shake in the least the evidence of water-borne contagion in the majority of the large epidemics of recent years. An important aspect of the subject is its bearing on the common practice of admitting enteric fever patients to the wards of the general hospitals: a practice which would become indefensible should the author's views be accepted by the medical profession, among whose members his large experience must command the most careful attention.

'The Medical Annual for 1904.' Pp. 852. Price 7s. 6d., and Stereoscope 2s. Bristol: John Wright and Co.

The new issue of this well-known annual maintains the high reputation of its predecessors as a practical summary of the past year's progress in medicine and surgery. Beyond this, however, the monotony of continuous research in compressed form is agreeably relieved by an occasional original article, such, for example, as Dr. Murrell's admirable section on Banti's disease. The plates illustrating the eruptions of the infectious fevers are also most valuable, and even more successful are the stereoscopic illustrations of that difficult and important subject, the anatomy of the internal ear. The contributors seem animated with a single-minded desire to chronicle every new departure fairly, but the sections on abdominal surgery are too largely devoted to an exposition of the omniscience of their author to make good reading. To pharmacists the most interesting pages are those—forty-two in number—on which Professor Stockman reviews the pharmacology of the past year. This volume is fully equal to the best of the twenty-one previous editions, and that, as the medical profession knows, is high praise.

'Golden Rules of Dental Surgery.' By C. W. Glassington, M.R.C.S., L.D.S. Pp. 69. Price 1s. Bristol: J. Wright and Co. 1904.

Thumb-nail manuals of important sciences are not as a rule very satisfactory, but the present volume is distinctly in advance of most similar productions. The statement, however, that 5 minims of Injectio Apomorphinæ contain $\frac{1}{10}$ grain of that drug, is a mistake. $\frac{1}{22}$ grain is the amount. Four pages later a 5 grain dose of quinine sulphate with 10 minims of Tinctura Gelsemii is recommended "every two or three hours" for neuralgia of dental origin; we are not sure whether the remedy might not prove worse than the disease. It is also difficult to understand why a prescription is inserted containing large doses of powerful and dangerous drugs for a condition expressly stated to have no connection whatever with dental surgery (page 56). Although Mr. Glassington gives "rules" on certain diseases (*e.g.* epulis) the treatment of which should only be carried out by medical practitioners, he makes amends to that profession by some really excellent hints for medical men on the last four pages. The strictly dental portion of the work is of greater excellence, although the section on anæsthetics is defective in important particulars.

'X-Rays Simply Explained.' By R. P. Howgrave-Graham, A.I.E.E. Pp. 93, with six full-page plates. Price 6d. London: Percival Marshall and Co., 26-29, Poppins Court, Fleet Street. 1904.

This is a very useful little handbook on the theory and practice of radiography, a subject which offers no small possibilities of commercial application by chemists and druggists. While some knowledge of the principles of physics must be assumed on the part of the reader, the explanations should be intelligible to all qualified chemists, the book being illustrated with numerous diagrams.

VETERINARY NOTES.

BY "CENTAUR."

Poultry Diseases.

Poultry and game rearing has, during the past season, suffered unusually from the effects of gastro-enteritis, a disease first properly investigated by Dr. Klein and that doyen of naturalists, Mr. Tegetmier, when an outbreak occurred at Orpington, and was spoken of as fowl cholera, owing to the prominent symptom of diarrhœa. It is, of course, caused by a specific microbe, and the manner of its conveyance from one subject to another is by consumption of infected food. Poultry, as well as pheasants, reared in confinement, naturally suffer more than wild birds, owing to the strictly limited area over which they are fed, and the necessarily greater risk they run of picking up food soiled with the fluid excreta of their fellows. For these we may recommend the removal of their coops to fresh ground every year, and owners should be advised not to construct any new houses or enclosures of a permanent character; to lime the ground, and employ disinfectants. Many persons are willing to incur the expense, but do not know how to efficiently disinfect premises. Should not the pharmacist visit and advise, demonstrating aerial and other methods suited to the character of the buildings and premises? In the south, where cold winds and much rain was general in the nesting season, many chicks were drowned, and gapes (syngamus trachealis) accounted for many losses. In the north, where the spring was comparatively dry, the gape worm has been very little in evidence. Overcrowding, or, as it is commonly said, "stenching" the ground, is the fruitful source of all bird diseases. The effects of long environment on hereditary tendency is seen in the comparative immunity of the domestic fowl, on the one hand, and the ease with which a grouse moor becomes infected on the other, when anything approaching a large head of game is maintained. Grouse disease was hardly known prior to the days of preservation, and when sheep shared the pasture.

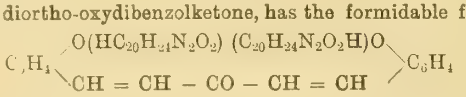
Veterinary Posology.

A veterinary surgeon recently called attention (see page 389) to what he describes as "ignorance" on the part of pharmacists as to some of the more active substances employed in the treatment of the diseases of animals. What ground there may be for his complaint and how much justification as a general charge against knights of the pestle, it would be difficult to say, but one thing must be admitted, namely, that veterinary posology forms no part of a chemist and druggist's recognised curriculum, and his knowledge of the subject is on a par with that gained of counter prescribing—by his own observation and the utilisation of such opportunities as come in his way. In country towns they will be many; in fashionable watering places almost nil, but readers will probably agree that he should have such acquaintance with the doses usually given to animals as to enable him to dispense for them with assurance, and detect dangerous doses with the same watchfulness that he exercises over medical prescriptions. A knowledge of human medicine will only serve in part to arm the chemist with the required information, and a comparison of weight of the animal with the dose of the B.P. will be often misleading. As an example to the point, a medical man wished to destroy some decrepit old hens which had been bequeathed to him, among other things, and, intending to be kind, gave them each a couple of grains of morphia, expecting to find them dead in the morning. If the lethal dose bore any proportion to that of the human subject, his expectation would have been fulfilled, and his surprise may be imagined when next morning he found them searching for the usual meal, which in this instance had not been provided. Relatively to their weight, they take 300 times as much as man. Relatively to their weight, dogs take eight or ten times the dose of opium prescribed for man. Horses and cattle are excited by large doses of opium, not narcotised, as men are. Goats will eat strong shag tobacco without any apparent effect. Enough has perhaps been said to convince the young pharmacist that there is much to learn in veterinary posology, and that it is worth learning if he would attract dispensing which is now done with reluctance by the veterinary practitioner himself.

NEW REMEDIES.

The Notes in this column embody recent suggestions in therapeutics, for the information of dispensers; they deal with novel applications of drugs and preparations in common use, in addition to new remedies strictly so-called.

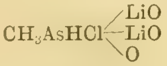
Lygosine-quinine, a New Dressing for Wounds.—This salt quinine diortho-oxydibenzolketone, has the formidable formula



$$C_6H_4\begin{cases}O(HC_{20}H_{24}N_2O_2)\ (C_{20}H_{24}N_2O_2H)O \\ CH = CH - CO - CH = CH\end{cases}C_6H_4$$

It forms a bright red, amorphous, odourless powder, and is applied either as a dusting powder on the wound or abscess, or by means of gauze medicated with the drug. J. Szendrö states that it is most efficacious in the treatment of abscesses, boils carbuncles, eczema, burns, and venereal sores, and also acts as an efficient styptic in epistaxis. The application is stated to be without the least disagreeable result, and not to give rise to any toxic symptoms, even when most freely used. In chancres the results obtained have not been better than with the usual remedies, but in epistaxis the employment of quinine lygosinate gauze has been most prompt in arresting bleeding.—*Nouv. Rem.*, **19**, 538.

Lithium Arrhenal.—Labadie Lagrave claims to have obtained good results in the treatment of diabetes with lithium arrhenal or lithium chlorohydromethylarsinate. This compound is prepared by dissolving methyl-arsenic in HCl, evaporating and crystallising when chloro methyl arsenic acid, CH_3AsHO_2HCl, separates out, which dissolves very readily in water without decomposition. The lithium salt is obtained by neutralising this solution with lithia, when it forms extremely deliquescent crystals, readily soluble in water. When taken into the stomach, it is not decomposed and does not liberate cacodyl oxide; it is, in fact, more stable than the methyl arsenates or the cacodylates. Its formula is given as being:—



$$CH_3AsHCl\begin{cases}LiO \\ LiO \\ O\end{cases}$$

It is administered as an aqueous solution containing 0·04 Gm. of chlorhydromethylarsenic acid and 0·15 Gm. of lithia in each C.c., in doses of 5 to 10 drops; or in pills containing $\frac{1}{3}$ grain of the acid and $1\frac{1}{3}$ grain of lithia, given twice daily at meals.—*Nouv. Rem.*, **19**, 537.

A Critical Trial of Some New Drugs.—Dr. Alois Strass, of Vienna, gives the results of a careful critical examination of the effects of some drugs of comparatively recent introduction—viz., aristochin, aspirin, hedonal, mesotan, and theocin—with a view to determine their usefulness. Aristochin, a neutral carbonic acid ester of quinine, was administered in doses of from a quarter to half a gramme in place of quinine itself in about fifteen cases. Dr. Strass was satisfied of the usefulness of aristochin, but came to the conclusion that it had no advantages over the sulphate, except that for children the absence of the bitter taste was an advantage. Aspirin, which is an acetyl derivative of salicylic acid, was given in about forty cases. Satisfactory results were only obtained in cases with a rheumatic origin. Aspirin entirely failed to influence the fever of pulmonary tuberculosis, but was useful in some febrile conditions of doubtful origin. Dr. Strass found that hedonal had very little influence on insomnia, unless it were combined with some other drug influencing the cause of the sleeplessness more directly. In cases of neuritis and chronic alcoholism it tended to produce cerebral congestion and some excitement, and was soon refused by the patients. Mesotan, a metoxy-methyl ester of salicylic acid, was tried in about thirty cases, and was found to be very useful in all conditions in which salicylates are of value. Mesotan was, moreover, found to be a useful anhidrotic, and for this purpose was used in pulmonary tuberculosis with good but not lasting results. For this purpose a few drops was rubbed into the skin of the chest and back shortly before retiring. Theocin (theophyllin), a synthetically prepared xanthine derivative, proved to be a valuable diuretic in many cases, but only when no heart failure and no lowering of the blood pressure were present.—*Wiener Klinische Rundschau*, **1903**, 50, through *Lancet.*

Hydroacetyl Dioxide.—This body, $CH_3CO{\cdot}O{\cdot}OH$, is stated to be a powerful, non-toxic antiseptic. It is obtained in solution by the addition of benzoyl-acetyl-peroxide to water. Dibenzoyl peroxide is thereby precipitated, while acetic acid and hydro-acetyl-dioxide are dissolved.—*Rev. Méd. Pharm.*, **10**, 802.

PERSONALITIES, BUSINESS CHANGES, &c.

Mr. T. H. Wardleworth sailed from Liverpool on Saturday last, March 19, for Canada.

Messrs. Findlay and Co., chemists, have opened a new business in Caerleon Road, Newport (Mon).

Mr. Thos. Holden, chemist and druggist, has been re-elected unopposed a member of Royton Urban District Council.

Messrs. John Young and Sons, chemists, High Street, Newport (Mon.), have secured premises at Nos. 6 and 7, Dock Street.

Mr. G. C. Druce gave an address on Wednesday, at the Chapter House, St. Paul's Cathedral, on "Painting and Sculpture in the Roman Catacombs" before the members of the St. Paul's Ecclesiological Society.

Mr. H. H. Pollard, J.P., Divisional Secretary of the Pharmaceutical Society for the Isle of Wight, has, by a unanimous vote of the Isle of Wight County Council, been re-elected an Alderman of that body.

Mr. James Brelsford, chemist and druggist, of 51, Greengate Street, Oldham, announces that he has disposed of his share and interest in the chemist and druggist's business carried on at 32, Bottom-o'-th'-Moor, Oldham, under the style of Mark Brelsford.

Messrs. Willows, Francis, Butler, and Thompson have converted their business into a limited liability company. The shares are all retained by the partners in the old firm, the four seniors being directors of the company. The debts due by and owing to the firm will be paid and received by the company as agents of the firm.

MISCELLANEOUS NEWS.

Divisional Secretaries and other Members of the Pharmaceutical Society are requested to assist the Editor by sending local newspapers containing items of interest to chemists and druggists.

The Dispensing at the Portsmouth Hospital.—It has been referred to the Drug Committee of the Portsmouth Hospital to consider the qualifications of the dispenser, and report thereon to an early meeting.

Fire at a Cork Factory.—The premises occupied by Messrs. Deighton and Co., cork manufacturers, York, were gutted by fire early on Tuesday morning. The damage to the stock alone is estimated at over £6,000.

University College.—Sir Donald Currie has given the sum of £100,000 to enable University College to effect amalgamation with London University, to improve medical education, and to provide and furnish a nurses' home in connection with University College Hospital.

No Free Trade in Radium.—At the request of the Academy of Science, the Austrian Minister of Agriculture has ordered that until further notice no trading should be permitted in the residues from the manufacture of uranium colours at Joachimsthal, and that nine tons of those residues should be reserved for purchase by the academy, and another nine tons for M. Curie.

Public Dispensers' Association.—An exhibition of pharmaceutical, chemical, and medical specialties and novelties has been arranged by this Association to be held at St. Bride's Institute, Ludgate Circus, E.C., on Wednesday, March 30, 1904, at 8 p.m. About twenty of the leading firms have already notified their wish to exhibit, and a successful evening is anticipated. Members and their friends, also ladies, are cordially invited to attend.

An Exhibition of Photographic Portraits by Mr. William Crooke (of Edinburgh), Mr. Fred Hollyer (of London), and Mr. T. C. Turner (of Hull and London), was opened at the Royal Photographic Society's house, 66, Russell Square, on Tuesday, March 22, 1904. The exhibition, which includes some fifteen examples by each of the above, will remain open for some six weeks at least, and may be seen between the hours of 11 a.m. and 6 p.m. Non-members are invited to view the exhibition.

The Sale of Pistols.—The advantages arising from restrictions on the sale of dangerous articles was remarked on by the Deputy-Coroner for Central London at an inquest held on Tuesday, the 22nd inst. He remarked that he had found the Pistols Act very useful. Since its introduction the officials had been able to trace with comparative ease in several cases of suicide by gunshot wounds where the weapons had been purchased. Many people had a desire to take their lives, and would purchase weapons for the purpose if they could do so easily. But the Act had put a difficulty in their way, and while they were thinking about taking the necessary steps the desire to take life passed away.

Chemists' Wills.—The late Mr. James Maurice, formerly of Plymouth, who died at Llanfyrnach on February 7, left estate valued at £11,523.——Mr. Edward Turner, of the firm of Messrs. Turner and Son, of 40, High Street, Newcastle-under-Lyme, chemists and drysalters, who died on February 21 last, left estate of the gross value of £74,477 13s. 11d., the net personalty being sworn at £72,459 14s. He bequeathed £2,000 to the Governors of the Newcastle (Staffs) Endowed Schools to found two scholarships of equal value, to be known as the "Edward Turner Scholarships," to be awarded to scholars at the High School, Newcastle-under-Lyme, by examination, tenable for three years at any university in the United Kingdom or Ireland, for proficiency in chemistry. He left £1,000 to the rector and churchwardens of the Parish Church of St. Giles, Newcastle-under-Lyme, to found a charity, to be named the "Maria Turner Charity," the income to be distributed at Christmas in money or kind among the deserving poor of St. Giles's Parish. He left £500 to the North Staffordshire Infirmary, £300 to the Cottage Hospital, Longton, and £200 to the Wedgwood Institute, Burslem.

National Physical Laboratory.—The report of this institution for 1903 contains full details of the work carried out during that year, and also an outline of the programme for the present year. In the physics department, among other things, the construction of a standard ampère balance, together with various electrical tests, is to be undertaken; various methods of measuring temperatures between 1,400° C. and 1,800° C., and the suitability of different glasses for high temperature thermometry, are to be investigated; the standardisation of the steel yard and nickel metre is to be completed; and an inquiry is to be initiated into the conditions in which the pentane lamp may be treated as a standard, and measurements made of the refractivity and absorption of various glasses used by opticians. There is, however, a deficiency of £106 on the year's work of the laboratory, and the Committee is of opinion that the time has come when the financial position must be recognised. The Committee holds that an increase of funds is necessary even to maintain the work as at present, and a further increase if work for which there is a demand is to be carried out. It points out that similar institutions in other countries obtain more assistance from the State.

Vested Interests in the Spoil.—The greed of so-called cash chemists has been the subject of unfavourable, but not unfair, comment in the *Confectioners' Union*, and an extract from an article in that paper appeared in the *Daily Mail* of March 19. On Tuesday, the 22nd inst., the *Daily Mail* published, over the signature of Mr. A. J. Chater, of 17, Bloomsbury Square, a letter from which we extract the following:—"The traders referred to are not chemists at all, but are incorporated impersonal business concerns which, as companies, annex the professional title of the examined individual and disregard every statutory precaution in connection with the sale of poisons, simply because they are sheltered under that beneficent legal dispensation known as the Companies Acts. One unqualified man stealing a title may be punished for the theft, but seven unqualified men may purchase from Somerset House at a really reasonable rate an indulgence under the Companies Acts to do what they please in the way of gathering other men's fruit, and when they have done it they may write eloquently to the Press about 'vested interests' in the spoil! The public need not fear the infinitesimal greediness of the individual, but it has strong reason for shuddering at the growing voraciousness of the company octopus."

Goldsmiths' Institute.—The Goldsmiths' Company has decided that the company's institute at New Cross shall cease to exist in September next. The reasons for this decision are to be found in the new conditions introduced by the Education Act. The London County Council has been constituted the educational authority for the metropolis, and charged with the duty, "subject to few conditions and practically no limitations, of equipping London with a complete educational system." But the company is not willing to surrender the independence of the institute, on the one hand, and, on the other, is convinced that it is impossible for a purely voluntary institution, supported by a private body, to compete successfully, in the long run, with institutions maintained at the public expense. Past students of the School of Pharmacy will remember that Dr. Arthur Lapworth, formerly senior demonstrator at that School, has for some three years past been in charge of the Chemistry Department of the Goldsmiths' Institute. The company has offered to hand over the whole of the site of the Institute (about seven acres), together with its buildings, equipment, and apparatus complete, to the London University for the purpose of promoting its work in South London. The Senate of the University has resolved to accept the company's offer.

Edinburgh Pharmacy Athletic Club.—The thirteenth annual general meeting of this club was held in the Pharmaceutical Society's House, 36, York Place, on Tuesday, March 22, when Mr. J. P. Gibb, President, presided over a very good attendance.—The Secretary read his annual report, by which it was seen that the club continues to prosper, and is in a slightly better position than this time last year. The membership stands at 113. During the past year all the sections of the club have been well supported.—The Treasurer submitted his annual report, which showed that the clubs started with a balance of £56. The income came up to £84, which made a total of £140. The sports income reached £61, against an expenditure of £66. Excluding the cricket materials and footballs, there is a balance of £57 to be carried to next year. The following office-bearers were unanimously elected for the ensuing year:—Honorary President, Mr. W. A. Davies; President, A. G. Paterson; Vice-President, D. S. Napier; Secretary, Wm. Hunter; Assistant-Secretary, Wm. Ross; Treasurer, R. McDougall; Committee, W. G. Brown, J. G. Ferrier, J. P. Gibb, Geo. Haddon, Jas. Muir, Wm. O'Mally, and C. H. C. Rowland; Auditors, R. R. Kinnimont and Geo. Somerville. The sum of two guineas was unanimously voted to the Benevolent Fund of the Pharmaceutical Society, and at the same time the Secretary was instructed to write and thank the Society for the permission to use their house as a place of meeting, and also to thank Mr. J. Rutherford Hill for his kindness and courtesy to the club. Mr. Hill replied.

The Life and Work of Louis Pasteur.—Dr. W. H. Perkin, jun., F.R.S., Professor of Organic Chemistry at the Victoria University of Manchester, delivered a very interesting and instructive lecture on the above subject before the Chemical Society of the University of Liverpool on Friday, March 18. The lecturer commenced by a mention of the early struggles of the great savant, who, from his youth, was characterised by a very keen insight and power of observation. Pasteur's work on the enantiomorphs was dealt with, and Dr. Perkin showed how a consideration of the two forms of tartaric acid, the dextro- and lævo-enantiomorphs, put the great biologist into a position to specialise on the diseases of fermentation. He then extended his work to the consideration of the reasons for the changes which went on in the wines of his native country. The result of his endeavours in this particular industry alone saved France many millions of pounds. He subsequently turned his attention to the silkworm disease, and was able to show that this was caused by a small microbe in the silkworm, which existed in all stages of its development, from the egg to the cocoon. His work on anthrax, his struggles with the ignorance of agriculturists and others, and his convincing experiments on this disease and in glanders were mentioned, and the lecture concluded with an excellent account of the later work of Pasteur in treating patients who had been bitten by dogs and other animals. Dr. Perkin showed how doses of the bacillus of rabies injected into rabbits until sufficiently attenuated for human beings had reduced the mortality of deaths from hydrophobia from 20 per cent. to less than a quarter that figure.

SCHOOL AND COLLEGE NEWS.

Football.—Edinburgh Central School of Pharmacy *v.* Civil Service Reserves.—On Saturday, March 19, at Hawkhill, Edinburgh. The match ended in a draw, both sides having scored two goals.

Inter-Pharmacy Football League.—At the smoking concert held in connection with this league on March 16 a collection was taken on behalf of the Benevolent Fund of the Pharmaceutical Society. As a result, £5 has been handed to the Secretary.

Pharmaceutical Football Club.—The "Square" team brought their football season to a close on Saturday last, when a team of present students was opposed by one of past students, ably captained by Mr. W. Allen. The match resulted in a win for the "Old Boys" by four goals to one. The following composed the "Old Boys'" team:—Allen (captain), Happold, Hines, Jackson, Moore, Nelson, Owen, Paterson, Smith, Dewhurst, and Fuller. After the match the teams and a number of present students sat down to tea at the Bush Hotel, Shepherd's Bush, after which a smoking concert was held, which proved thoroughly enjoyable. Mr. Hewlett was in the chair, and the musical programme was arranged by Mr. Gaubert.

TRADE NOTES.

Messrs. T. Morson and Son notify that in consequence of the Easter Holidays and removal to new premises, they will be closed for business purposes from April 1 to 4 inclusive. On and after April 5 their new address will be 14, Elm Street (close to Holborn Town Hall), Gray's Inn Road, W.C., where all communications should be addressed.

Rogers' Sprays.—Mr. Frank A. Rogers, 327, Oxford Street, London, W., has just issued a third edition of his spray list, giving particulars of the newest and most approved forms of sprays and atomisers. It comprises a complete list of spraying apparatus, accessories, etc. Several old patterns have been deleted and new shapes introduced. Chemists should certainly have a copy of this list handy for reference.

A New Prize Competition.—The directors of Camwal, Limited, are offering the sum of £50, or, provided that 1,000 entries are received, £100, to be divided as prizes among the eight chemists who, subject to certain conditions, show the greatest percentage of increase in their sales of Camwal syphon waters during the twelve months from January 1 to December 31, 1904, compared with their sales of the same during 1903. Competitors are to be divided into three classes, according to the number of syphon waters purchased during 1903. Further particulars of the conditions of the competition and the mode of entry will be supplied on application to Camwal, Limited, 112, Pembroke Street, Caledonian Road, N.

MARKET REPORT.

The quotations given below are the lowest prompt cash prices for bulk quantities, to which other charges have to be added. It is important that this should be borne in mind in making any comparison between the prices quoted and those of the wholesale drug trade.

General Markets.

London, Thursday, March 24, 1904.

An almost unprecedented gloom has prevailed in the markets in Drugs and Chemicals during the week. It is evident that trade generally is passing through a period of extreme depression. The approaching Easter holidays may account in some small measure for present conditions in the drug market, while the troubles in the Far East and the unsettled state of home politics must influence commercial affairs considerably. Japanese articles are very flat. Camphor and Menthol appear to be neglected, but prices remain nominally unchanged. Quinine is also very quiet. The value of American Peppermint Oil is still lower here than it is on the other side. Buyers of Cod-liver Oil have been delaying their purchases in the hopes that as the fishing proceeded prices would decline. This, however, has not been the case; on the contrary, news comes from Lofoten that the fishing is much poorer than had been anticipated, and in consequence the value of the oil has advanced. Codeine has again suffered a decline, and the price of this alkaloid is 7d. per oz. lower. This has been mainly brought about (like previous reductions) through the competition of a foreign synthetic maker. Morphine, on the contrary, is firmer, and the prices now asked vary from 4s. 5d. to 4s. 8d., according to quantity. There has been nothing doing in Opium. Eserine is another alkaloid the price of which has been reduced in consequence of competition.

ALUM.—Lump, £5 12s. 6d.; Ground, £6 2s. 6d.

ARROWROOT—Was not represented at the Spice sales on Wednesday.

BICARBONATE OF SODA.—£7 5s. per ton, landed.

BISMUTH.—Carbonate, 8s. 1d.; Subnitrate, 7s. 4d.

BLEACHING POWDER.—English, £4 15s. to £4 17s. 6d.

BORACIC ACID.—Powder, £1 4s. 6d.

BORAX.—In powder, 14s. 6d.; crystals, 13s. 6d.

CAMPHOR—Is flat. The nominal price of English refined is unchanged since last week. Japanese refined tablets could probably be had at 3s. 3d.

CASTOR OIL.—Belgian 1sts, £19 10s.

CHLORAL HYDRATE.—The price is now 3s., "duty paid."

CINNAMON.—A few bales sold without reserve on Wednesday, ordinary firsts, at 8½d.

CITRIC ACID.—1s. per lb.

CLOVES.—At the spice sales 82 cases Penang sold without reserve at good prices. On the private market good business has been done in Zanzibars at about 7d. for March-May delivery.

COCAINE.—11s. 9d. to 12s. 3d. per oz. for the Hydrochloride, according to quantity.

COCO-NUT OIL.—Cochin, £30 spot; Ceylon, spot, £25.

CODEINE—Has been reduced 7d. per oz. The price now quoted is 8s. 4d., with further reductions for large quantities.

COD-LIVER OIL.—The report comes from Lofoten that the fishing is very poor, that the cods' livers are very lean, and that the condition of the livers, as usual, is declining. In consequence of the bad fishing, prices have advanced considerably. The prices now quoted for Norwegian non-freezing is 280s. c.i.f.

CREAM OF TARTAR.—98 per cent. foreign powder, 87s.

ERGOT.—Some sales of very fine Spanish have been made at 1s. 8d.

ESERINE.—A reduction of 1s. 6d. per gramme is announced, the quotation being 5s. per gramme for the sulphate and salicylate. The reduction is attributed to the competition of manufacturers.

GINGER—Was in slow demand at the Spice sales. A few bags Cochin sold at about late rates. Forty bags Jamaica sold at rather easier rates for common.

HYDRASTIS CANADENSIS—Whilst very firm, there is actually nothing doing in this article. Nominal value is 4s. 9d.; a little may be had slightly below this.

HYPOPHOSPHITES.—For the lime quotations are 1s. 8d. to 1s. 9d., according to quantity; Soda and Potash 2d. per lb. extra.

IODIDES.—The prices are now: Sodium Iodide, 11s. 10d. to 12s. 1d.; Potassium Iodide, 10s. 3d. to 10s. 9d.

IODINE.—Resublimed is now 12s. 3d. per lb.

IODOFORM.—13s. 10d. to 14s. 1d.

IPECACUANHA.—Nothing has been doing in this article since the sales.

ISINGLASS.—The third auctions of the series were held on Tuesday. The total of all descriptions offered amounted to 893 packages, being about the same as at the preceding sales. Generally the demand was quiet, and about a quarter of the offerings sold at about steady rates.

LINSEED OIL.—London spot pipes, £16; barrels, £16 7s. 6d.

MENTHOL.—There is practically no business doing. The nominal price of Kobayashi is 18s. 6d.

MERCURIALS.—Calomel, 2s. 8d.; Corrosive Sublimate, 2s. 4d.; Red Precipitate, 2s. 11d.; White Precipitate, 2s. 11½d.; Mercuric Sulphate, 2s. 4d.

MORPHINE—Is firmer. For wholesale quantities the acetate, muriate, and sulphate are 4s. 5d., and for the powder, the crystal sulphate and muriate the quotation is 4s. 7d.

NUTMEGS.—The offerings at the Spice sales numbered 8 packages only; all sold.

OXALIC ACID.—2⅝d., delivered free London.

PEPPERMINT OIL.—H. G. H. has been sold at 14s., and there are a few sellers still thereat. An early advance would not come as a great surprise, however, for New York prices are decidedly higher than this value.

POTASSIUM BROMIDE.—1s. 11½d. per lb.

QUININE.—Messrs. Howards and Sons, Limited, have advanced their price for quinine sulphate to 1s. 4d. per oz. for 1,000 oz. lots in 1 oz. vials. The advanced makers' price of German brands was announced last week. In the second-hand market things are very flat, the nominal price for the German sulphate being about 1d. below makers' prices.

SENEGA ROOT.—Owing to the slack demand, it may be obtained on spot at 2s. 11d. per lb.

SHELLAC.—Business has been done at 206s. for fair TN spot.

STROPHANTHUS SEED.—The demand appears to be small at present, due, no doubt, to the fact that medical men have lost confidence in the drug, owing to its great variation in strength, and the difficulty of obtaining perfectly pure *Kombé* seed. The same statement applies to the seed of *Strophanthus hispidus*, for, as has already been pointed out in this Journal, there are brown *Strophanthus* seeds like those of *S. hispidus* in shape and size which do not contain strophanthin. It may, therefore, be useful to mention that the genuine Kombé or Mandala brand is still obtainable through at least one broker.

WHITE PEPPER.—Quiet. Spot price for fair Singapore is 9½d., and for Penang 9 7-16d.

PATENTS AND TRADE MARKS.*

New Patent Applications.

APPARATUS FOR THE ADMINISTRATION OF ANAESTHETICS (No. 7,388 of 1903).—V. Knowles, Kendrick View, London Road, Reading, and the Dental Manufacturing Co., Limited, of 6-10, Lexington Street, London, W. This apparatus is specially designed for the convenient administration of somnoform, ethyl-chloride, and other like preparations, including nitrous oxide gas. Comprises a face-piece, a loose lining of absorbent material within said face-piece, an adjustable holder for said lining, a connecting tube provided with means for giving and regulating the air supply or for supplying an additional quantity of the anæsthetic, and a rubber bag adapted to slip over the other end of the connecting tube and clasped thereupon by an elastic holder. The particular feature of this invention is the connecting tube, which consists of an elbow pipe or tube having a funnel and an inlet to the top thereof, through which additional air, or, if desired, additional anæsthetic, may be admitted. This funnel is controlled by a slide worked by a projecting handle. The rubber bag above referred to is made in such a way that it can be easily turned inside out by means of loops fixed to the bottom thereof both inside and outside.

PROCESSES OF MAKING ALUMINA AND BY-PRODUCTS (23,918 of 1903).—L. R. Keogh, 25, Emerald Street North, Hamilton, and B. Broughton, of 18, Inchbury Street, Hamilton, both in Ontario, Canada. In this process sodium chloride, water, and aluminium sulphate contaminated with iron sulphate are mixed together, carbon is then added, and the mixture is heated to a red heat in the presence of steam, thereby producing a mixture of sodium aluminate and iron sulphide. This mixture is then lixiviated and sodium sulphate is crystallised out. The sodium aluminate is then precipitated from the lixiviating solution and the sodium carbonate recovered from such solution. Other substances may be used, and allied reactions take place without deviating from this invention. For instance, basic sulphates of aluminium may be used with steam and sodium chloride and chloride of potash may be used instead of chloride of sodium. Sulphate of iron and sodium chloride may be used to form hydrochloric acid, sodium sulphate, and oxide of iron. Magnesium sulphate and sodium chloride may be employed with water of crystallisation or steam to form sodium sulphate, magnesium oxide, and hydrochloric acid.

Note.—Opposition to the grant of any of the above-named Patent applications must be filed at the Patent Office on or before May 2, 1904.

New Trade Mark Applications.

CRESCENT DEVICE, for alkalies used in manufactures, photography, or philosophical research, by Brunner, Mond and Co., Limited, Winnington, Northwich. 259,615.

DEVICE OF AN ANGEL seated on the world, holding a cornucopia, for chemical substances used in manufactures, photography, or philosophical research, and anti-corrosives; chemical substances used for agricultural, horticultural, veterinary, or sanitary purposes; chemical substances prepared for use in medicine and pharmacy; philosophical instruments, scientific instruments and apparatus for useful purposes, etc.; instruments, apparatus, and contrivances, not medicated, for surgical or curative purposes, or in relation to the health of men or animals, by Harrod's Stores, Limited, 101-105, Brompton Road, S.W. 259,688-90, 259,695, and 259,698.

"**PASMA**" label, with signature, for a medical powder for human use, and a powder for toilet and nursery purposes, by Curtis and Co., 48, Baker Street, London, W. 257,506-7.

COAT-OF-ARMS label, for chemical substances prepared for use in medicine and pharmacy, by the Biogen Co., 90, William Street, New York, U.S.A. 259,324.

DEVICE OF SNAKE twined round an Eagle, for Seidlitz powders, by Goodall, Backhouse and Co., 7, Whitehorse Street, Leeds. 259,782.

"**ANTOS**," for a medicinal preparation for human use, by E. J. Hammond, 21, Wymond Street, Putney, S.W. 259,901.

"**STERILOID**" ("Sterile" disclaimed), for chemical substances prepared for use in medicine and pharmacy, by W. H. Martindale, 10, New Cavendish Street, W. 260,647.

"**IVRADENT**," for tooth powder, dentifrices, and soaps, by T. Tulloch and Co., Willpha, Longlands Park Road, Sidcup. 260,882.

"**EAU DE COLOGNE**" label (brazier and ornamental shield), for eau de Cologne, by J. and E. Atkinson, Limited, 24, Old Bond Street, W. 260,897.

Note.—Opposition to the registration of any of the above-mentioned marks must be filed at the Patent Office on or before April 23, 1904.

PRACTICAL NOTES AND FORMULÆ

New Mown Hay.

Neroli oil, 9 minims; rose geranium, 1 drachm; extract of rose, 2 fl oz.; spirit of rose, 2 fl. oz.; jasmin extract, 2 fl. oz.; alcohol (90 per cent.), 4 fl. oz.; tincture of Tonka bean, 6 drachms. Mix.—*Spatula*, **9**, 478.

Hovenia Bouquet.

Neroli oil, 10 minims; otto of rose, 40 minims; oil of rose geranium, ½ drachm; oil of cloves, ½ drachm; oil of lemon, ½ fl. oz.; essence of musk, 1 fl. oz.; rose water, 10 fl. oz.; alcohol, 90 per cent., 2 pints.—*Spatula*, **9**, 479.

Hair Spirit for Loss of Hair.

Tincture of cinchona, 400; tincture of arnica, 500; tincture of cantharides, 25; bitter almond oil, ¼; castor oil, 25; Peruvian balsam, 10; oleo balsamic mixture (Ph.G.), 40.—*Seifensieder Zeit.*, **31**, 131. [The oleo balsamic mixture in the above is thus composed:—Oils of lemon, lavender, thyme, nutmeg, and neroli, of each, 4; oils of cloves and cinnamon, of each, 3½; balsam of Peru, 10½; alcohol (94 per cent.), to make 1,000. Mix, let stand, and filter.—Ed. *P.J.*]

Eau de Quinine Hair-Wash.

Compound tincture of cinchona, 100; quinine sulphate, 1; alcohol (96 per cent.), 500; rose water, 500; glycerin, 60; ess. bouquet, 50; compound tincture of rhubarb, 20; sodium bicarbonate, 12.—*Seifensieder Zeit.*, **31**, 131.

Bay Rum.

Alcohol (96 per cent.), 550; tincture of quillaia, 550; distilled water, 500; powdered borax, 8; ammonium carbonate, 8; bay rum essence, 12·5 to 15. The bay rum essence in above is composed of oil of myrcia acris, 32; sweet orange oil, 2; pimento oil, 2; essential oil of bay, 1; essence of rum, 24.—*Seifensieder Zeit.*, **31**, 131.

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* These abridgments of new patent applications and particulars of new applications for trade marks have been specially compiled from official sources, for the *Pharmaceutical Journal*, by Mr. Reginald W. Barker, agent for procuring patents and registering trade marks and designs, 56, Ludgate Hill, London, E.C., from whom any information on the subjects may be obtained. Mr. Barker will also send copies of his 'Trade Mark Notes' and Patent Notes for Inventors' free on application.

NOTES IN PARLIAMENT.

The Pharmacy Bill.

The Pharmacy Bill, which is committed to the able charge of Mr. Lough, was down for second reading on Monday last, but it received no advantage from the fact that it stood on the Order Paper as the first order for the evening sitting. The time of both the morning and evening sittings was entirely taken up with a vote of censure, moved by Sir H. Campbell-Bannerman, in reference to the employment of Chinese labourers in the Transvaal. The order for the second reading is now down for April 18. No less than six members have given notice to move the rejection of the measure—viz., Mr. Joseph Devlin, Mr. Harwood, Mr. Alexander Cross, Sir M. Stewart, Mr. Alban Gibbs, and Sir Joseph Dimsdale.

A Government Pharmacy Bill.

The Government Bill to amend the Pharmacy Act is to be introduced in the House of Lords after Easter. This fact is definitely announced by the Prime Minister himself in a written reply to Mr. O'Malley, by whom the following question was addressed to the right hon. gentleman :—" Whether it is the intention of the Government to introduce this Session a Bill to amend the Pharmacy Act; and, if not, whether the Government will afford facilities for the second reading of the Pharmacy Bill privately introduced this session."

The Sale of Poisons.

The Home Secretary has been asked by Sir T. Dewar whether, having regard to the fact that attention has been called by the Coroner for the City of London, and other officers holding similar positions, to deaths through misadventure arising from the sale of poisons in unlabelled vessels, he would consider the expediency of adding poisons such as phosphorus, cocaine, and chlorodynes to the Schedule of the Pharmacy Act, 1868, and arranging for the prohibition of the sale of corrosive mineral acids and ammonia unless in vessels bearing the word poison; and whether the sale of poisonous preparations to young children could be prohibited. In reply, Mr. Akers-Douglas said that it does not rest with him to take any such measures as the question suggested. At the same time, he referred the hon. member to the statement of the Prime Minister that a Bill to amend the Pharmacy Acts will be introduced in the House of Lords after Easter.

The Cash on Delivery System.

The Postmaster-General, in reply to Mr. Henniker Heaton, has given the following statistics relative to the working of the cash on delivery postal system in the various foreign countries in which it has been established :—

—	Population, Millions.	Number of Packages Dealt with under the System in One Year.	Value.
Germany	56	37,500,000	£32,000,000
Belgium	7	128,000	£80,000
Switzerland	3	9,250,000	£272,000
Austria-Hungary	46	12,000,000	£8,000,000
India	—	3,340,000	Rs40,000,000

Made in Germany.

It is the opinion of the Chamber of Commerce of Liverpool, and of some other bodies, that injury is done to British trade by the use of the words "Made in Germany" upon imported goods, in accordance with the regulations of the 16th section of the Merchandise Marks Act, 1887. Sir H. Vincent has therefore asked the Chancellor of the Exchequer whether, in view of the report of the Select Committee of 1897, that the object would substantially be gained and British trade enterprise improved by substituting for the specification of the country of origin the words "Made Abroad," he would direct the regulations to be amended in that sense. Mr. A. Chamberlain, in reply, said that he had no power to amend the regulations as suggested, and that statutory authority would be required.

LETTERS TO THE EDITOR.

All Communications for the ***Pharmaceutical Journal*** **must be addressed to the Editor, 17, Bloomsbury Square, London, W.C., and, if intended for publication in the current week's issue, should reach the Office not later than Wednesday, unless specially arranged for in advance. The matter should be written clearly and concisely on one side of the paper only and must be authenticated by the names and addresses of the writers, as no notice can be taken of anonymous letters. Articles submitted for the Editor's approval should be accompanied by stamped addressed envelopes, otherwise no guarantee can be given that they will be returned if not found suitable. Reprints of articles cannot be supplied unless the authors communicate with the Editor before publication. The right to reproduce all original matter and illustrations published in the Journal is strictly reserved.**

Medicine Stamp Duty.

An idea struck me last week that, instead of using other labels to indicate the source from which the formula of a preparation is derived, if that source is not already printed on the label, a slip might be employed, similar to the usual "patent medicine" stamp, and, instead of the circle in centre containing "this stamp implies no Government guarantee," might be substituted "Prepared according to 'Pharmaceutical Journal Formulary,'" with the number in centre, either printed or written, and name and address of chemist each side. To this effect I wrote the Inland Revenue Authorities the other day, enclosing specimen, and beg to enclose their reply.

Waltham Abbey, March 19, 1904. Arthur A. Marshall.

[Enclosure.]

"Somerset House, W.C.,
"March 16, 1904.

"Sir,—In reply to your letter of the 9th inst., I am directed by the Board of Inland Revenue to state that they would not object to the source from which the formula of the preparation is derived being disclosed on the slip label submitted, instead of on the label itself, provided the slip be placed on the bottle immediately below the label.—I am, etc.,

"E. E. Stoodley, Secretary.

"Mr. A. A. Marshall."

The Council and Local Associations.

Although agreeing with the greater part of Mr. Carteighe's speech at Brighton, I should like to point out that if there can only be "One Army Board" there can also be a Navy Board, and this arm of the service is, I believe, generally admitted to be well conducted, and, further, there may be a Committee of National Defence. If the Council will only take local associations into their confidence, I am sure good work can be done in the lobby and out of it. Only this week splendid service has been done by the Parliamentary Committee of the London Chemists' Association, and I was pleased to see a short time since Mr. Carteighe himself acknowledge that the London Chemists' Association deserved the thanks of the Council. What we want is a settled plan of campaign by a band of picked London chemists who are so situated that they can carry on the work laid down by general consent. We have a real grievance, and I feel sure that if placed before the members of the House in a proper light these wrongs will be redressed. The policy of the London Chemists' Association has been—and always will be—"To be a power not in front but behind the throne." Without the Society we can do nothing, but, with a powerful backing, the Society will be able to win us back that for which we have worked, and have a right to prevent others from robbing and monopolising our title, which in many cases has cost us so much.

J. C. Pentney, Chairman,
Parliamentary Committee, L.C.A.
Dalston, March 23, 1904.

The Opposition to the Pharmacy Bill.

Mr. W. T. Leggett, in addressing the members of the Patent Medicine Vendors' and Drug-store Keepers' Defence Association at Manchester, in order to make his "arguments" appear more effective, mentioned a certain statement which had been written to him by the late Lord Mayor of Liverpool in reference to the sale of poisons. That communication was made to Mr. Leggett by Mr. Watson Rutherford, M.P., during the heat and turmoil of a keenly-contested parliamentary election in the West Derby Division of Liverpool. I felt it incumbent, as Divisional Secretary, to combat the statement made, and took the earliest opportunity of placing our position fully and clearly before Mr. Watson Rutherford, at the same time soliciting his aid in support of the Pharmacy Bill. It will no doubt prove interesting to Mr. Leggett to learn that in a letter written to me from the House of Commons Mr. Rutherford wrote: "I am, on reflection, of opinion that all poisons should be sold by qualified persons only." This view was not expressed in order to satisfy a clique during the progress of a parliamentary struggle, but in the calm and reflective repose of a safe seat in the House of Commons.

L. E. Thomas, Divisional Secretary.
West Derby, Liverpool, March 19, 1904.

The Benevolent Fund.

Adverting to our scheme on violet, lemon, and the Benevolent Fund, the fourteen days originally fixed as a limit for our offers having expired, we have duly forwarded our customers' contributions to Mr. Bremridge. May we ask you to make a note that we propose to set aside during the next few weeks some small sum from every cash order received in response to our advertisements. As the amount we are able to collect will necessarily depend on the nature and extent of goods sold, we shall no longer announce the precise amount accruing from each parcel; this having been also suggested by some correspondents.

Atherton Rudd and Co.
London, S.E., March 22, 1904.

The Council Election.

Having noticed in your columns Mr. Pilkington Sergeant's name in connection with the above, you will, I trust, allow me to state that, in my opinion, a proprietor of a school of pharmacy cannot be a desirable candidate for a seat on the Council; as when educational reforms are under discussion it would be unreasonable to expect unbiassed decisions. This is not a personal or a new question; the principle was decided years ago, when a similar candidate was decisively rejected by the electorate.

Leeds, March 21, 1904. F. W. Branson.

Pharmaceutical Qualifications in Canada.

May I be allowed to supplement your reply to correspondent ("J. T." 108/4) by informing him that proof of apprenticeship here, and also evidence of having passed the primary pharmaceutical examination, is accepted in Canada—at any rate, in the North-West Territory.

Lewisham, S.E., March 11, 1904. Graham Bott.

Co-operative Buying and the P.A.T.A.

With the advent of the letters from the Secretary of the P.A.T.A. to various Chemists' Buying Associations, it would be reasonable to inquire what steps the P.A.T.A. are taking—or propose to take—to regulate the sale of protected articles by the co-operative societies. If I purchase P.A.T.A. goods from a co-operative society in this town I am charged P.A.T.A. minimum price and given a cheque representing the amount of my purchase. If I save these cheques until they amount to £1, on presenting them at the counter I am given 2s. 6d. as dividend. Should I happen to be a member, by saving the cheques until the quarter end, I am entitled to a dividend of 3s. in the £. Now, this amounts to nothing more nor less than selling below the fixed minimum retail prices. If an individual commenced to present cheques with P.A.T.A. goods redeemable for cash he would be promptly dealt with, and yet the co-operative stores are allowed to do it with impunity. One is tempted to ask, "Are ordinary traders collectively worthy of less consideration than the co-operative societies?"

March 22, 1904. "Fair Play" (296/13).

About Bougies.

I notice in your correspondence column this week some remarks about bougies, and as Dr. McWalter would like to know more about them, I venture to give my experiences. The word "bougie" itself is French, and literally means candle or taper, which at once suggests its shape. Dorvault says: "Bougies are small cylinders of various lengths and thicknesses, but generally slim and flexible; one end is cone-shaped, and they are used for introducing into the urethral canal." In the United States, France, Switzerland, and Italy cacao butter is generally used as a base, and the sizes in these countries are practically the same—viz., for an urethral bougie the length is 4 in. or 10 Cm., and the weight about 20 gr. or 1.25 Gm. The length and weight of a nasal bougie is just half that of a urethral one; but, of course, bougies may vary according to circumstances and the intentions of the doctor, the same as suppositories do. I enclose samples of bougies I have made, such as I supply regularly.

London, March 22, 1904. Alfred Roe.

Opinions on the 'P.J. Formulary.'

It is a valuable work, and will prove very useful to chemists.

Dedham, Essex, March 16, 1904. W. H. Gooch.

It is the most useful book yet published for the chemist in business, and I am well pleased with it.

Halifax, March 16, 1904. Walter Haigh.

It will prove a most useful book of reference, and is a marvel of cheapness. Our thanks are due to you for the work so well carried out.

York, March 15, 1904. F. A. Newey.

For all the necessary information
Anent the knotty bits of legislation
And difficulties that beset us sore
Consult the 'P.J.F.' of 19'4.

Edinburgh, February 26, 1904. J. A. Forret.

It is the most valuable work of its kind yet published, and you are to be congratulated upon placing such an invaluable book within the reach of every chemist.

Stourport, March 16, 1904. C. H. Munn.

It has no parallel since the publication of 'Gray's Supplement,' and, from the circumstances which called it into being, it surpasses even that valued work.
Dover, March 4, 1904. J. Fred Brown.

It is a splendid work. Until actually in hand, one had little idea of the amount of work it must have meant to you and your staff. Had the Inland Revenue not insisted on the numbers being given, one's own recipes would have been lost to his neighbour or others. Many thanks for the book.
Straman, March 7, 1904. John Dobson.

It is the most excellent and useful book to a chemist in business that has yet been published, and I am certain it will be in daily use. It is worth its weight in gold.
Darlington, March 7, 1904. Fred G. Walton.

Allow me to congratulate you on the splendid work which you have put into the hands of the members of the craft, I am sure they will feel ever grateful to you. Really it is beyond my comprehension how you have achieved such an effort at such a nominal price.
Morpeth, March 7, 1904. James Whittle, F.C.S.

The work will prove an inestimable boon to the fraternity. Unlike the usual run of such works, this bears the stamp of practicality on the face of it, and you deserve the best thanks for having brought such a gigantic work to a successful issue.
Lytham, March 3, 1904. R. A. Hoyle.

There has never been anything published to equal it—I was amazed and pleasantly surprised. It is a further proof of the welcome awakening. Accept my best thanks and hearty congratulations.
C. R. Stedman, M.P.S.
St. Leonards-on-Sea, March 1, 1904.

It is an invaluable addition to the chemist's library, and by its production the Pharmaceutical Society and the ordinary trading chemist and druggist should be more one than they have been in the past. Am highly pleased with it.
Cambs., March 5, 1904. P. H. Davies.

It will be a most useful book. Am very pleased with it; the Editor and his staff have my best thanks for the pains taken to give just what is needed.
Birmingham, February 29, 1904. John Thos. Ensor.

Considering the amount of matter contained and the short space of time available for the work, the result is most gratifying and far beyond what one could reasonably expect.
Llandudno, February 29, 1904. H. Gibson.

Our best thanks are due to the Editor for producing such a remarkable work. The information it contains is invaluable to chemists who use common sense and discretion in selecting the remedies. At the same time the possession of it by "the man in the street" is not at all desirable, and if chemists are alive to the responsibility which rests upon them to protect the welfare of the greater B.P., they will use extra vigilance to ensure that it does not reach him.
Burnley, February 29, 1904. U. A. Coates.

It is all that could have been desired, and will doubtless be of great use in my business.
Wallsend, February 26, 1904. Roger Brand.

It is a marvellous collection of formulæ. The only trouble with some is to select the best. Well got-up, good index.
Andover, February 29, 1904. John Bienvenu.

It is by far the best compendium of pharmaceutical formulæ issued since 'Gray's Supplement' was published.
Bolton, March 4, 1904. John Teebay.

It is the finest set of formulæ I have seen, and the Pharmaceutical Society are to be congratulated for the great assistance they have rendered to every pharmacist in Great Britain.
Newport, Fife, N.B., March 14, 1904. James Fernie.

It will be one of the most useful books to me, when qualified and in business for myself. I am exceedingly pleased with it. All student-associates should procure one. I shall be glad to send on my 1s. to the Benevolent Fund, as suggested by a correspondent in the Journal some time ago.
Burry Port, March 15, 1904. John Power.

It is a most valuable addition to the chemists' library, and I wonder how you could produce such a work in the time and at the price.
Pontefract, March 15, 1904. Wm. Bratley.

It is a most valuable work, and will be a great help to the chemist and druggist in business.
Stoke-on-Trent, March 15, 1904. L. H. Snow.

The 'P.J.F.' is a magnificent compilation of useful, workable formulæ, and should be the constant companion of every practical pharmacist.
A. A. J. Akhurst.
Haswell, Co. Durham, March 15, 1904.

A monumental testimony of its compilers' industry and ability. As a work of reference it is most useful, and you certainly deserve the thanks of all pharmacists for the useful matter which you have collected for them. I am not surprised to hear that the circulation is so large.
Shrewsbury, March 17, 1904. W. Gowen Cross.

The Society deserves the thanks and support of all chemists for producing such a work, which must prove indispensable in both London and provincial pharmacies.
Fakenham, March 14, 1904. Colin George Pinchen.

It is a marvellous production, and will be of great service to country chemists.
Carnarvon, March 11, 1904. R. Roberts.

It is a mine and an arsenal, and most valuable to the business chemist, both on account of the breadth of its contents and the important status of its formulæ. We are beholden to you.
Larbert, N.B., March 14, 1904. Alexander Laing.

It is a most useful collection, and will be of great value to both chemists and students.
Wombwell, March 14, 1904. Henley Allen.

It will prove a veritable gold mine to every pushing, go-ahead chemist. It is a marvellous production at the price, and as a book of reference it is simply invaluable.
Falkirk, March 12, 1904. James Bryce.

You have presented original subscribers with a very handsome volume at a nominal cost. The formulæ are so numerous and varied that even the most fastidious will be sure to find something to suit their requirements, whilst the formulæ of "well-known" (as apart from "local") remedies have found a place in an up-to-date authoritative work of reference.
Glasgow, February 27, 1904. T. Dunlop.

REPLIES TO CORRESPONDENTS.

Information required by readers will be published in this column as early as possible, but the Editor cannot undertake to reply by post, even though stamped addressed envelopes accompany the queries. Replies will, in all cases, be referred to the sender's initials, and the registered number added in each instance should be quoted in any subsequent communication on the same subject. When formulæ are given without definite weights and measures, it should be understood that the solids are to be weighed and liquids measured. Plants for recognition should be addressed to the "Curator, 17, Bloomsbury Square, London, W.C.," accompanied by a stamped, directed envelope for reply. No notice can be taken of anonymous communications.

Insurance (A. S.—109/25).—We do not know of any such company.

Developer (H. T.—109/24).—See the 'P.J.F.,' pages 748, or last year's Photographic and Optical Supplement to the *P.J.*

Shampoo Powder (W. T. H.—109/18).—You will find a recipe for a similar preparation (9478) at page 676 of the 'P.J.F.'

Book (T. G. W.—109/20).—We are not acquainted with any such book, and have no information on the subject you mention.

Antiperiodic (W. M.—109/13).—Doubtless the use of the word in the description of a compounded medicine might be held to incur liability.

Label for Pills (A. H.—109/27).—The Inland Revenue authorities will permit you to affix a separate slip label round a small pill-box.

Packing for Inhaler (W. O. D.—109/27).—We are unable to say where it can be obtained. Apply to some dealer in druggists' sundries.

Mixture for Horse, etc. (G. C.—109/22).—(1) We regret we cannot suggest what it may contain. (2) Yes. (3) Yes, if he stamps the packages.

Labels (J. H.—109/12).—Both labels will incur liability unless you have stated thereon the names of all the active medicinal ingredients.

Recipes (F. E. D.—109/16).—You are not "obliged" to disclose any of your recipes, but read the article at page 248, in the *P.J.* of February 27 last.

Dispensing (A. A. W.—109/29).—(1) Resin ointment, or woolfat and water (3 : 1), may be used with advantage. (2) The plan you describe is a good one to adopt.

Labels (W. D. and S.—295/13).—(1) Your inquiry about Gregory's Pills was answered in an article in last week's *P.J.* (see page 393). (2) Liability would be incurred by the use of such a title.

Labels (J. H. B.—109/19).—You should indicate that the Gregory's Powder is a B.P. preparation. The other labels should be submitted to the Inland Revenue authorities, and we shall be glad to know the result.

Labels (T. W. H.—109/24).—The words "arrests decay" on the first label will render the preparation liable. The second label will not incur liability. Unless the slip label bears the names of all the active medicinal ingredients, the "Blood Purifying Medicine" will be considered liable.

Recipes (E. F.—295/17).—(1) Your recipes will be included in the 'P.J.F.' supplementary pages if we find they differ markedly from those already published. (2) Your label for "The Ointment" is probably held to incur liability, because your name appears in the scroll as part of the title. Read the article at page 393 of last week's issue.

'P.J.F.' Supplement (M. N.—109/35).—We cannot undertake to receive any further recipes after this week, nor is it possible at present to give the registered numbers, or to state definitely when the supplementary pages will be ready. Readers who did not take the trouble to submit their recipes for registration before the end of December must now be prepared for a little inconvenience, as we cannot set everything else on one side in order to save trouble which might so easily have been avoided had you and others acted more promptly.

BIRTH.

Wilson.—On March 12, at 21, Comely Bank Street, Edinburgh, the wife of William S. Wilson, chemist and druggist (Fletcher, Fletcher, and Co., Limited), of a daughter.

MARRIAGE.

Vallance—Colles.—On March 12, at St. James's Church, Higher Broughton, Manchester, by the Rev. C. E. Stewart, M.A., Arthur Clayton, son of the late Geo. Vallance, of Mansfield, to May Bee, daughter of A. H. Colles, of Belmont, Higher Broughton.

DEATHS.

Bolitho.—On March 20, William Henry Hosken Bolitho, Chemist and Druggist, Eastbourne. Aged 29.

Green.—On March 15, George Green, Chemist and Druggist, Bristol. Aged 45. Mr. Green was for forty-five years with Messrs. Ferris and Co., chemists, of Union Street, Bristol.

Gordon.—On March 22, at Monte Carlo, Frederick Gordon. Aged 69. Mr. Gordon was President of Apollinaris and Johannis, Limited, and a director of Bovril, Limited, and A. and F. Pears, Limited. In addition, he was connected, as a director, with many other companies.

Hargrave.—On March 15, Spencer Hargrave, Chemist and Druggist, Manchester. Aged 52.

Love.—On March 17, John Campbell Martin Love, Chemist and Druggist, Glasgow. Mr. Love was found in his shop in an unconscious condition on March 16. He was taken to the Victoria Infirmary, where he died the following day.

Mills.—On March 17, Robert Mason Mills, Chemist and Druggist, Bourne. Aged 84. Mr. Mills served his apprenticeship at Shoreham, Sussex, and sixty-two years ago established a chemist's business at Bourne, subsequently, in 1854, adding a mineral water manufactory. He was chairman of the Gas and Coke and Water Companies. His son-in-law, Mr. T. M. Baxter, who has been in partnership with Mr. Mills for a quarter of a century, will continue the business.

Calendar for the Week (March 27—April 2, 1904).

Days of		Events of the Week.	Sun	
M	W		Rises	Sets
27	S	**Palm Sunday.**	5.49	6.23
28	M	Certificates for Acceptance in April for Registration as Pharmaceutical Students must be sent out by this date.	5.47	6.24
29	Tu	Royal Photographic Society, 66, Russell Square, W.C.—Practical Demonstration on Printing Processes. By J. H. Gear.	5.44	6.26
30	W	Public Dispensers' Association, St. Bride's Institute, Ludgate Circus, E.C.—Exhibition.	5.42	6.27
31	Th	○Full Moon, 0.44 p.m. Last Day for payment of Annual Subscription to the Pharmaceutical Society.	5.40	6.29
1	F	Good Friday.	5.37	6.31
2	S	Applications for Redwood Scholarship must be sent in by April 25.	5.33	6.33

LETTERS, NEWSPAPERS, QUERIES, and other COMMUNICATIONS have been received from Messrs. Allen, Ashton, Austen, Bagshaw, Balkwill, Beacock, Bell, Bennett, Bird, Birnie, Black, Bottomley, Bradshaw, Branson, Brooks, Brown, Bullen, Burrell, Canham, Clark, Clarke, Cleave, Cleobury, Coghlan, Crowther, Cummings, Deacon, Dean, Dickinson, Doig, Dompas, Dorning, Drake, Duberley, Dunning, Ellis, Evans, Farmer, Fielding, Fowler, Furnival, Gilling, Goldby, Gray, Greeves, Haggard, Hagon, Haines, Hallam, Harrison, Hartshorn, Hawey, Hayllar, Hill, Hole, Hopps, Hughes, Isaac, Jackson, Jones, Jordan, Kimbell, Lane, Lawman, Lewis, Lloyd, McEwan, Mannell, Marsden, Marshall, Maud, Maynard, Midwood, Murray, Nock, Paterson, Patterson, Peck, Perry, Phillips, Pierson, Pitchford, Place, Plenderleith, Pollard, Ringer, Robertson, Robins, Roe, Rogers, Rollason, Rose, Rowlands, Sankey, Self, Sharman, Smith, Smithies, Spence, Taylor, Thomas, Thompson, Timmins, Toplis, Town, Townley, Tucker, Twidale, Twinbull, Walker, Wallbridge, Ward, Wardle, White, Widgery, Wigginton, Wilson, Woods, Woodward, Wright, Young.

Telegrams: "PHARMACEUTICAL JOURNAL, LONDON"
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The Pharmaceutical Journal
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FOR CHEMISTS AND DRUGGISTS.
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Annual Subscription, 20s. Post Free; Single Copies, 4d. each, by Post, 4½d.

CHANGES OF ADDRESS.

Instructions from Members of the Pharmaceutical Society, with reference to the transmission of the Journal, should be sent to the SECRETARY, 17, Bloomsbury Square, London, W.C.

The Pharmaceutical Journal Office.

Wednesday, March 30, 1904.

On Account of the Easter Holidays the Journal goes to press a day earlier this week.

Chronic Sulphonal Poisoning was the cause of the death of a woman who had been in the habit of taking tabloids of the drug.

Medicine Stamp Duty will after to-morrow be payable on certain compounded medicines which have formerly been considered exempt.

Meetings of Local Associations have been very few since last reporting, and pharmaceutical affairs generally have been very quiet. Successful meetings are reported from Edinburgh, Burnley, and Wolverhampton.

The 'P.J.F.' is Likely to Become Indispensable to chemists in business. This is clearly shown by the fact that thousands of chemists will be using labels bearing reference to recipes included in the volume. To dispense such preparations for travelling customers it will be essential to have a copy of the book.

Sir Frederick Dixon-Hartland is the seventh member of Parliament to block the Pharmacy Bill this session; but it may be remembered that the same gentleman took that course in 1903. Meanwhile, there is nothing to add to the information which we published last week respecting the expected Government Pharmacy Bill.

This Number of the Journal may be the last that will be received by members of the Pharmaceutical Society whose subscriptions for the current year remain unpaid. If subscriptions are not paid by the end of March, the Bye-laws require that the defaulting members shall be erased from the list, and subsequent re-election by the Council becomes necessary.

Three Hundred and Fifty-seven qualified chemists and druggists have left the Registrar of the Pharmaceutical Society in ignorance of their whereabouts, and the first series of registered letters required by Section X. of the Pharmacy Act, 1868, has been posted. If no reply is received in answer to two such letters, the addressee's name is removed from the Register of Chemists and Druggists.

Mr. Thomas Whiffen, head of the well-known firm of quinine manufacturers of that name, died on March 28. We have also to chronicle this week the sudden death of Mr. A. Russell Bennet, Principal of the Nottingham School of Pharmacy. Another well-known figure has passed away in the person of Mr. John Lloyd, who had for many years been a representative of Messrs. Baiss Brothers and Stevenson, Limited.

The Word "Tabloid" remains the trade-mark of Messrs. Burroughs Wellcome and Co. The Court of Appeal, on Tuesday, dismissed the appeal of Messrs. Thompson and Capper, from the judgment of Mr. Justice Byrne, with regard to the validity of the trade-mark. Of the three Lords Justices in the Appeal Court, one took a decided view in favour of the trade-mark owners, and the others concurred with some hesitation.

Thirteen Candidates will contest the seven seats on the Council of the Pharmaceutical Society at the coming election. Six retiring members seek re-election. These are Mr. S. R. Atkins, Mr. G. T. W. Newsholme, Mr. R. A. Robinson, Mr. O. Corder, Mr. W. L. Currie, and Mr. R. L. Gifford. The other seven members of the Society who have accepted nomination include Messrs. C. E. Pickering, A. Higgs (of Kingston), R. B. Betty for the London district, and Mr. W. H. Gibson, Brighton; Mr. A. Hagon, Cardiff; Mr. J. Paterson, Aberdeen; and Mr. F. P. Sargeant, Leeds.

A Holiday Appearance has characterised the markets in drugs and chemicals during the week. The drug auctions will not be held to-morrow; the next sales are fixed for April 14. Latest quotations will be found in the market article.

THE INCIDENCE OF MEDICINE STAMP DUTY.

The period of grace allowed by the Board of Inland Revenue, in regard to certain medicinal compounds which chemists and druggists have hitherto been permitted to sell unstamped, has now expired, and it appears desirable, therefore, that some further reference should be made to the present position of affairs. It will be remembered that, after a careful consideration of the decisions in the cases of Ransom *v.* Sanguinetti and of Farmer *v.* Glyn-Jones, the Board decided that a change in its practice was necessitated in dealing with compounded medicines sold under ailment-names, such as "Cough Mixture" or "Antibilious Pills." Formerly, in order to meet the objection that some descriptive name must be affixed to bottles and boxes containing medicines, the Board did not insist upon the payment of duty in such cases, and for many years it was considered that a preparation described merely by the name of the ailment for the treatment of which it was intended was not liable to duty, provided that the words used implied no further holding out or recommendation.

In June last, however, it was officially intimated that, when such words as "Cough Mixture" are used upon labels without a statement of the ingredients from which the medicine is prepared, the Board must in future hold that liability to duty is incurred. Subsequently, it was intimated that the disclosure of the composition of medicines might be made either by printing the names of all the active medicinal ingredients on the labels, or by indicating thereon that the formulæ in accordance with which the medicines are prepared appear in the British Pharmacopœia or some other recognised work of reference, such as the 'Pharmaceutical Journal Formulary.' Absolute identification of the formulæ is insisted upon by the Board, so that if more than one formula is published in a given book under the same name, the reference numbers must also be given upon the labels, as in the following example:—"Cough Mixture (P.J.F.—4062)."

In December last a further communication was received from the Board of Inland Revenue (see *P.J.*, December 5, 1903, page 868) stating that, with regard to the question of liability to Medicine Stamp Duty, as affected merely by the descriptive label attached to the medicine, the following decisions had been arrived at:—

> (1) Medicines described by reference to a disease are liable, such as "Cough Mixture," "Corn Paint."
>
> (2) Medicines described by reference to an organ of the body alone are not liable, such as "Liver Pills," "Hepatic Mixture," "Throat Pastilles," "Bronchial Mixture."
>
> (3) Medicines described by reference in general terms to their operation are not liable, such as "Aperient Pills," "Emollient Ointment," "Astringent Mixture."
>
> (4) But if to an organ of the body a word or words be added indicating the operation of the medicine upon the organ of the body, liability is incurred, such as "Blood Purifier," "Liver Invigorator," "Aperient Liver Mixture."

It was added that the above decisions relate solely to descriptive labels on the medicine, and that if any claim be made to a proprietary or exclusive right in the medicine, or to a secret art for preparing the same, or if the medicine be held out or recommended in any other way—for instance, by a leaflet, handbill, or advertisement—as beneficial to the prevention, cure, or relief of any distemper, malady, etc., incident to or in any way affecting the human body, liability to the duty would undoubtedly be incurred by such recommendation. The letter concluded with the statement that in any case in which a medicine, not being a proprietary or patent medicine, is liable to duty, then, if the ingredients of which the medicine is composed be adequately indicated on the label, or if the formula from which the medicine is prepared be either given in full thereon, or a reference be made to it as found in some well-known and recognised book of reference—such as the 'P.J.F.'—the exemption accorded to well-known remedies sold by duly qualified chemists becomes applicable.

◆

WHAT IS AN ADEQUATE DISCLOSURE?

The Board of Inland Revenue has intimated that a preparation which would otherwise be considered liable to Medicine Stamp Duty will, as from April 1, 1904, be regarded as falling within the scope of the exemption in favour of "known, admitted, and approved" remedies—when sold by a duly qualified chemist and druggist—if the label contains an adequate indication of the ingredients of the medicine. The object of this condition is to prove that the article is compounded of drugs or chemicals as to which there is no secret, and so remove it from the category of secret remedies or nostrums. Accordingly, chemists and druggists who desire to sell compounded medicines, labelled or otherwise held out so as to indicate that they are intended for the prevention, cure, or relief of human ailments, must now disclose the composition of the preparations in one way or another. In the case of preparations which are official in the British Pharmacopœia, it will be sufficient to print the letters "B.P." after the name of each article, but some other plan must be adopted in the case of non-official preparations, such as cough mixtures, antibilious pills, etc., made and sold by chemists and druggists in the ordinary course of business.

One method of disclosure suggested by the Board is to state the complete formula of the preparation, either upon the label or upon a separate slip label affixed to the bottle or other inclosure. An alternative plan approved by the Board, and already adopted by many chemists and druggists, is to state upon the label, or upon a separate slip label, the names of all the active medicinal ingredients of the medicine; in this case the quantities need not be given as in the former instance. A third method of disclosure, which—wisely or unwisely—appears likely to be adopted by the majority of chemists and druggists, is to indicate upon the label, or upon a slip affixed immediately below the label, that the medicine is prepared in accordance with a recipe in the 'Pharmaceutical Journal Formulary.' For this purpose it will be sufficient if the letters 'P.J.F.,' followed by the registered number of the recipe, are printed on the label or slip, and in the case of small pill boxes the slip may be affixed round the box.

It should be noted that the exemption in favour of "known, admitted, and approved" remedies does not apply, even though the composition of the article be disclosed, if any claim be made to a proprietary or exclusive right in the medicine, or to a secret art for preparing the same. This renders illegal the sale unstamped of a compounded medicine prepared and sold under the authority of Letters Patent under the Great Seal, or if the use of a trade-mark appropriated to the particular medicine prevents anyone from making and selling it. It is, apparently, also illegal to sell unstamped any preparation containing, as an active medicinal ingredient, a secret or proprietary article which may not be sold alone unless duly stamped; in accordance with this view several recipes submitted for inclusion in the 'Pharmaceutical Journal Formulary' have not been accepted for publication as "known, admitted, and approved" remedies. Further, it must be pointed out that, if chemists and druggists desire to take advantage of the special exemption, they must carefully avoid the use upon labels, handbills, etc., of words such as "prepared only by," which are held to imply a claim to a proprietary or exclusive right in the medicine. Again, the use of a person's name in the possessive case or its equivalent may render a preparation liable to duty (see *P.J.*, March 19, page 393), a proprietary right being thus ostensibly set up. Finally, it must be remembered that preparations which have been held out or recommended by the original or first vendors, in any way that makes medicines dutiable, are permanently liable to duty, even though their composition is now known and anyone is free to make them.

DUTIABLE AND NON-DUTIABLE TITLES.

Lists of titles which render compounded medicines liable to duty, or the reverse, have been published in the Journal on several occasions, after careful revision in each instance, but no apology is needed for republishing those lists in the present issue, with such additions as appear necessary. The first list consists of names which are now held by the Board of Inland Revenue to incur liability to Medicine Stamp Duty unless their composition is disclosed in one of the ways indicated in the preceding article—

Dutiable Titles.

Acne Ointment
Ague Drops
Ague Mixture
Anæmia Mixture
Anæmia Pills
Antiapoplectic Pills
Antibilious Pills
Anticonstipation Mixture
Antineuralgic Mixture
Antiseptic Throat Pastilles
Antispasmodic Drops
Aperient Liver Mixture
Asthma Cure }
Asthma Powder } Unless for fumigation only.
Backache and Kidney Pills
Balsamic Cough Mixture
Blood Purifier
Blood Purifying Pills
Boil Lotion
Boil Ointment
Bowel Complaint Mixture
Brain and Nerve Tonic
Brain Tonic
Bronchitis Mixture
Cancer Cure
Cardiac Tonic
Catarrh Cure
Catarrh Smelling Salts
Cathartic and Liver Pills
Chilblain Liniment
Chilblain Lotion
Chilblain Ointment
Children's Cough Mixture
Chlorosis Mixture
Cholera Mixture
Cold and Influenza Mixture
Colic Drops
Cooling and Fever Powder
Corn and Wart Solvent
Corn Paint
Corn Plasters (if medicated)
Corn Solvent
Cough Drops
Cough Lozenges
Cough Mixture
Cough Pills
Cough Syrup
Croup Liniment
Croup Mixture
Diarrhœa Mixture
Dropsy Cure
Dyspepsia Mixture
Dyspepsia Pills
Dyspepsia Powders
Dyspepsia Tablets
Earache Drops
Eczema Ointment
Embrocation for Sprains
Erysipelas Ointment
Fever Cure
Fever Mixture
Gleet Mixture
Gonorrhœa Injection
Gonorrhœa Mixture
Gout and Rheumatic Pills
Gout Liniment
Gout Mixture
Gout Pills
Gripe Mixture
Hayfever Snuff
Headache Mixture
Headache Powders
Healing Ointment
Indigestion and Liver Mixture
Indigestion and Stomachic Mixture
Influenza Mixture
Insomnia Powders
Itch Ointment
Jaundice Cure
Kidney and Gravel Pills
Liver and Blood Purifying Pills
Liver Cleanser
Liver Invigorator
Liver Tonic
Lumbago Ointment
Lung and Bronchial Tonic
Lung Tonic
Measles Mixture
Migraine Powders
Nerve Tonic
Nervine Tonic
Neuralgia Liniment
Neuralgia Mixture
Neuralgia Powders
Obesity Cure
Pectoral Lung Tonic
Pile Ointment
Pile Pills
Purifying Blood Pills
Purifying Stomach and Head Pills
Rheumatic and Gout Pills
Rheumatic Liniment
Rheumatic Mixture
Ringworm Ointment
Sciatica Liniment
Sciatica Pills
Scorbutic Ointment
Scurvy Ointment
Skin and Blood Purifier
Teething Powders
Tic Doloreux Mixture
Tic Mixture
Tic Pills
Tonic Throat Mixture
Toothache Drops
Toothache Essence
Toothache Pills
Toothache Powders
Toothache Specific
Uterine Tonic
Wart Paint
Whooping Cough Mixture
Wind and Water Pills
Wind Pills
Worm Lozenges
Worm Powders

The next list includes descriptive titles which are not considered to render medicines liable to duty, provided the preparations are not otherwise held out or recommended for the treatment of human ailments. If, however, the recipes for the preparations are registered in the '**P.J.F.**,' and that fact is indicated upon the labels, liability will not be incurred even though the articles are the subject of recommendations, provided always that no claim is made to a proprietary or exclusive right in the articles, or to a secret art for preparing them—

Non-Dutiable Titles.

Alterative Mixture
Alterative Pills
Anodyne Mixture
Anodyne Pills
Antiseptic Pastilles
Aperient Mixture
Aperient Pills
Aperient Powders
Astringent Mixture
Blood and Stomach Pills
Blood Lozenges
Blood Mixture
Bowel Mixture
Breast Lotion
Brompton Mixture
Bronchial and Throat Tablets
Bronchial Balsam
Bronchial Elixir
Bronchial Glycerin Lozenges
Bronchial Lozenges
Bronchial Mixture
Bronchial Pastilles
Cathartic Pills
Chelsea Pensioner
Chest and Lung Embrocation
Children's Aperient Powders
Children's Cooling Powders
Children's Cordial
Children's Powders
Cleansing Hair Wash
Cooling Mixture
Cooling Powders
Corrective Mixture
Corrective Pills
Dandelion and Podophyllin Liver Pills
Digestive Candy
Digestive Lozenges
Digestive Mixture
Digestive Pills
Digestive Drops
Diuretic Drops
Diuretic Mixture
Diuretic Pills
Ear Drops
Emmenagogue Pills
Emollient Ointment
Eye Drops
Eye Lotion
Eye Ointment
Eye Salve
Female Mixture
Female Pills
Foot Powder
Head and Stomach Pills
Healing Ointment
Hepatic Mixture
Hepatic Pills
Infants' Carminative
Infants Friend
Infants' Mixture
Infants' Powders
Infants' Preservative
Kidney Pills
Laxative Pills
Laxative Tablets
Little Liver Pills
Liver and Kidney Pills
Liver Mixture
Liver Pills
Lung Balsam
Nervine Essence
Nervine Snuff
Nipple Lotion
Nit Ointment
Operating Pills
Pectoral Balsam
Pectoral Lozenges
Pectoral Mixture
Pulmonic Elixir
Quinine and Iron Tonic
Sarsaparilla Blood Mixture
Scurf Pomade
Skin Cream
Skin Lotion
Skin Ointment
Skin Tablet
Soothing Syrup
Stomach Pills
Stomach and Liver Pills
Stomachic Mixture
Stomachic Pills
Tasteless Liver Pills
Throat Gargle
Throat Lozenges
Throat Mixture
Throat Pastilles
Toilet Cream for Chapped Hands
Tonic Bitters
Tonic Mixture
Tooth Essence
Tooth Tincture
Universal Household Embrocation
Voice and Throat Lozenges
Voice Lozenges

For further information with regard to the incidence of Medicine Stamp Duty readers are again referred to the special article on the subject, published in the Journal of February 27 last, at page 248.

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THE "TABLOID" APPEAL.

The result of Messrs. Thompson and Capper's appeal in the now celebrated "Tabloid" case (see page 475) will not come as a surprise to the majority of chemists and druggists, whose knowledge of trade-mark law is limited. There has been a general and, to a great extent, a regretful feeling in the trade that the attempt to remove the word "Tabloid" from the Register of Trade-Marks was foredoomed to failure. But among lawyers who have mastered the intricacies of the law on the subject, no such certainty was felt as to the stability or validity of the trade-mark in question. The whole motion for the "rectification" of the Register of Trade-Marks really turned on two points, viz.: (1) How great a degree of "descriptiveness" is allowable in an invented word registered under the Act of 1883? (2) Does the word "tabloid" exceed that limit of descriptiveness? On the first point, which is a question of law, there is room for much difference of opinion, and different judges of the High Courts have, in fact, expressed opinions which can with difficulty be reconciled. From Lord Lindley's judgment in the "Bovril" case, it would seem that "a word which describes the article will not do," although "it is not necessary that the word should be absolutely non-suggestive." In answer to the second question, which is one of fact, most ordinary Englishmen, no less than specialists in etymology, would say at once, with Mr. Justice Byrne, and the Lords Justices of the Court of Appeal, that there is at least a suggestion or atmosphere of description about the word "tabloid." Beyond that common ground, the parting of the ways is soon reached. Their Lordships of the Court of Appeal, though not without great hesitation on the part of Lord Justice Stirling at least, have taken the same road as their learned brother in the Chancery Division. They have decided that the word "tabloid" could not be considered as intelligibly describing the thing sold at the date of registration of the trade-mark. To quote Lord Justice Cozens-Hardy, "the word is extremely near the line," but, on the whole, it is considered just good enough to be valid. So ends a cause which has excited possibly more attention from pharmacists than any other since the Pharmaceutical Society's unsuccessful appeal to the House of Lords twenty-four years ago. The action has doubtless been extremely costly to both parties. But it has served more than one useful purpose. It has assisted to clear away some of the doubts which surround the law of trade-mark. And it has, perhaps, conveyed a needed warning to traders who take advantage of the protection which a trade-mark affords—that, if the word selected should be near the line of descriptiveness, the trouble and expense of litigation with the possible loss of the trade-mark itself may not improbably follow.

A DISEASED CONDITION.

With the growth of local associations of chemists, the increased membership of the Pharmaceutical Society, and its nearly complete system of Divisional Secretaries, satisfaction with the organisation of pharmacy for political purposes has more than once been publicly expressed during the past twelve months. Speakers, and writers too, have derived satisfaction from a contemplation and comparison of the old order and the new. But the policy of the "folded hands," with its usual accompaniment, the "closed eye," however comfortable, is rarely the best suited for those who have to meet a difficult situation. It is, therefore, impossible entirely to withhold approbation from the trenchant criticisms which "An Ordinary Pharmacist" has recently directed, in the columns of this Journal, at the organisation of pharmacy as it exists. The series of articles by "An Ordinary Pharmacist" came to a close on March 19. Following those articles, in last week's issue, there were three solutions urged for some of the alleged difficulties of the calling. Thus, "Onlooker," a Journal contributor of old standing, suggests that the Secretary of the Pharmaceutical Society should add organising and political wire-pulling to his other functions; on the other hand, Mr. Pentney laments that the local associations are not in the confidence of the Society's Council; and a third scheme, advocated by the ever resourceful Mr. J. F. Tocher, provides for the annual registration of shops carrying with it compulsory membership of the Pharmaceutical Society. We are not concerned for the moment to discuss critically any of the above-mentioned proposals. But it must be allowed that the fact that so many remedies are thought necessary is in itself *a priori* evidence of the existence of a diseased condition. If it be found that there exists serious organic disease, as alleged by "An Ordinary Pharmacist," heroic remedies such as he suggests may well be necessary. For purely topical complaints, the local application of a salve or the administration of a stimulant will suffice. The selection of the appropriate remedy is of necessity difficult, but should not be impossible if loyal members of the Pharmaceutical Society are willing to give time and thought to that careful examination of the system which must always precede diagnosis and treatment.

THE COUNCIL ELECTION.

For the election of seven members of Council of the Pharmaceutical Society in May next, the candidates include six retiring Councillors and several other members of the Society. Messrs. Atkins, Corder, Currie, Gifford, Newsholme and Robinson are all wishful to serve on the executive for a further term of three years, Mr. Allen being the only member of the present Council who is retiring next May. Of the new candidates, Mr. A. Hagon has the support of Cardiff and Wales generally; while Mr. W. H. Gibson, President of the Brighton Association of Pharmacy, may count on receiving the votes of the numerous members of the Pharmaceutical Society in Sussex. Similarly, Mr. Alfred Higgs, J.P., who, we understand, has decided to accept nomination, will have the active assistance of the Thames Valley and District Chemists' Association, of which he has been President since it was founded. Mr. F. Pilkington Sargeant, of Leeds, and Mr. James Paterson, of Aberdeen, have both shown that they take a keen interest in pharmaceutical politics and education, but will probably lose some votes owing to their not being in the strictest sense engaged in the practice of pharmacy. Mr. R. B. Betty stands primarily as a London pharmacist, with a view of bringing the number of London members of Council to the figure at which it stood prior to Mr. Savory's resignation last year. Mr. C. E. Pickering, one of the latest candidates to come forward, is also in business in London, and is known as an advocate of trade-unionism for chemists' assistants. It would be safe to prophesy the re-election of most of the old Councillors, but the struggle for the last two or three seats promises to be keen and interesting.

RECTIFICATION OF THE REGISTER.

The Registrar desires it to be known that he has a list of 357 names for erasure from the Register at the end of this year, and that he has just issued the first series of registered letters to the persons referred to, as required by Section X. of the Pharmacy Act, 1868. Registered persons who have not yet intimated their new addresses should do so without delay if they desire to avoid the liability above alluded to.

THE 'P.J.F.' AS A SOURCE OF PROFIT.

The steady demand for the 'Pharmaceutical Journal Formulary' continues, and there can be no doubt but that the chemist who does not possess a copy of the volume will be money out of pocket in consequence. This is not merely a glib statement; there is every reason for making such an assertion. The value of the book as a collection of recipes has already been attested by hundreds of chemists in business; the word "valuable" will, however, have to be replaced by the more definitive adjective "indispensable." There are more than 4,000 chemists in business in Great Britain, who will be making use of the 'Pharmaceutical Journal Formulary' next week, in the ordinary course of the day's work, and a very large proportion of those will be using labels which refer to this volume. A member of the Society suggests the following as an illustration of what is more than likely to happen over and over again:—A customer, possibly just arrived from another town, takes an empty box bearing a label—say, for example, "Indigestion Powders ('P.J.F.,' 6611)"—to a chemist who, not possessing a copy of the 'P.J. Formulary,' is not able to look up the source of reference. That chemist will lose the sale of the "Indigestion Powders"; he also runs the risk of losing his customer. But, of course, that is of no concern whatever to the calling of pharmacy as a whole—the customer will find another shop where the proprietor can give him what he wants. Thus no money will be lost to pharmacy, the only difference being that instead of going into one pocket it will go into another. The individual who has the 'P.J.F.' will get the money, and the one who has not will lose it.

Judging from communications which have been received from readers, it appears that some chemists are not aware of the fact that recipes in the 'P.J.F.' may be used by any chemist in business. It is not necessary for chemists to register formulæ in their own names in order to meet the requirements of the Inland Revenue. This is made quite clear by the following extract from a letter received from Somerset House last year:—

> "The fact that an article is prepared according to a formula which appears in the 'Pharmaceutical Journal Formulary,' and that a statement to that effect is made on the label, will be regarded as evidence that the article is an approved remedy, and, therefore, within the exemption relied on by the defendant in the recent case of Farmer *v.* Glyn-Jones, unless the original vendor made the article dutiable."

What will be regarded as a sufficient "statement" on the label is shown in the following letter from the Secretary to the Board:—

> "I am directed by the Board of Inland Revenue to acquaint you that the letters 'P.J.F.,' followed by the registered number of the recipe will be accepted, when printed on the label and enclosure of a preparation made according to a formula in the 'Pharmaceutical Journal Formulary,' as a sufficient indication of the source from which the formula is taken for the purposes of the exemption from Medicine Stamp Duty in favour of known, admitted, and approved remedies."

The Board also approves of slip labels bearing the reference, provided the slip is placed on the bottle immediately below the label or around small pill boxes.

LEAD POISONING.

The improvement in the health of pottery workers engaged in lead processes, which has been shown year by year since the new rules of 1898 came into force, is thoroughly well maintained, according to the return recently published by the Home Office. In 1899 the number of reported cases of lead-poisoning was 249; in 1901 it fel- to 106, or less than half; last year the number reported was 97, as against 87 in 1902—nine cases more occurring in the Staffordshire potteries and one more elsewhere. Of the total number, twenty-four cases are described as severe, thirty-four as moderate, and the rest as slight. More important, perhaps, than this slight increase in the number of non-fatal cases is the fact that the number of deaths attributable to lead-poisoning has shown a steady decline from sixteen in 1899 to three last year. It would appear from the return that lead-poisoning is more common in certain other industries than it is in the pottery trade. As against the ninety-seven cases reported among potters, no less than 718—or more than seven times as many—were reported last year in various other industries. Among house painters and plumbers alone there were 201 cases; and this trade, contrary to the experience of other trades, shows a steadily increasing amount of sickness attributable to lead-poisoning. It may be argued with much reason that the precautions which have proved so beneficial to the health of the potteries need to be enforced in the case of the other industries which render their workers liable to lead poisoning.

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BRITISH PHARMACEUTICAL CONFERENCE.

The preliminary arrangements for the meeting of the British Pharmaceutical Conference at Sheffield have now been made. On Monday, July 25, the Lord Mayor of Sheffield will receive the members and their friends at the Town Hall, where there will be music and refreshments. On Tuesday and Wednesday, in addition to the Sessions of the Conference, which will be held in the buildings of University College, visits will be arranged to various works and manufactories. It is expected that an opportunity will present itself for seeing the rolling of an armour plate. On Thursday an excursion will take place to Haddon Hall and Chatsworth. With true Yorkshire hospitality, the Committee is making every effort to ensure that visitors shall have no ground for complaint in respect of the commissariat arrangements, and a successful meeting is assured.

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THE PHARMACEUTICAL SOCIETY'S EXHIBITION.

Members of the Pharmaceutical Society, and others who may know of new scientific appliances or pieces of apparatus, are asked to lend their assistance in connection with the exhibition which is to be held at 17, Bloomsbury Square, London, on Wednesday, May 18 next. Communications respecting the articles which it may be proposed to lend for exhibition should be addressed to Professor Greenish or to Mr. Humphrey, at 17, Bloomsbury Square, London.

ABSTRACTS—SCIENTIFIC AND TECHNICAL

A REVIEW OF CURRENT WORK IN PHARMACOPEDICS AND ALLIED SCIENCES

Formic Acid for Separating Iron and Aluminium.

A. Leclère employs formic acid to separate iron and aluminium. The solution, acidified with sulphuric acid, is treated with ammonium formate and an excess of ammonium thiosulphate to keep the iron in solution in the ferrous state. On boiling the mixture, the aluminium is progressively and entirely precipitated as basic formate, mixed with a little sulphur. The precipitate is collected, moistened with nitric acid, calcined, and weighed in the form of alumina. The iron in the filtrate may then be precipitated in the warm solution by means of ammonium sulphydrate.—*Compt. rend.*, **138**, 146.

Alcohol from Fæces.

Some time back considerable sensation was created by the announcement of Dorning and Prætorius that fæcal matter had proved to be a possibly remunerative source of alcohol, the yield of which obtained by distillation was stated to be 7 to 8·74 per cent., calculated on the raw material. E. von Meyer and O. Mohr, independently, however, fail to obtain any such remunerative yield. The former obtained only 0·56 to 1·3 per cent. of alcohol, and the latter 3·8 C.c. from 1 kilo of fæcal matter. The commercial production of alcohol from this source would not, therefore, appear to be probable in the immediate future, as was at one time deemed probable.—*Chem. Centralblatt*, 1/**1904**, 636.

Formation of Terpene Compounds in Chlorophyll-containing Organs.

From experiments performed on peppermint plants, E. Charabot and A. Hébert find that the systematic and complete removal of inflorescences from growing plants brings about a marked increase in the stems and green parts, with a corresponding increase in the percentage-yield and absolute weight of oil obtained on distillation. Essential oil is formed in the greatest quantity in the green parts, which furnish it to the inflorescences. Light has a marked influence on the secretion of essential oil, more being formed in those parts freely exposed to its influence than in those which are shaded.—*Comp. rend.*, **138**, 380.

Crystalline Calcium Fluoride.

Defacqz finds that calcium fluoride may be conveniently obtained in a crystalline condition by the double decomposition of manganese fluoride and calcium chloride, either in a porcelain crucible heated in the blowpipe, a current of carbonic acid gas being passed during the process through the perforated lid by means of a porcelain tube; or by placing the mixed salts in a platinum crucible, which is enclosed in a porcelain crucible; these two being again enclosed in a fireclay crucible, which is heated in a charcoal brazier to between 800° and 1400° C. The best results were obtained when 1 part of manganese fluoride and 5 parts of calcium chloride were employed. The fused mass was allowed to cool slowly, and then extracted with alcohol 95 per cent., which dissolves both the manganese chloride and the excess of calcium chloride. Calcium fluoride is thus obtained as a white or yellowish product with a crystalline aspect. Microscopic examination shows it to consist of a mixture of octahedra and another crystalline substance, the form of which has not yet been identified. —*Compt. rend.*, **137**, 1251.

Constituents of Mastic.

A. Tschirch and L. Reutter give the following as the constituents of the oleo-resin of *Pistacia lentiscus*:—Removed from the ethereal solution of the resin by shaking out with 1 per cent. ammonium carbonate solution:—*α-masticinic acid*, $C_{23}H_{36}O_4$, precipitated by lead acetate, and *β-masticinic acid*, $C_{23}H_{36}O_4$, not precipitated by lead acetate, together 4 per cent. Removed by 1 per cent. soda solution: crystalline *masticolic acid*, $C_{23}H_{36}O_1$, 0·5 per cent.; amorphous *α-masticonic acid*, $C_{32}H_{48}O_4$, 20 per cent.; both precipitated by lead acetate; *β-masticonic acid*, $C_{32}H_{46}O_4$, 18 per cent., not precipitated by lead acetate. *α-Masticoresene*, $C_{35}H_{56}O_4$, soluble in alcohol, 30 per cent.; *β-masticoresene* or *masticin*, insoluble in alcohol, 20 per ecnt.; essential oil 2 per cent., with bitter principle and impurities. The so-called soluble "A resin" or "mastic acid" of Johnson consists of the above-named five acids and the alcohol soluble *α*-masticoresene. Johnson's insoluble B resin, or masticin is impure *β*-masticoresene.—*Archiv. der Pharm.*, **242**, 104.

New Method of Determining the Solubility of Resins.

R. Dieterich has applied the familiar method of dissolving sugar, or of making mucilage of acacia by diffusion, to the determination of the soluble portions of various resins in different solvents. From 1 to 2 Gm. of the resin, finely powdered and previously mixed with washed sand or powdered glass, is wrapped or twisted up in a piece of filter paper, which is then placed in a small muslin bag. The whole is then dried and weighed. It is then suspended in the solvent contained in a wide-mouth bottle, in such a manner that the small packet is immersed half way up in the liquid, and the solvent cannot get over the edges of the paper. After being left for twenty-four hours, a fresh lot of solvent is used, the process being repeated until extraction is complete. The bag is then withdrawn, washed with fresh solvent, dried and weighed. Experiments conducted on dammar and olibanum with different solvents applied in this manner have given results which differ widely from those previously recorded.—*Annales de Pharm.*, **9**, 446.

Volumetric Titration of Persulphates.

C. Marie and L. J. Brunel give the following simple method for the volumetric analysis of alkaline persulphates. From 0·3 to 0·4 Gm. is dissolved in 100 C.c. of water and the solution neutralised, using methyl orange as an indicator. Two C.c. of pure methyl alcohol is then added and the mixture, first heated to 70-80° C. for five minutes, and then boiled for ten minutes. After cooling, it is titrated with N/10 NaOH solution with methyl orange indicator. One C.c. of the standard solution is equivalent to 0·0135 Gm. of potassium persulphate, 0·0119 Gm. of sodium persulphate, and 0·0114 Gm. ammonium persulphate. Tarriggi's method of boiling a solution of ammonium persulphate with sufficient sodium hydrate to replace the volatile alkali, is shown to give too high results. This does not occur when methyl alcohol is present.—*Analyst*, **27**, 371, after *Bull. Soc. Chim.*, **29**, 986.

Radium Rays and the Development of the Lower Fungi.

J. Dauphin finds that exposure to radium rays arrests the growth of the mycelium of *Mortierella* and prevents the germination of its spores, while the growth is exposed to its influence, but that the action is purely that of a paralysant. Cysts are produced in the interior of the filaments, which are evidently formed as defensive organs against the action of the rays. Spores and mycelia exposed to radium emanations are not killed, their animation is merely suspended. When removed from the influence of the rays, they commence to grow afresh.—*Compt. rend.* **138**, 154.

COLOPHONIA-ELEMI FROM COLOPHONIA MAURITIANA.

BY PROF. A. TSCHIRCH AND DR. O. SAAL.

The sample examined was part of the Hanbury collection, and originally came from the Island of Mauritius. It was very kindly furnished us by Mr. Holmes, Curator of the Museum of the Pharmaceutical Society in London.

The resin was of a yellowish-white colour, hard consistence, and odour, which, like that of the other elemi resins, is similar to the oils of fennel, dill, and lemon. The substance contained minute crystals, revealed only by the aid of the microscope. The resin was soluble in chloroform, ether, acetic ether, acetone, toluol, and hot alcohol; partly soluble in petroleum ether, methyl alcohol, carbon disulphide, and carbon tetrachloride; insoluble in water.

Acid Number.

(*a*) Direct, 1 Gm. required 6·25 C.c. N/10 KOH (Acid No. d. = 35·0).

(*b*) Indirect, 1 Gm. required 6·50 C.c. N/10 KOH (Acid No. ind. = 36·4).

Saponification Number.

(*a*) Cold, 1 Gm. required 11 C.c. N/10 KOH (Sapon. No. = 61·6).

(*b*) Hot, 1 Gm. required 11·5 C.c. N/10 KOH (Sapon. No. = 64·4).

The method of analysis used is the same as for Manila elemi (*Archiv. d. Pharm.*, 1902, 293).

Analysis.

The results are as follow :—

α-Isocolelemi acid	10	per cent.
Colelemi Acid	2	,,
β-Isocolelemi Acid	8	,,
Colamyrin	25-30	,,
Coleleresen	30-35	,,
Volatile oil	3	,,

A small quantity of bryoidin and a bitter substance, the residue consisting of bark and other impurities amounting to 10 per cent.

α-Isocolelemi Acid.

This acid was obtained by shaking out with ammonium carbonate. It was uncrystallisable, optically inactive, melting-point, 120-122°.

Analysis.

(1) 0·1030 Gm. of acid gave 0·2970 Gm. CO_2 and 0·0909 Gm. H_2O.

(2) 0·0820 Gm. of acid gave 0·2367 Gm. CO_2 and 0·0727 Gm. H_2O.

Parts in 100.

	(1)	(2)	Mean.	Calculated for $C_{37}H_{56}O_4$
C.	78·64	78·72	78·68	78·70
H.	9·80	9·85	9·82	9·89

Colelemi Acid.

This acid was obtained by shaking out with a 1 per cent. solution of sodium carbonate. By dissolving the acid in a mixture of methyl and ethyl alcohol we obtained a small quantity of well-defined crystals, in clusters 5 millimetres in diameter. Melting-point, 215°. Optically inactive.

Analysis.

(1) 0·1320 Gm. of substance gave 0·3839 Gm. CO_2 and 0·1124 H_2O.

(2 0·1202 Gm. of substance gave 0·3488 Gm. CO_2 and 0·1039 H_2O.

Parts in 100.

	(1)	(2)	Mean.	Calculated for $C_{39}H_{56}O_4$.
C.	79·31	79·14	79·24	79·59
H.	9·46	9·60	9·53	9·52

β-Isocolelemi Acid.

When it was found impossible to obtain any more crystals of colelemi acid, the mother liquor was poured into acidulated water, which produced an amorphous, white precipitate. Melting-point, 120°. Optically inactive.

Analysis.

(1) 0·0972 Gm. acid gave 0·2798 Gm. CO_2 and 0·0844 Gm. H_2O.

(2) 0·1050 Gm. acid gave 0 3034 Gm. CO_2 and 0·0917 Gm. H_2O.

Parts in 100.

	(1)	(2)	Mean.	Caloulated for $C_{37}H_{56}O_4$.
C.	78·50	78·80	78·66	78·70
H.	9·65	9·70	9·67	9·89

Colamyrin.

This substance is identical with amyrin obtained from other elemi resins. It was separated into α and β-amyrin.

Analysis.—(1) Amyrin (melting-point, 170°).

0·1312 Gm. substance gave 0·4055 Gm. CO_2 and 0·1393 Gm. H_2O.

(2) α-Amyrin (melting-point, 181°).

0·1022 Gm. substance gave 0·3174 Gm. CO_2 and 0·1094 Gm. H_2O.

(3) β-Amyrin (melting-point, 192°).

0·0922 Gm. substance gave 0·2853 Gm. CO_2 and 0·0962 Gm. H_2O.

Parts in 100.

	Amyrin.	α-Amyrin.	β-Amyrin.	Calculated for $C_{30}H_{50}O$.
C.	84·29	84·70	84·39	84·51
H.	11·79	11·89	11·59	11·74

Volatile Oil.

By distillation with steam we obtained an oil identical with the oil previously obtained from carana elemi (*Archiv. d. Pharm.*, 1903, p. 149). The odour is similar to the oils of fennel, dill, and lemon. The colour was light yellow; the greater part distilling between 170° and 175° was colourless.

The solution remaining from the distillation with steam contained a small quantity of a bitter substance, also a white crystalline substance having a melting-point of 136°. Of this there was not enough for further investigation. It was probably bryoidin, which has a melting-point of 135·5°. Bryoidin was obtained in larger quantities by Cremer from Manila elemi (*Archiv. d. Pharm.*, 1902, 293). Flückiger found the melting-point of bryoidin to be 135·5°, and obtained the formula $C_{20}H_{38}O_3$, while Tschirch and Cremer found the formula to be $C_{21}H_{42}O_3$.

Coleleresen.

After separating the above substance there remained a light brown substance of the consistence of terpentin, not saponifiable in a 10 per cent. solution of potassium hydroxide. After washing to remove the alkali it was dissolved in alcohol and precipitated by pouring into acidulated water. At first the precipitate was light yellow, but by repeated precipitation it was obtained perfectly white. Melting-point, 75° to 77°. Soluble in alcohol, ether, acetic ether, chloroform, benzol, toluol and petroleum ether. We were unable to obtain it in crystalline form.

Analysis.

(1) 0·1340 Gm. substance gave 0·4029 Gm. CO_2 and 0·1278 Gm. H_2O
(2) 0·1272 Gm. substance gave 0·3834 Gm. CO_2 and 0·1237 Gm. H_2O

Parts in 100.

	(1)	(2)	Mean.	Calculate for $(C_{15}H_{24}O)_n$.
C.	82·00	82·20	82·10	81·81
H.	10·59	10·80	10·69	10 90

THE STUDENTS' COLUMNS.

CHEMICAL NOMENCLATURE AND NOTATION.

Nomenclature is the spoken language of chemistry, while notation is the symbolic written language. Just as the numerals may be designated by the words, one, two, three, etc., or by the symbols, 1, 2, 3 . . . , so in chemistry a substance may be denoted by name or by symbol. We will deal with the former method first.

Notation of Elements and Compounds.

The name of some elements are derived from the terms used by the alchemists, who associated the seven then known metals with the seven visible planets, which latter they regarded as deities. Gold, from its bright yellow colour, they considered as connected with the sun; silver, from its white lustre, was held to resemble the moon and was named "luna" (Latin, moon), while the mobility of mercury harmonised with the rapid movement of its namesake across the sky. A remnant of this ancient terminology still survives in the name of the metal "mercury," and we still speak of fused silver nitrate as "lunar caustic."

The names of the more recently discovered elements often have reference to some property characteristic of the substance. For instance, Barium (Gk., *barus*, heavy) is an allusion to the density of its ores and salts; Bromine (Gk., *bromos*, stench) to its offensive, irritating odour; Chromium (Gk., *chroma*, colour) to the coloured nature of its salts. Indium (Gk., violet) and Thallium (Gk., *thallos*, green twig) refer to the dominant colour of their spectra. Argon (Gk., idle) is an allusion to its chemical inactivity. Other elements are named from the locality where they were first found, *i.e.*, Strontium, from Strontian, a village in Argyllshire; Helium, from the fact that it was first discovered in the sun by spectroscopic examination of sunlight (Gk., *helios*, sun). Others, as Gallium (Lat., *Gallia*, France), Scandium, Germanium, are derived from the nationality of their discoverers, whose pride of race led them to immortalise a selfish sentiment, and thus to foster the jealousy of rival nations.

With a view of indicating roughly the properties and relationships of the elements a systematic termination for their names has been adopted. The names of metals are arranged to end in-*ium*, as sodium, vanadium, radium; while the group of halogen (Gk., *hals*, sea-salt, *gen*, producing) elements end in-*ine*, as chlorine, bromine, iodine. Elements of intermediate character end in-*on*, as boron, silicon, carbon. A fourth termination —*ion*—has been suggested, but since the elements, owing to the gentle gradation of their properties, can only be classified on broad lines, the creation of greater niceties of division than the above three groups has not met with general approval.

Before discussing the nomenclature of compounds, it will be an advantage to first turn our attention to the methods of symbolising elements and compounds, as the relationships of allied substances and their appropriate nomenclature is best grasped by comparing the formulæ representing them.

Notation of Elements and Compounds.

The signs employed to represent the elements are the initial letters of the international or the Latin name of the substance, thus the symbol for Carbon is C, for Potassium (Latin, *kalium*) is K. When more than one element has the same initial letter, to avoid confusion a second prominent letter in the name is used in addition to the initial letter; for instance, the symbol for Calcium is Ca, for Chlorine Cl, for Chromium Cr.

The initial letter should be written as a capital, while the second letter should be written small, otherwise a fresh difficuty arises, a three atom cobalt chlorine compound $CoCl_2$ would be indistinguishable from a four-atom carbon-oxygen-chlorine compound $COCl_2$. The signs employed to denote the elements not only indicate the particular substance they represent, but also express a definite quantity—viz., one atom. That is to say, the sign H represents one atom only of hydrogen.

The symbols employed to indicate compounds are simply the symbols of their component atoms written side by side; thus, common salt, a compound of one atom of sodium and one atom of chlorine, is represented by the expression NaCl. Such a group of symbols representing the number and kind of atoms present in a molecule of a substance is termed its "molecular formula," or, more briefly, its "formula." When more than one atom of the same element occurs in one molecule, to avoid useless repetition of a symbol, a small numeral is attached to indicate the number of atoms present. In a molecule of methane, for instance, there are four atoms of hydrogen and one of carbon, an arrangement which may be represented as CHHHH, or, for the sake of brevity, CH_4.

However, so far from a brief formula having special merit, it is often inferior to the expanded form, since it often happens that the individual atoms of the same element do not exhibit the same chemical behaviour.

In the compound CH_4O, one of the hydrogen atoms is much more easily displaceable by an atom of another element than the remaining three, and, therefore, the formula is preferably written CH_3OH, where the different behaviour of one of the four hydrogen atoms is indicated. Formulæ of this latter class are termed "rational" or "structural," while those expressing the composition in the briefest possible way are distinguished as "empirical." Where the inter-relation of all the constituent atoms are shown, the formula is spoken of as "graphic." This latter method of representation should be carefully studied, on account of the insight it affords into the reactions of a substance. Chemical notation has also another useful function in expressing the quantitative composition of substances, but, as sufficient has been said to render the study of simple formulæ intelligible, we will return to that branch of the subject at a later date.

A QUICK METHOD FOR THE DETERMINATION OF RESIN IN GUM SCAMMONY.

BY E. DOWZARD, F.C.S.

When a Soxhlet or other repercolation apparatus is used for the determination of resin in scammony, a considerable time is required to ensure complete extraction. By using the following method a determination can be made in about one and a-quarter hours.

Weigh 2 Gm. of the finely-powdered sample and transfer to a 50 C.c. conical flask; to this add 20 C.c. of ether (accurately measured). The flask is then closed with a sound, tightly-fitting cork; shake gently until complete disintegration takes place. The flask should be given a rotatory movement to prevent the solution from touching the cork. After standing for fifteen minutes, with occasional shaking, the ethereal solution is passed through a dry filter-paper. Evaporate 10 C.c. of the filtrate to dryness in a weighed beaker; dry at 100° C. and weigh.

The percentage of resin is calculated as follows:—

0·1 Gm. of resin occupies a volume of about 0·075 C.c.

Example: 10 C.c. = 0·724 Gm. resin.

$$7{\cdot}24 \times 0{\cdot}075 = 0{\cdot}543 \times 2 = 1{\cdot}086.$$

This calculation shows that the 20 C.c. of ether has increased in volume to a little over 21·086 C.c.

$$\frac{21{\cdot}086 \times 0{\cdot}724}{10} = 1{\cdot}5266 \times 50 = 76{\cdot}33$$

The example contains 76·33 per cent. of resin.

NOTE ON EASTON'S SYRUP.*

BY GEO. E. PERRY, PH.C., F.C.S.

Easton's Syrup has always been, more or less, a source of trouble to the pharmacist, and many have been the suggestions for improving it. As is well known, the syrup when kept in bulk soon begins to darken in colour, and so much so, after a while, as to become unfit for dispensing purposes. This deterioration may be retarded, and for a long time prevented, as has been already pointed out, by storing the freshly-made syrup in small bottles of various sizes according to requirements. But this is not altogether satisfactory, and eventually there is loss, as, obviously, it is not possible so nicely to gauge one's needs.

It has been suggested that the iron solution should be kept separate from the syrupy alkaloidal solution, and the two mixed when the syrup is required. And this, in my experience, is the best plan to adopt.

But there is one drawback—the alkaloidal solution will not keep, at any rate, for very long. Sooner or later a fungoid growth appears, and the syrupy solution becomes unfit for use. This, I find, can be effectually prevented by the use of a small quantity of chloroform (♏½ to the fl. oz. of the finished syrup), and with this addition the solution is practically permanent. Chloroform, it may be remembered, is used, and doubtless for the same purpose, in the hypophosphite and glycerophosphate syrups of the B.P.C.; and if in the next Pharmacopœia its use were extended to this preparation one might then count upon being able always to dispense it in a satisfactory condition. The iron solution should, of course, be stored in small bottles so as to lessen oxidation as far as possible. My suggested modification then is as follows, the amounts given being for double the B.P. quantities:—

(1)

Iron, in wire	150 grains
Concentrated phosphoric acid	2½ fl. oz.
Distilled water	2½ fl. oz.

Place in flask and apply gentle heat till the iron is dissolved. Cool, make up to 5 fl. oz. and filter.

(2)

Strychnine, in powder	10 grains
Quinine sulphate	260 grains
Syrup	28 fl. oz.
Concentrated phosphoric acid	2 fl. dr.
Distilled water ... to	35 fl. oz.

Rub the strychnine in a glass mortar with a little of the water, add the acid and triturate till solution is effected. Transfer to half-pint glass measure, add more water, then the quinine, and stir till dissolved. Make up with water to 7 fl. oz., and pour into the syrup. To this add chloroform, ♏xx.; S.V.R., ♏xl. (mixed). Shake well, and finally filter through coarse paper. One of the iron solution and seven of this solution make Easton's Syrup.

THE BACTERIAL ORIGIN OF THE VEGETABLE GUMS.*—PART I.

BY R. GREIG SMITH, D.SC.

The vegetable gums until about a year ago were supposed to be the products of certain trees in an unhealthy or pathological condition, and beyond that really nothing was known regarding their origin. It is true that it had been claimed that certain moulds induced the plant to secrete the gum, and that bacteria had been observed in the slime-flux of certain trees, such as the oak, but a definite relation between the gum and a causative agent had not been brought forward. In 1901 Marshal Ward ('Disease in Plants,' London) said "beyond the fact that *gummosis* (gum-flux) is a pathological phenomenon, we know very little of the disease."

I began my researches into the origin of the gums with the belief that bacteria were responsible for their production. Many facts connected with the gum and its distribution pointed to a mycological formation, and among the moulds, yeasts, and bacteria the latter were the most promising gum producers. I have contributed several papers upon my investigations to the proceedings of the Linnean Society of New South Wales, and in this paper I propose to collect such data as would appeal to the chemist who might have more than a passive interest in an important industry, and to whom my original papers may not be accessible.

The research began with the examination of two trees, one of which, *Acacia penninervis*, exuded a pale yellow gum, partly soluble in water; the other, *Acacia binervata*, yielded a product which varied from colourless to dark brown, and was entirely soluble in water. From the bark of the latter, a bacterium, which I have named *Bacterium acaciæ*, was obtained in pure culture, and from the former two bacteria were isolated. One of them was *Bacterium acaciæ*, the other was named *Bacterium metarabinum*.

Many gum bacteria when removed from their natural habitat do not form their typical products readily, and both of these bacteria come under this category. In the ordinary media of the bacteriological laboratory they grew easily enough, but the formation of gum was suggestive rather than actual. Still, although the yield was small, sufficient was obtained to show that the bacteria were really gum-formers. The most suitable medium was one containing saccharose, potato juice, and agar, and this produced a luxuriant crop of cells with a small quantity of slime. Acting upon an observation that the tissues of the tree, adjoining a wound through which the gum oozed, were acid and contained tannin, I added tannin to the medium. Instead of a thin watery growth of bacterial cells in the plate cultivations, there was produced a luxuriant thick slime, which could easily be removed from the agar surface. The ready removal of the slime is an important point, for it must be remembered that agar-agar is allied to the vegetable gums, inasmuch as it is a pararabin, and if the slime could not be easily taken off it might become contaminated with fragments of agar. I have grown many different gums on this or similar tannin agar, and also, for purposes of comparison, in fluids, and in no case have I found any difference between the gums obtained from the solid or from the fluid cultures. No constituent capable of being detected is removed with the slimes. As an example of the luxuriance of the slime growth, it may be mentioned that in some cases 5 Gm. have been scraped from the surface of 20 C.c. of agar medium in an ordinary 9 Cm. Petri-dish.

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* Read before the Wolverhampton and District Chemists' Association, on Wednesday, March 23, 1904.

* Read before the Sydney, N.S.W., Section of the Society of Chemical Industry on December 16, 1903, and reprinted from the Journal of that Society

The raw bacterial product is not a gum. It is a slime, and consists of gum, together with bacterial cells and albuminoids, the latter of which are undoubtedly responsible for giving the gum a slimy consistency. Before proceeding to obtain the gum, the slime was freed from sugars by repeatedly coagulating its aqueous suspension with alcohol. After a repeated coagulation the slime was generally found to be free from saccharose and reducing sugars. In the second or subsequent coagulation it was sometimes necessary to add a few drops of a 10 per cent. solution of potassium chloride when the slime showed signs of being "milked" by the alcohol. Having been so far purified, the slime was ready for the separation of the gum. This was effected by heating or digesting the watery slime in the autoclave at a pressure of three atmospheres for a quarter of an hour. In some cases a longer digestion was necessary, in others the addition of a drop or two or dilute sulphuric acid was beneficial. The treatment coagulated the albuminoids which carried down the bacterial cells, leaving the gum dissolved in the clear supernatant liquid. In a few cases when the solution was faintly opalescent, aluminium hydroxide effected a clarification. This method of digestion not only enables the majority of the bacterial gums to be obtained from their slimes, but it also converts many of the insoluble vegetable and bacterial gums into soluble modifications. These, however, generally revert to their former insoluble condition upon desiccation. I thought the process was new, but recently I have found that the method is used commercially for the solution of the metarabin gums of the cherry and other fruit trees (Andés, 'Gummi arabicum und dessen Surrogate,' Leipzig, 1896, 41).

The solution of the bacterial gum when evaporated to dryness gave a clear transparent and brittle gum like a similarly treated solution of arabin from gum Arabic. When the thick gum mucilage was tested dropwise upon glass, as recommended by Maben, it gave the general reactions of gum acacia. The arabin obtained from the gum of the tree from which the bacteria had been isolated gave the same reactions. The bacterial and the natural gums gave furfural upon distillation with hydrochloric acid, and furnished crystalline plates of mucic acid upon oxidation with dilute nitric acid. The filtrates from the mucic acid contained oxalic acid. Thus the bacterial gum gave the same reactions and the same decomposition products as the natural gum.

The vegetable gums constantly vary in the optical activity, as shown by many writers, and in view of the different conditions surrounding the birth of the natural and of the laboratory gum it seemed to be extremely improbable that the rotation of the two gum acids would be the same; upon examination, the rotatory power was found to be widely different, that of the natural acids being practically zero $[\alpha]_D = + 0°·9$), while the bacterial gum acids were dextrorotatory $[\alpha]_D = + 43°$).

Although the two gums have been shown to possess many chemical properties in common, there remained the question of the identity of the products of hydrolysis. In identifying the sugars obtained from all the bacterial gums which I have prepared I have trusted entirely to the recognition of the osazones. By doing so I have been enabled to work upon a comparatively small quantity, for although I have said that the growth of slime upon the tannin media was luxuriant, yet as it contains but from 3 to 4 per cent. of total solids, it is evident that much slime would require to be grown in order to obtain a quantity of arabin sufficient for the recognition of the sugars by other methods. The preliminary experiments in the hydrolysis and detection of the sugars were made upon the natural gum, and a scheme was gradually elaborated. In the few cases in which bacterial gums have been examined by other investigators there have been obtained osazones, the melting points of which gave no clue to their identity, or else the author has affirmed that he did not have enough material to justify the purification of the osazone. A method for the purification of the osazones of the bacterial gums was apparently wanted, and my investigations showed that it could be easily done.

The gum, after being freed from adhering sugars, was hydrolysed by boiling with 5 per cent. sulphuric acid for about five hours. This treatment, as a rule, converted the gum completely into reducing sugars. The so-called fractional hydrolysis (*i.e.*, heating the gum with 2 per cent. acid on the water-bath for fifteen minutes) did not recommend itself, for not only the arabinan, but the gum complex as a whole was hydrolysed. I found it much quicker to hydrolyse the gum completely and to separate the osazones afterwards. This saved the separation of the unaltered gum and the double preparation and separation of the osazones. The completion of the hydrolysis was made evident by the absence of matter precipitable by alcohol and by the presence of reducing sugars in a small abstracted and neutralised portion.

The hydrolysed solution was neutralised with barium carbonate, filtered, evaporated, clarified with aluminium hydroxide, and warmed upon the water-bath. 2 C.c. of a recently prepared solution of phenylhydrazine acetate (phenylhydrazine, 4 C.c.; glacial acetic acid, 4 C.c.; water, 2 C.c.) were added, and the beaker was kept in the steam for half an hour. It was then rapidly filtered through a hot wet filter in order to remove a tarry deposit. To the filtrate another 2 or more C.c. of phenylhydrazine acetate solution were added, and the heating continued for another hour and filtered as before. The filtrate upon cooling deposited the osazones. The bulk of the black tarry impurity and unaltered base were removed by the filtrations, and the remainder was in most cases eliminated by percolating the dry osazones with ether. With some galactan gums this impurity was not entirely extracted by this simple method. The osazones had either to be precipitated by cooling a hot saturated alcoholic solution when the quantity was large, or the osazones were successively extracted with ether and cold water when the quantity was small.

The separation of the purified osazones of arabinose and galactose was accomplished by taking advantage of the fact that arabinose is more soluble in hot water and in alcohol than galactose. The mixed osazones were either treated with hot water and then with hot solutions of alcohol of increasing strengths, or they were completely dissolved in hot concentrated alcohol, which was slowly evaporated, hot water being added to maintain the original volume. Both methods were fractional, and galactosazone was obtained at one end and arabinosazone at the other. The intermediate fractions consisted of mixtures of the two. The end products were found to be pure by microscopical examination, and by their inability to be resolved into fractions with differing melting points. In the microscopical examination, oil globules and amorphous particles were sought for; the presence of these would show that the purification of the osazone had not been complete. The intermediate fractions were either treated as before or they were grouped together before treatment, according to their respective melting points. With arabinosazone and galactosazone a little experience enabled the operation to be quickly performed.

In the case of another slime which hydrolysed to galactose and a glucose, much the same treatment was followed in separating the osazones. By the gradual addition of strong alcohol, the galactosazone dissolved, leaving the glucosazone. Again, by the complete solution in hot strong alcohol and gradual addition of water, the glucosazone was made to precipitate before the galactosazone. Both methods depended upon the relatively greater solubility of galactosazone and insolubility of glucosazone in alcohol.

To return to the gum of *Bact. acaciæ*, it was found that it hydrolysed to a mixture of arabinose and galactose. The natural gum of *Acacia binervata* also hydrolysed to these sugars in apparently the same proportions. It has, therefore, been shown that the bacterial gum and the natural gum were chemically identical, and as the organism was found in the tree and in the places from which the gum was exuding, and furthermore as the fresh gum contains myriads of dead bacteria, it is to *Bact. acaciæ* that the origin of the gum must be ascribed.

The natural gum of the other tree, *Acacia penninervis*, consisted of a mixture of arabin and metarabin, or cerasin. Metarabin swells with water, forming gelatinous lumps which may slowly dissolve, or may not, according to the age of the gum. It is dissolved in the sap of the plant, and becomes insoluble when the gum dries. As I have already mentioned, *Bact. acaciæ*, the arabin former, and another, *Bact. metarabinum*, were isolated from the tissues of the plant. *Bact. metarabinum* grew as stiff cohesive colonies upon ordinary media; the wrinkled appearance and leathery consistency of the colonies suggested the presence of an insoluble gum. Upon saccharose-potato-agar it grew as a thick slime, which, while not so thin as the slime of *Bact. acaciæ*, was still capable of being easily removed from the surface of the medium. Upon digestion in the autoclave, the slime yielded a solution of a gum which behaved to reagents like arabin; when the digestion was conducted with care, the gum was converted into the insoluble form upon drying or by treatment with alcohol. In this condition it swelled with water, forming an unfilterable jelly. The dehydration had converted the gum into a substance like metarabin, and, like a typical metarabin, it was insoluble in dilute alkali. Boiling dilute sulphuric acid hydrolised it to arabinose and galactose. The metarabin of the natural gum behaved in precisely the same way. Thus the bacterium undoubtedly produced a metarabin gum, and to its activity must be ascribed the formation of the metarabin portion of the natural gum.

(To be concluded.)

Fumigating Pastilles.

Powdered willow charcoal, 8 oz.; benzoic acid, 6 oz.; potassium nitrate, 6 drachms; thyme oil, 30 minims; sandal wood oil, 30 minims; oil of caraway, 30 minims; oil of cloves, 30 minims; oil of lavender, 30 minims; otto of rose, 30 minims; powdered tragacanth, 20 grains; rose water, 10 fl. oz., or *q.s.* to mass. Mix the nitre and tragacanth with the charcoal and benzoic acid. Add the oils, and lastly enough rose water to make a workable mass. Divide into cones weighing about 25 grains, and dry at a gentle heat.—*Spatula*, **9**, 677.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN.

SCHOOL OF PHARMACY.

Prize Examination Questions (Advanced Course).

BOTANY.

Time allowed for each paper, Three Hours.

(Only Four Questions to be attempted.)

1. What do you understand by *Symbiosis?* Give an account of the phenomenon as illustrated by the group *Lichenes*, and show why these plants are considered to exhibit it.

2. What families of plants are included in the group *Lycopodinæ?* Give a short sketch of the characteristic features of each.

3. Describe in detail the structure of a leaf of such a Gymnosperm as *Pinus*, and compare it with that of a dorsiventral leaf as respects the facilities it affords for transpiration.

4. Describe the way in which the primary root of a young plant penetrates into the soil, calling attention to any conditions which affect its behaviour and the way in which it responds to them.

5. Give an account of the structure of a typical plant of the Natural Order *Compositæ*. What varieties of this structure are known to occur? Draw the floral diagram, and write the floral formula of the plant you select.

MATERIA MEDICA.

1. Explain the means you would adopt to determine the ester value of
(*a*) Oil of Lavender,
(*b*) Olive Oil,
(*c*) Beeswax.

2. Describe the commercial varieties of Aconite root. Outline a method for the preparation of Aconitine. Give and discuss a method for the assay of the root.

3. Calcium oxalate occurs in drugs in various crystalline forms. Describe as many of these as you are acquainted with, and give instances of their occurrence in official drugs.

4. Discuss the principles upon which the determination of alkaloids by the process of "shaking out" is based, alluding to any precautions necessary to avoid error.

CHEMISTRY, Including Physics.

I.

(Not more than Six Questions to be attempted.)

1. Explain, with examples, the meaning of the terms catalyser, dissociation, equivalent, basicity, reversible reaction.

2. Write an essay on the oxy-acids of chlorine *or* phosphorus.

3. In the case of *one* of the following, give an account of its properties more important salts, and chemical relationships:—Arsenic, aluminium mercury.

4. Why is it necessary, before adding ammonia in group iii. A, (*a*) to remove organic matter, (*b*) to add ammonium chloride, (*c*) to test for the presence of phosphates? Describe and explain the method adopted for the separation of phosphoric acid from the group iii. A precipitate containing phosphates.

5. Explain what is meant by the terms ester, glucoside, diazo-compound, terpene, alkaloid, and give an example of each.

6. In the case of *two* of the following, describe how they may be obtained from natural sources, their properties, and the methods by which their structural formulæ have been established:—Citric acid, glucose, salicylic acid, resorcinol.

7. Write an essay on optical activity.

8. Describe the appearance, preparation, and properties of any *two* of the following:—Chloral hydrate, methylamine, β-naphthol, phenacetin.

II.

Time allowed for this paper, Two Hours.

(Not more than four questions are to be attempted.)

1. Explain the chief optical errors to which the eye is subject, and state what lenses should be applied for their correction. A person can read at a distance of 60 Cm.; what in dioptres is the strength of the lens you would supply to make the vision normal, assuming the distance of distinct vision to be 25 Cm.?

2. What do you understand by the "calorific value" and "evaporative power" of a fuel? How is each determined? 0·75 Gm. of coal raises the temperature of 1,200 Gm. of water from 13° C. to 16·75° C.; if the water equivalent of the apparatus is 300 and the latent heat of steam 537, find the calorific value and evaporative power of the coal.

3. Describe the construction of a Ruhmkorff's induction coil and explain fully the action of the condenser.

4. Describe the apparatus you would employ to measure the osmotic pressure of a solution. A 1 per cent. solution of a sugar at 15·5° C. has an osmotic pressure of 52·1 Cm. of mercury; calculate the molecular weight of the sugar.

5. Give an account of the origin and development of the secondary battery.

6. Find to one place of decimals the magnification produced by a compound microscope having an object-glass of 12·5 Mm. focus and an eye-piece of 6·25 Cm. focus, the object being 13·5 Mm. in front of the objective. Show by means of a diagram how the enlarged image is produced. (The distance of distinct vision is 25 Cm.)

WOLVERHAMPTON AND DISTRICT CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Wednesday, March 23, at Wolverhampton, Mr. F. A. Willcock, President, in the chair.

Mr. G. E. Perry, of Birmingham, read a paper on

The Determination of Uric Acid in Urine.

Speaking of urine analysis generally he did not think the practice of it would result in a fortune for the pharmacist, but it would bring a succession of small fees to his coffer, and indirectly it was good, as it enabled the pharmacist to be more in touch with medical men. The majority of medical men, he thought, were satisfied with the qualitative tests for albumen and sugar in urine, and these they carried out for themselves, but there were those who were not content unless they knew more definitely the exact proportions in which these substances were present. In these cases the work was very generally handed over to the pharmacist. With regard to uric acid analysis, he thought that but few medical men would be found who would make these determinations, involving as they did time, apparatus, and technical skill more in the department of the chemist. Mr. Perry then described in detail the various processes used for the determination of uric acid. Neither the hydrochloric acid nor the Haycraft method did he think was much used now. The iodine process he had found useful for normal urines, but with pathological urines one could not be sure of getting concordant results. With regard to the process suggested by Mr. Tocher at the Dundee meeting of the British Pharmaceutical Conference, Mr. Tocher wrote him that he now preferred precipitating 25 C.c. of the urine with ammonium chloride, oxidising the precipitate with chromic acid, and determining the amount of uric acid present from the nitrogen evolved. The Hopkins' clinical process he had always found practical and reliable, and thought it would continue to hold the field. With regard to the method brought forward by Mr. Branson last year at the meeting of the British Pharmaceutical Conference he had not had as yet sufficient experience in its use to enable him to give an opinion of its value. The filtration and washing of the precipitate was tedious, and he had tried to hasten the process by filtering under pressure. He stated, however, he had not as yet "proved" the process. Mr. Perry finally gave a practical demonstration of the Hopkins' method, and of the method proposed by Mr. Branson.

Mr. Perry next read the

Note on Easton's Syrup,

which is printed in full at page 469.

The President asked if Mr. Perry had had any experience of the concentrated liquors for the preparation of this syrup, for he found that with these it was the iron solution which always went wrong.

Mr. Phillips asked if it was necessary to filter the syrup through paper.

Mr. Perry said that he had had no experience of the concentrated solution. With regard to Mr. Phillips's question, the filtration through paper was not necessary, but it very much improved the appearance of the syrup.

The President proposed a hearty vote of thanks to Mr. Perry, which was carried, and Mr. Perry suitably responded.

Other Business.

The President proposed a vote of sympathy with Mr. Weaver on the death of his wife. This was passed in silence, the members standing.

The Secretary (Mr. J. H. Coleman) read the proposed programme for next Session, each item of which was unanimously agreed to.

The Secretary read several letters from the P.A.T.A., Reading Association, Early Closing Association, Federation of Local Associations, and other bodies.

The Secretary was asked to write to certain firms with reference to cutting of prices, and asking them to join the P.A.T.A.

BURNLEY CHEMISTS' ASSOCIATION.

ANNUAL MEETING.

Thursday, March 24, 1904. Mr. J. A. Heaton, President, in the chair.

Secretary's Report.

The Secretary reported that thirteen months ago, after the Association had been in a dormant state for two years, a meeting was called of all the chemists in the district to which there was a very fair response. There was a strong feeling in favour of continuing the Association and resuming the meetings. The annual meeting was held the following month at which there was a good attendance. Six other meetings had been held during the year, and several matters of importance dealt with. They had a representative membership, and it was gratifying to know that there was also an increased membership of the Pharmaceutical Society through the influence of the Association. The strength of the Association was well maintained. They had twenty-three members, and two-thirds of these were members of the Society.

Financial Statement.

Mr. Dodsley submitted the Treasurer's statement. They began and finished the year with a balance of £3 14s. 7d.

On the motion of Mr. N. Tomlinson, seconded by Mr. Clarkson, the reports were adopted.

New Member.

Mr. Smalley, who has taken over the business of Mr. Moorhouse, chemist, Yorkshire Street, was elected a member of the Association.

The Pharmacy Bill.

Mr. Brown reported that he had written to Mr. Mitchell, M.P. for Burnley, and Mr. Shackleton, M.P. for the Clitheroe Division, asking them to support the Pharmacy Bill, which was down for second reading on March 22. Mr. Shackleton replied that he would be unavoidably absent that night, but would pair in favour of the Bill. No reply had been received from Mr. Mitchell.

Election of Officers.

Mr. Heaton spoke in eulogistic terms of the work Mr. Brown had done as Secretary. The success of the Association was due to the energy and ability he had put into the work. If Mr. Brown's decision to resign the secretaryship was final, he should have pleasure in moving that Mr. Brown be the President for the ensuing year.

Mr. Brown thanked Mr. Heaton for his kind words, but could not see his way to accept the presidency at present.

After further discussion, Mr. Brown moved that Mr. J. A. Barlow be President for the ensuing year.

This was seconded by Mr. Hirst and agreed to.

Mr. Heaton and Mr. Brown were elected Vice-Presidents.

In complimentary terms, Mr. Heaton moved and Mr. Brown seconded that Mr. Edward Hirst be the new Secretary, and this was heartily carried.

On the motion of Mr. Coates, seconded by Mr. Butterworth, Mr. Dodsley was re-appointed Treasurer.

The following were selected to form the Committee:—Messrs. Brown, Heaton, Coates, Hitchon, Lawton, Walker, Clarkson, Butterworth, N. Tomlinson, and Storey, with the President, Secretary, and Treasurer.

The Vigilance Committee was constituted as before. Messrs. Barlow, Heaton, Brown, Lawton, Dodsley, Walker, N. Tomlinson, and Hitchon were appointed on the P.A.T.A. Committee, and a Parliamentary Sub-Committee was also elected.

Hearty thanks were tendered to the retiring officers.

Subsequently the members had a hot-pot supper, and a musical programme followed.

CHEMISTS' ASSISTANTS' ASSOCIATION.

ORDINARY MEETING.

Thursday, March 24, 1904, at 73, Newman Street, London, the President, Mr. A. B. Britton, in the chair.

The programme for the evening included a paper on

Fruits

by Mr. R. E. Lownsbrough, who introduced his subject with the remark that the most casual observer of things botanical could not fail to notice the many extremes which seemed to occur in the plant world. He went on to speak of the great variety and profusion of plants, and asked and answered the questions:—"How do they increase? How do they extend so rapidly?" Mr. Lownsbrough apparently possesses a thorough knowledge of his subject, and for considerably over an hour he kept the meeting interested by graphically describing the various processes of reproduction in plant life.

The thanks of the meeting were conveyed to Mr. Lownsbrough by acclamation. The proceedings then terminated.

ROYAL INSTITUTION.

EVENING MEETING.

Friday, March 25, 1904, at the Royal Institution, Albemarle Street, London, W.

Professor James Dewar, F.R.S., lectured on

Liquid Hydrogen Calorimetry.

Calorimeters could be constructed, he said, for measuring heat by the amount of a liquid volatilised into gas; and by employing substances such as liquid oxygen, nitrogen, and hydrogen, the quantity of heat passing in and out of bodies at very low temperatures could be determined. The great problem was how to isolate the liquid to be volatilised so that it was substantially free from evaporation through the ingress of external heat. By careful adjustment of the shape of the vessels, by employing good vacua in his vacuum-bulbs, and by coating their sides with mirrors of mercury or silver, he had succeeded in arranging his apparatus so that no bubble of gas would come off in a minute from the enclosed liquid nitrogen. The enclosed nitrogen must not be allowed to come into contact with the air; otherwise distortion of the results occurred, owing to the fact that the air was liquefied, even though the difference between its temperature of liquefaction and that of nitrogen was only about two degrees. Then it was impossible absolutely to exclude radiation. This fact he illustrated by the aid of a carefully isolated thermometer, which he showed was affected by a little solid carbon dioxide placed near it. Further, at low temperatures there was practically the same radiative effect with black as with white surfaces, the thermometer showing a little change when the carbon dioxide was covered with a piece of black velvet. Again, the liquid gases themselves were "transparent" to heat, and the radiant heat of a Bunsen burner at once affected a thermometer that was surrounded on all sides with a layer of liquid air an inch thick. The difference in the specific capacities of different substances was illustrated by taking two of the "sparklets" used for making aërated water. One was pierced, the empty shell was dropped into liquid air, and the amount of gas volatilised was noted. The experiment was repeated with the full sparklet, and it was seen that three or four times as much liquid was volatilised. Incidentally, Professor Dewar showed the effect of intense cold on steel. First, he hammered one of the empty sparklets at ordinary temperatures, and showed that it was of fine malleable metal which would not crack; but when cooled in liquid air, it became brittle, and broke like a walnut shell under the same treatment. He then illustrated the use of his calorimeter to determine the heat-conductivity of a fine wire, or the heat developed by small electric sparks. Another important application which had been made of the method was the determination of the heat-evolution of radium. This was greater at the temperature of liquid hydrogen than at higher temperatures. Radium could excite phosphorescence—a phenomenon associated with the development of heat—even when soaking in liquid hydrogen.

EDINBURGH CHEMISTS', ASSISTANTS', AND APPRENTICES' ASSOCIATION.

ORDINARY MEETING.

Wednesday, March 23, 1904, in the Pharmaceutical Society's House, 36, York Place, Edinburgh, Mr. Archibald Currie, President, in the chair.

Mr. Rutherford Hill, who had charge of the arrangements, introduced Mr. Bertram Cockburn, of Glasgow, who, he said, had made a hobby of microscopic work and had come specially to exhibit some beautiful examples of his work and explain how such work could be made interesting and easy.

Mr. Cockburn gave a paper, with demonstrations, on

Preparing, Staining and Mounting Microscopic Objects.

He said: It is a common impression that the preparation of botanical slides always includes section cutting and staining and is attended with considerable difficulty. But section cutting and even staining are not always necessary and a series of useful and interesting objects may be mounted easily and quickly by the beginner in botany. The preliminary selection and preparation of raw vegetable material should be looked upon as operations of the first importance to which the student should from the first pay particular attention. There seems no reason why Minor students should not prepare many of their own slides. Every student should possess a microscope and devote much more time to practical work in this subject than is usually done. If more practical work was systematically carried out, the morphology and anatomy of plants would not be described so frequently as dry and uninteresting subjects. At the outset it is important to study the micro-chemical reactions of the materials making up the cell and its contents. The student should compare the walls of the cell of cotton wool, wood, and cork, so as to be able to distinguish by reagents between cellulose, lignin, and cutin. Various starches may next be examined, and those of the Pharmacopœia identified and compared. Tests must also be applied to the remaining important cell contents, such as aleurone grains, crystalloids, sugar, inulin, mucilage, and crystals of calcium carbonate and oxalate. The sections of wood, cork, potato, and castor oil seeds, required in this connection are easily cut, as they do not require to be of special merit, and it is not usually necessary to prepare permanent slides of this class of work. The most frequently used mounting media are glycerin jelly and Canada balsam. The former is better suited for beginners, as its manipulation is both easier and quicker. It is also the better medium for the preservation of all delicate tissues. I recommend it for most ordinary work, and particularly for all the objects included in my first list of suitable material. The preparation of material consists in placing it at once in 90 per cent. alcohol, and allowing it to remain for a period varying with its nature. Parts containing much chlorophyll, or much imprisoned air, should macerate longest. The second step is to transfer gradually to dilute glycerin until thoroughly saturated and free from air bubbles. The object may then be mounted, but thin transparent tissues are improved by staining in a solution of iodine green, safranin, fuchsin, or other aniline dye. After washing in dilute glycerin to remove excess of stain the object is transferred to a glass slide, and mounted in glycerin jelly. This medium, heated preferably on a water-bath until quite thin, should be applied freely so as to avoid enclosing air bubbles under the cover glass. The excess of glycerin jelly is easily removed after cooling, Small air bubbles disappear on keeping, and most objects improve by becoming gradually more transparent. The last traces of glycerin can be removed from the edges of the cover glass with the help of a little chalk, and the preparation is completed by cementing with Canada balsam. Always label neatly, giving full particulars as to species, part of the plant used, date of mounting, and medium employed.

Mr. Cockburn also gave a list, with comments, of simple, easily mounted objects which illustrated important chapters of elementary botany. He showed how each may be mounted and stained in order to show most clearly its structure or constitution. In the second part of his paper the author dealt with the more advanced and serious work of section cutting, staining, and mounting of the different parts of plants of all classes, stem, root, leaf, etc., so that they may be examined internally and carefully compared. This he described and illustrated practically. The former part of his communication, however, constituted the chief part of interest from the point of view of his special object in bringing the subject forward, namely, to indicate what a large amount of interesting material could be mounted and examined without any section cutting, and in a way so simple as to be easily within the reach of ordinary students of pharmacy.

The paper was very fully illustrated both by a practical demonstration and a large series of beautifully mounted objects, prepared by Mr. Cockburn, and placed under a large number of microscopes, lent by members of the Association.

Dr. Coull proposed a vote of thanks to Mr. Cockburn, which was seconded by Mr. McCutcheon, Vice-President, and cordially passed.

NEW REMEDIES.

The Notes in this column embody recent suggestions in therapeutics, for the information of dispensers; they deal with novel applications of drugs and preparations in common use, in addition to new remedies strictly so-called.

Lithium Benzoate in Corneal Opacities.—Where corneal opacity is due to deposits of calcium carbonate or phosphate, Mazet finds that the local application of lithium benzoate in 2·5 to 10 per cent. solution acts as a solvent and removes the concretions. A few drops of the solution are dropped into the eye twice or three times a day. The treatment gives rise to no pain or inconvenience, and is indicated in all cases of corneal opacity or keratitis due to gouty deposits of urates, phosphates, or carbonates.—*Rev. de Therap.*, **146**, 557.

Adrenaline Lessens the Toxity of Cocaine.—Foisy states that the admixture of adrenaline with cocaine solutions greatly reduces the toxicity of the latter. According to Laborde, the toxic dose of cocaine for animals is 1 Cgm. per 1 kilo. of body weight. The author has injected a 1 : 200 solution of cocaine, containing 1 drop of a :1000 solution of adrenaline in each C.c., in quantities equivalent to 9 to 15·5 Cgm. of cocaine per kilo. body weight, without producing convulsions or contractions. He has employed the same solution of cocaine and adrenaline for producing local anæsthesia on 149 patients, using from 2 to 10 C.c. for each injection, without having a single symptom of intoxication, whereas cocaine solution alone, of the same strength, occasionally gave rise to pallor, sweats, loquacity, muscular tremors, and even delirium.—*Répertoire* [3], **16**, 23.

Valerobromin.—This is stated to be a double salt, sodium bromo-valerianate. It occurs as a crystalline mass, soluble in water, and combines the stimulant and sedative action of its components.—*Pharm. Post*, **36**, 318.

POISONING CASES AND INQUESTS.

The number of deaths by poisoning recorded during the six days ended Tuesday, March 29, is ten. Thus:—

Poison.	Accident.	Suicide.
Carbolic Acid	—	2
Chloroform	3	—
Hydrocyanic Acid	—	1
Laudanum	1	—
Lead	1	—
Sulphonal	1	—
Kind not stated	—	1
Total	6	4

Carbolic Acid.—Two persons committed suicide by means of carbolic acid—a married woman at Bishop Auckland, and a publican at Hill Top, West Bromwich.

Chloroform.—Three deaths under chloroform, administered as an anæsthetic, have occurred at the Throat Hospital, Westminster, the General Hospital, Bristol, and the Cardiff Infirmary.

Hydrocyanic Acid.—A man named Cooper, at Newcastle-on-Tyne, drank some prussic acid, which he had put in a glass of whisky.

Laudanum.—A woman at Morthen took an overdose of laudanum to relieve pain.

Lead.—A paint mixer, at Ancoats, Manchester, died from lead poisoning.

Sulphonal.—Catherine Cuthbert Longman (38), a spinster, of Streatham, was in the habit of taking sulphonal tabloids to induce sleep. She died last week from chronic sulphonal poisoning. At the inquest Violet Longman stated that her sister had been warned not to take the tabloids, which, the witness believed, were manufactured by Burroughs Wellcome and Co. Dr. W. Burgess, who also gave evidence, said persons took these drugs thinking them harmless, but it was not so. A verdict of "Death from misadventure" was returned.

Kind Not Stated.—A woman at Liverpool committed suicide by taking poison.

Supposed Arsenical Poisoning.—An inquiry is being held in Westmoreland relative to the death of a retired farmer, over eighty years of age, who is supposed to have died from arsenical poisoning criminally administered.

Non-Fatal Cases.—Two cases of attempted suicide by poisoning are reported, the poisons used being oxalic acid and potassium cyanide.

LEGAL INTELLIGENCE.

Supreme Court of Judicature: Court of Appeal.

The Tabloid Trade-Mark Case.

Burroughs Wellcome and Co. v. Thompson and Capper.

On Friday, March 25, 1904, before Lords Justices Vaughan Williams, Stirling, and Cozens-Hardy, the hearing commenced of the appeal of Messrs. Thompson and Capper, manufacturing and retail chemists, of Liverpool, Manchester, and elsewhere, against a decision of Mr. Justice Byrne in the Chancery Court, refusing to order the erasure from the Register of Trade-Marks of the words tabloid and tabloids. The judgment in the "passing-off" action was not appealed against. The hearing of the action in the Chancery Court was fully reported in the *Pharmaceutical Journal*, the verbatim judgment being printed in the issue of December 19, 1903, pp. 925 *et seq.*

Counsel for the appellants (who were the defendants in the Court below) were Mr. A. J. Walter and Mr. J. H. Gray. For the respondents (who were the plaintiffs in the Court below), Mr. Fletcher Moulton, K.C., M.P., Mr. Ralph Neville, K.C., Mr. Levett, K.C., Mr. Sebastian and Mr. D. M. Kerly. Mr. R. J. Parker represented the Comptroller of Trade-Marks.

The Case for the Appellants.

Mr. Walter, in opening the appellants' case, said that this was an appeal from a judgment of Mr. Justice Byrne, by which he refused a motion by Messrs. Thompson and Capper for the removal from the register of four trade-marks, the property of Messrs. Burroughs Wellcome and Co. The particular words were "tabloid" and "tabloids" registered in Class 3 and Class 42. The first two marks were the word "tabloid" alone and the other two marks were the word "tabloids" in a frame. The first two marks were registered in April, 1884, and the other two marks—that was "tabloids," were registered in March, 1885. Their Lordships would see from the dates that the marks were registered under the then existing Act of 1883. Some attempt was made in the Court below to crave in aid the provisions of the amended Act of 1888, but the Act of 1889 provided under Section 27 that the principal Act—that was the 1883 Act—should from the commencement of this Act of January, 1889, take effect subject to the conditions and subscriptions required by this Act, but nothing in the Act was to affect the validity of any act done, right acquired, or liability incurred before the commencement of this Act. That being so Section 27 preserved all rights acquired or liabilities incurred. Prior to the registration of the Act, four marks having been registered, two in 1884 and two in 1885, they were subject to the liability under Section 90 of the old Act of 1883 to be removed from the register by any person aggrieved. The Act of 1883 provided that a Court might, on the application of any person aggrieved, order a trade-mark to be expunged or varied as the Court thought fit. In the Court below a motion was made on behalf of persons aggrieved for rectification of the register on the ground that the word "tabloid" and the word "tabloids" were improperly placed on the register, as not being trade-marks fit for registration under Section 64 of the Act of 1883. One had to turn to Section 64 of the old Act and to the provisions of that Act to see what were the marks capable of registration under that Act. Section 64 of the Act of 1883 said that for the purposes of this Act a trade-mark must consist or contain at least one of certain essential particulars which were enumerated, and Mr. Justice Byrne had found that the word "tabloid" and "tabloids" were distinctive and fancy words not in common use. He should have to call their Lordships' attention to the authorities showing the view taken by the Court with regard to those words and the more recent cases decided under the 1888 Act, which had a considerable bearing on the view taken by the Courts under the Act of 1883. In 1884, before the registration of the marks, the plaintiff had been previously using the word "tablet" to describe a small dose of medicine in a convenient compressed form, and he had registered the word "tablet" as a trade-mark. In the year 1883 he was minded to employ a more euphonious and pleasant word, and according to his own account put on his invention cap, and arrived, after much study and research, at the word "tabloid." It was also in evidence that this same gentleman at an earlier date, being minded to describe other articles of his manufacture, had used the word "ovoid," which, as he admitted in cross-examination, probably had some connection with eggs. He said, in fact, he thought the word "ovoid" suggested eggs, but having been selling for some time compressed goods to which the word "tablet" was applied, he devised the word "tabloid," which word plaintiff said was a distinctive fancy word having no reference to the character or description of the goods to which it had been applied.

Lord Justice Vaughan Williams: I do not quite grasp what the question is. What do you ask us to say about the word "tabloid"?

Mr. Walter: That it was not a distinctive fancy word in common use, fit to be registered.

Lord Justice Vaughan Williams: Why not?

Mr. Walter said that when he came to the cases he would show why it was not. He was going to refer to the dictionaries to show exactly what the word "tabloid" meant, and what everybody took it to mean. They might just as well say that the words white, red and black might be registered.

Lord Justice Vaughan Williams: Yes, or the word "boycott." I think there was a time when the word "boycott" was a distinctive fancy name.

Mr. Walter said he thought if their Lordships went into the history of the word "boycott" they would find that it was always used in the sense in which it was now used. He now asked their Lordships to issue a *subpœna* to the Comptroller of the Patent Office to produce certain books.

Lord Justice Vaughan Williams: Yes, you may take a *subpœna*, but whether they will bring the books or not I do not know.

Mr. Walter: If your Lordship pleases. The learned counsel then quoted from Murray's Oxford English Dictionary to show what the meaning of "tablet" was.

Mr. Neville said he took this formal objection. It was admitted on both sides that the word "tabloid" had never been used until registered by Burroughs Wellcome and Co., and the fact that it got into the dictionaries ten years afterwards he submitted was wholly immaterial.

Mr. Walter: I now turn to Murray's Dictionary.

Lord Justice Vaughan Williams: For the purpose of giving us information?

Mr. Walter said he proposed to refer to it for the purpose of showing what the word "tabloid" meant.

Lord Justice Vaughan Williams: I won't trouble you, I know what it means.

Mr. Walter: Then I turn to the meaning of "oid."

Lord Justice Vaughan Williams: I know what that means.

Mr. Walter said that he should prefer to make it part of his argument.

Lord Justice Vaughan Williams: You may make it part of your argument if you like.

Mr. Walter said that the meaning of "oid" was given as having the form or likeness, and "anthropoid" was given as an example.

Lord Justice Vaughan Williams: Now that is a very good explanation of what the definition is. "Anthropoid" is like a man, but it negatives the idea of its being a man.

Mr. Walter: The word has the meaning of "like."

Lord Justice Vaughan Williams: Yes, but in such a sense that it excludes the real thing. "Anthropoid" is like a man, but it is not a man.

Mr. Walter: Now, what is cycloid?

Lord Justice Vaughan Williams: I do not know, I never heard of one.

Mr. Walter said that a tabloid was like a tablet where "tablet" was applied to medicine. The learned counsel proceeded to cite authorities in support of his contention that "tabloid" and "tabloids" were not fancy or distinctive words. He produced a large number of dictionaries, Ince's 'Latin Grammar of Pharmacy' and other books. All the writers of dictionaries—whether or not they knew and stated that the word was used as a trade-mark—were unanimous in deriving the word from "table" or "tablet" with the suffix "oid." He put it to their Lordships that any ordinary Englishman, meeting the word for the first time in 1883 or 1884, and knowing that it was applied to substances used in medicine and pharmacy, would at once know that the word was derived in that way, and that it had reference to the shape of the article.

Lord Justice Vaughan Williams dissented. The derivation would not have occurred to him.

Mr. Walter again laid emphasis on his contention that it was not enough that the word had never in its entirety been used before. It was also necessary—if it were to stand as a trade-mark—that it should not be descriptive of the articles to which it was, in fact, applied.

Lord Justice Cozens-Hardy intimated that he was with the learned counsel on that point.

Mr. Walter said that if to the word *tabella*, the ordinary medical Latin word for a compressed drug in tabloid or tablet form, the common suffix "-oid" was added, it was the most natural and ordinary result that the vowels "e" and "a" should be elided, and that "tabloid" should result. He quoted at length from numerous judgments in more or less similar cases. Among the words involved in such cases were the "Melrose" Hair Restorer, "Electric" Velveteen, "Bovril," "Solio," "Satinine," "Electroid," and "Savonol." "Bovril," a trade-mark which had, rightly, been allowed to stand, was on an entirely different footing from "tabloid." "Bov" might indeed imply some connection with "ox," but "-ril" was an entirely unknown and meaningless termination, and the whole word could not be taken as descriptive of an extract of meat. But, as he had said in the Court below, "tabloid" was a word which reeked with meaning. "-Oid" was practically the commonest termination in the English language, and always with the meaning of "like in shape."

Lord Justice Vaughan Williams raised the objection that the root of the word was Latin, but the suffix Greek.

Mr. Walter replied that the English language, more than any other, was notorious for the fact that all the rules of etymological purists were continually broken. He quoted "ovoid" and "fungoid" as examples of words with a Latin root and the Greek suffix.

Their Lordships referred to dictionaries, and admitted that Mr. Walter's contention was borne out by them.

Lord Justice Vaughan Williams remarked that there were all sorts of incongruous unions in doctors' Latin.

Mr. A. J. Walter, continuing his argument on Monday, the 28th ult., in support of the appellants' case, submitted that, according to the authorities, Mr. Justice Byrne was wrong in the conclusions at which he had arrived in the Court below. The learned counsel called attention, in support of his case, to the Triticumina case, which was a motion to take from the register the word "Triticumina." Mr. Justice North, before whom the case came, said that the decisions of the authorities were perfectly clear with regard to this matter, and the conclusion at which he arrived was that it was obviously a descriptive term. Now (said the learned counsel) in this case the plaintiffs had in all their advertisements used the word "tabloid" as descriptive of their goods. Had their Lordships ever heard of a plural fancy word? What was the meaning of the word "tabloids"? Why, more than one tabloid. They said in their advertisement that "tabloid" was a fancy word, and yet they registered as a trade-mark a fancy word in the plural.

Lord Justice Vaughan Williams: You say the word means a singular fancy word.

Mr. Walter: I say that a fancy word means nothing, and you cannot add a plural to that which means nothing. They say in their advertisement "Take one or two tabloids of." Now, what was the meaning of "tabloids of"? It was clearly descriptive of something.

Lord Justice Vaughan Williams: We will assume that "tarradiddle" is good. Do you say that "tarradiddles" would be bad?

Mr. Walter: Yes, before it had a meaning, because "tarradiddles," as a fancy word, would mean nothing.

Lord Justice Vaughan Williams: We will assume that after the first year "tarradiddle" was altered to "tarradiddles." Do you say that a singular word changed to a plural cannot be a fancy word?

Mr. Walter said perhaps he had put his case too high, but when he saw "tabloids" on a box containing bi-convex shaped articles, what did it mean? It meant that it described the articles to be found inside the box. He said that the plaintiffs had brought themselves within the Triticumina case, and they had dedicated the term "tabloid" as a descriptive word to the use of the public. They could not bring it back, and the strongest evidence of dedication was their own advertisements. In the advertisements which they issued prior to 1888, and in which the word "tabloid" was used, it was used in a purely descriptive manner, and their Lordships would remember the Pilgrim's Progress of this tabloid business. First there was tablet, then tabloid, then "tabloid," then "tabloids," and then "'tabloid' brand." In considering the question of the reputation attaching to certain goods under a certain name, there was no distinction in principle between a trade-mark and a trade-name. They were both words that described something. In 1884 the plaintiff advertised something which was purely and simply descriptive, and was not, and could not be, distinctive, and when a word had once come to be descriptive it ceased to be able to acquire the character of distinctiveness. There was no user of the word tablet by the defendants upon any articles of any description which they sold, but certain orders were sent in for tabloids, and tablets were supplied. There was never a bottle of the defendants' which was labelled "tabloid." To show that the word "tabloid" had become a part of current literature, the learned counsel quoted from *Punch*, in which the phrase "A grand opera in tabloid" occurred; and in *Nature*, of April, 1903, he found the phrase, "Yet we may confess the advantage of turning our information into tabloid form." Then, again, Punch asked, in a supposed interview, "Is it true that you are afraid of the tabloid doctrine?" Then they found the phrase "Carmen in tabloid." There was evidence to show that the word tabloid was used by doctors in ordering things. They said, "Take so many tabloids," and although it was true they had evidence on the other side—evidently by "great" medical authorities, judging from the terrific charges which they made—it was clear that the word "tabloid" was frequently used as descriptive.

Lord Justice Vaughan Williams: Do you think the word "terrific" is a well-chosen adjective?

Mr. Walter: When I find that we have to pay something like 300 guineas for five minutes' evidence from one witness of this description, I say that the word "terrific" is really applicable.

Mr. Moulton protested against the revelation.

Lord Justice Vaughan Williams (to Mr. Walter): You had better not try to convince Mr. Moulton that 300 guineas is a terrific charge for five minutes' work.

Lord Justice Cozens-Hardy: What, if any, is the suggested difference between "tablets" and "tabloids"?

Mr. Walter said there was none. "Tablet" was the original word used. The plaintiff, not liking the word "tablet," looked about for something more euphonious, and then he advertised and sold tabloids. That was the suggestion given by the inventor of the word "tabloid." Having invented the word "tabloid" and "tabloids," he proceeded to use the word descriptively, and he put it on bottles containing what he called tabloids. He (Mr. Walter) submitted that that could not be a distinctive fancy word not in common use, according to the Act.

Lord Justice Cozens-Hardy: Does it indicate any difference in shape?

Mr. Walter: No. The plaintiffs continued to sell for some time tablets and tabloids together, but, so far as he knew, there was no distinction—they were all about the same size and shape. He submitted to their Lordships that no word that was descriptive could be distinctive, and the best way of seeing whether it was descriptive was to see how the owner used the word, and their Lordships would find that the owner used the word descriptively from the first. That being so, it could not be a fancy word.

Lord Justice Vaughan Williams: What does distinctive mean?

Mr. Walter said it indicated the goods of a particular person.

Lord Justice Vaughan Williams: I know that; but if you take the natural meaning of the word "distinctive" it does not appear to bear the meaning which you have given to it.

Mr. Walter said that Lord Halsbury had described the word distinctive as distinguishing a particular person's goods from those of somebody else's goods.

Lord Justice Williams said the Court, in applying the statute, must follow, in so far as they agreed, previous decisions; but, so far as one was left at large, he could not help thinking there was some resemblance between the Trade-Marks Act and the Statute of Frauds. They were both intended to prevent fraud.

Mr. Walter said that was so, but their Lordships would remember that in the "Solio" case it was held that they had no right to put an unfair hardship on the British public by inducing actions which might have a tendency to attribute fraud to persons by enclosing the great common of the English language. He said that, looking at the articles sold by the plaintiff, and looking at the meaning given in all the dictionaries, the word "tabloid" was purely descriptive, and could not, therefore, be a distinctive fancy word not in common use. As it was not a distinctive fancy word not in common use, it was incapable of registration, and ought, therefore, to be taken off the Register.

Mr. Gray followed on the same side, and contended that the word "tabloid" was, according to the authorities, non-registrable, as each of its separate syllables, as well as the whole word, had a clearly descriptive meaning. Mr. Wellcome had taken the word "tablet," and had deliberately made a descriptive word from it by adding the suffix "oid."

The Case for the Respondents.

Mr. J. Fletcher Moulton, K.C., M.P., on behalf of the respondents, said that it appeared to him that a great deal of the able arguments of his learned friends had been directed against completely fallacious issues. The first principle he wished to submit to the Court was this, that the question of the propriety of the registration was to be decided in 1884, when the registration was effected, and that no matter subsequent thereto which could be shown to have grown up subsequently could by any possibility affect the decision their Lordships would have to give in this case. It was right or wrong in 1884. If the registration was right then, it was right now. The only thing which could take a properly registered trade-mark off was the behaviour of the owner. If the owner used it improperly or abandoned it, they might bring evidence to destroy the effect of the registration, but no such suggestion had been made in the present case. Therefore, any such argument as that put forward, fortified by a quotation from *Punch*, talking about "tabloid" in the year 1903, was irrelevant, because that had unquestionably grown up from the success of Messrs. Burroughs and Wellcome, who had made their tabloids known all over the world.

Lord Justice Vaughan Williams: I think that both Mr. Walter and Mr. Gray said that anything with reference to these marks must date from the registration.

Mr. Moulton said that his learned friend, Mr. Walter, perpetually used the word "distinctive," and said that if it were distinctive it could not be descriptive. It was no objection to a trade-mark that a trade-mark owner had not used it on his goods. If the owner of a trade-mark used a particular mark on his goods, and the sale of the goods grew to be a great success, the trade-mark would in a case like that get not only to note the origin, but the particular kind of goods. Messrs. Burroughs and Wellcome wished to have a trade-mark distinctive of their goods, and they invented this word "tabloid." What was the real issue? With all due respect, he thought it was—Aye or no: was "tabloid" a distinctive fancy word not in common use? It was not in common use in 1884, because it had been admitted that it had never been used at the date of the registration. If it was not used at all it was distinctive.

Lord Justice Cozens-Hardy: That is rather a dangerous proposition, Mr. Moulton.

Mr. Moulton said that by adoption by Messrs. Burroughs and Wellcome it could be made a distinctive word. If it was a fancy word not in common use, it did not appear to him that the word "distinctive" mattered very much. Was this a word which could be fairly called a fancy word. He submitted that it could. The real issue was as to the status of "tabloid" in 1884. Following the view of the Court in the Bovril case, their Lordships had got to say whether "tabloid" would be a fancy word in 1884. The test of that was, would it carry to an ordinary person a meaning? He thought that was substantially what the Court had to consider.

Lord Justice Cozens-Hardy: There is evidence that you used it about the time or before the time of registration. If you used it immediately before registration as a descriptive word that seems to be rather against you. What impresses me is that you immediately before registration sold things "tabloid this" and "tabloid that."

Mr. Moulton said there was nothing inconsistent in that.

Lord Justice Vaughan Williams: I think it is a somewhat troublesome point for you, Mr. Moulton, and it is one that you will have some difficulty in meeting.

Mr. Moulton submitted that no legitimate user which a man might fairly make of a trade-mark could be used against him and made to retro-act.

Lord Justice Cozens-Hardy: The point I was asking you to address yourself to was this, whether you did at, or immediately after, the date of registration not throw light upon the meaning of the original registration.

Mr. Moulton said that in this case the whole argument against Messrs. Burroughs and Wellcome rested upon some idea that a man might make by his user his trade-mark descriptive of the special parts of his goods or that he might use it in combination so as to make it descriptive. He could not understand why a man should not use his trade-mark to show that he meant a particular thing. There was nothing disloyal to a trade-mark in such a user as that. The word "tabloid" was a gift to the language, the plaintiffs reserving to themselves its special use. At the moment it was invented it was registered before any user at all, and they had to consider whether this was when so registered properly a fancy word. He felt that he was entitled to press their Lordships in this way. The trade of his clients had grown to an enormous extent legitimately on account of the way in which it had been carried on, and there was no question that their medicines were known all over the civilised world, and they were widely known to the public. Of course, they had heard the word "tabloid" since 1884 perpetually, but it was not heard of before. To treat his clients fairly one had to guard against intellectual bias produced by familiarity. Tabloid would have been an unfamiliar word in 1884, but now in 1904 it was difficult to carry one's mind back to a period when it would have been unfamiliar. He was entitled to ask their Lordships that they should not only do that, but he was entitled to ask that if there were any doubt at all, the benefit of the doubt would have to be given to the possessor of a trade-mark which had been on the register for twenty years, and had been so effectively used that the whole trade observed it and recognised it as a good trade-mark. He did not know of a single word in the English language ending in "oid" which was not a learned word. For instance, there was "dermatoid."

Lord Justice Vaughan Williams: What do you say of waroid—a sort of war?

Mr. Moulton said that "valoid" and "tabloid" were both registered in different classes by the plaintiffs in relation to chemical substances used in medicine and pharmacy. He thought that the explanation given by Mr. Wellcome in his evidence in the Court below was satisfactory, viz., that in endeavouring to find a euphonious word which would be suitable to use instead of "tablet," he hit upon the word "tabloid." If a jury in the year 1884 had been asked if "tabloid" was a fancy word, they would have said "Yes, we do not know what it means," but in this case the word had become so successful that it had rung in the ears of the British public all over the world, and it had become familiar to everybody. This word was a product of the fancy of Mr. Wellcome. He quite agreed that the condition of things now as compared with the condition of things which existed in 1884 was widely different, but he suggested that the word "oid" as added to "table" did not present anything but a meaningless combination of words. He submitted that one issue for the Court to determine was whether this was a fancy word or not, and he suggested that nothing had happened since the date of registration which prevented his clients from maintaining the registration and that the decision of the Court below should be supported.

Mr. Neville, following on the same side, also supported the judgment of the Court below. The learned counsel said he disputed that the word "tabloid" in 1884 was descriptive, and said it would be interesting to ascertain what "tabloid" described. It was said that "oid" was a well-known suffix to English words, but that was far from the truth. It was true that it had been used in scientific jargon, but he ventured to say that as a mere English suffix "oid" was unknown to ordinary people in 1884.

Lord Justice Vaughan Williams: I daresay ten years hence everyone will know what "valoid" means—a fixed amount of medicine made up and sold homœopathically. I know now, but I did not know that that was the meaning.

Mr. Neville said that the attempt to extract a meaning from the word "tabloid" necessarily failed. No doubt in the early days there was a much more severe scrutiny of words which were registered than was the case at a later period. If "oid" was a well-known suffix meaning "like," he asked "like what?" Mr. Walter would not say. He said in effect, "Take your choice between 'table' and 'tablet.'" Now, the only common attribute of a table and a tablet was flatness; and tabloids were bi-convex. Again, if the word was descriptive, as alleged, how was it that so many of defendant's own witnesses, Mr. Rymer Young and others, said that the public did not know what it meant? Mr. Neville proceeded to quote from various dictionaries published prior to 1884, in order to show that, medicinally, a tablet was a flat square object. The fact that plaintiffs had enjoyed the right to the word for twenty years laid a strong burden of proof on the attacking side. And if there were any doubt, Messrs. Burroughs Wellcome and Co. were entitled to the benefit of it. He asked their Lordships to say that this was a fancy word, and that the judgment of Mr. Justice Byrne in the Court below was right and ought to be affirmed.

Mr. Walter, in replying on the whole case, spoke of Mr. Neville's appeal *ad misericordiam*. Mr. Neville had said, "We have had this trade-mark so long; please don't take it away now." But that was not argument. Time had not blurred any effect in this case so as to prevent the Court deciding the question as if this action had been brought in the year 1884 or 1885. Time could not affect the rights of the defendants, who were aggrieved under the Act, in saying that this was a bad trade-mark. The twenty years during which it had been on the register could not affect the matter. The question really came to this: aye or no, was the word "tabloid" a word of the class which could be registered in the year 1884? What was their answer? He had listened in vain for any argument to support the view which had been laid down by his learned friend. Their argument was that "tabloid," if it meant anything, implied a table, and a table implied flatness. Now, "tablet" was a known name, and they did not deal with that. They said that "table" plus "oid" would imply flatness. A tabloid was flat compared with a pill. He contended that the trade-mark was bad, and that it came within the objections laid down in the Bovril and other cases, and that the register therefore ought to be rectified by expunging it therefrom.

Judgment.

On Tuesday, March 29, Lord Justice Vaughan Williams said the case was, in a sense, difficult; not in the sense, however, that the law was difficult, for the law as defined in the "Melrose" case and as modified by the "Bovril" case was fairly clear. The case was difficult because it was a question of fact. That question was, What did the word "tabloid" convey at the date of registration? The question was hard to answer, and the difficulty was increased very considerably by the lapse of time since registration. They had heard quotations from dictionaries and other literary productions published since 1884, but he did not think those quotations had assisted them much. That sort of evidence tended to make the task more difficult, as it was difficult to eradicate from the mind the user and meaning of the word at the material date. But that case was not the first in which that sort of difficulty had presented itself. It appeared from certain passages in the judgments of Lords Justices Stirling and Cozens-Hardy in the Chesebrough Vaseline case that the Court, when it had to deal with that sort of question long after the date of registration of the trade-mark, had laid down the rule that the presumption ought to be in favour of the persons who possessed the trade-mark. And the onus of proof as to the user and meaning of the word rested on those who sought to remove it. He would be sorry if it were thought that sort of presumption, in favour of a long-registered trade-mark, ought to be allowed to overmaster plain evidence showing that a trade-mark ought never to have been registered. If the evidence showed clearly that a mark should not have been registered, there could be no justification for allowing it to remain. He had to ask himself what was the character of the trade-mark in 1884, and what did the word "tabloid" then convey? He thought that the word was at the time of registration a distinctive word suggesting the source and origin of the goods covered by the registration. At the material date, 1884, the word was, he thought,

NOT A DESCRIPTIVE WORD,

and it conveyed no peculiar quality of the goods. "Tabloid" in 1884 could properly be described as a fancy word. Having regard to the judgment in the Bovril case, he did not think it could be said that a word was to be treated as descriptive because it might suggest some idea. The very trade-mark "Bovril" itself proved the contrary. It was perfectly impossible to say that the word "bovril," used in respect of extract of meat, did not suggest an ox as the "material" from which the extract was made. The mere fact that "bovril" contained a suggestion was inconsistent with the idea that a fancy word must be absolutely non-suggestive. But it must not be descriptive. Nobody supposed that when one sat down to choose a fancy word one made a selection of words hap-hazard from a dictionary, put them in a bag, dipped one's hand in, and left it to chance what word or combination of words should be selected. The real fact was that a man sat down to choose his trade-mark, and his mind would naturally run on words cognate to the names of the articles to which he intended to apply the trade-mark. His next care was that the cognate word so chosen should not be such as really to describe the quality or form of the article. It must be borne in mind that for a word to be really descriptive, it must describe something material to the composition of the article to which the trade-mark is to be applied. If it did not fulfil that condition, one ought not easily to arrive at the conclusion that the word was descriptive, although in some way or other it might suggest the particular style in which a firm had been putting up their goods. One must be careful never to violate the rule that no word whatsoever must be chosen if its registration deprived the public of the full user of the word, especially where the word was known in a particular trade. Subject to those observations, not only was this word distinctive, but also it was, in his opinion, non-descriptive. He was not forgetting the arguments of Mr. Walter and Mr. Gray that this case was to be distinguished from the Bovril case, because "oid" was a known suffix and "ril" was not. It had been urged that "bovril," although it suggested "ox," was as a whole word a purely fancy word. According to his view, "tabloid" was in substance an unknown word at the moment when Messrs. Burroughs Wellcome and Co. adopted it. It was true that one could find a great many words which were properly terminated with the suffix "oid," and were familiarly used by English-speaking people. In the main, those words were not of English origin. They were words which did not set one's teeth on edge, as "tabloid" did. For instance, "trapezoid" and "aneroid" were words of purely Greek origin. But he doubted whether "oid" had become a recognised termination at the time when the word was registered. In 1884 the word "tabloid" would, he thought, in respect of drugs or medicines,

CONVEY NO MEANING

at all to an average Englishman. Even at the present day there was a great difficulty in saying what the word was supposed to convey. The meaning of "table" or "tablet" did not suggest to his mind in any way the form of those tabloids. He could not express his conclusions in better language than had been used by Mr. Justice Byrne, who had said: "The case is near the line, . . but the word was not really intelligibly describing the thing sold." He would, indeed, have preferred to express his judgment in this way: "I entirely agree with Mr. Justice Byrne." He (Lord Justice Vaughan Williams) thought the word a fancy word, a coined word, an invented word, which in 1884 did not intelligibly describe anything to those who heard it. It could not be said that the word was absolutely unsuggestive, but any suggestion derived from it was a very inaccurate suggestion as to shape, and a suggestion that was in no sense essential or of practical materiality. As to the argument based on the previous user of the word "tablet," though that was an accepted English word now, it really did not convey anything material in 1884 about the articles to which it was applied. Could it be said that because Messrs. Burroughs Wellcome and Co. registered the word "tabloid" two years after they began to use the word "tablet," the word which, but for that previous user, would have been a coined or fancy word, became in consequence of that user a non-distinctive word? He thought not. He held that "tabloid, when first adopted, did not intrinsically describe the article, and, therefore, in his judgment, the appeal must fail.

Lord Justice Stirling said that the validity of the registration of "tabloid" was justified, on behalf of the respondents, on the ground that at the date of registration the word was a distinctive, fancy word, not in common use. There was no contest that it was not in common use, it being admitted that the word was coined in 1884. And if it were not in common use, it might fairly be taken to be distinctive. He would leave that. But was it a fancy word in 1884? They were bound by the decisions in the "Melrose" and "Bovril" cases. Certain rules had been laid down in the former, but their application had to be reconsidered in the Bovril case. It appeared to him that their proper course was to deal with this case as the Court of Appeal dealt with the Bovril case. Lord Justice Lindley then said, "A word which describes the article will not do." Did "tabloid" describe the article? Lord Justice Vaughan Williams had read the answer of Mr. Justice Byrne to that question. For himself, he would only say that he entertained greater doubt than the learned judge in the Court below and his brethren in that Court. He would state his difficulty. They must not treat the question—whether or not "tabloid" was a fancy word in 1884—in an abstract manner; they must look at the circumstances preceding the introduction of the word. Before 1884, "tablet" was a well-known word in connection with medicines. The 'Imperial Dictionary' of 1874 showed that. For some years previous to 1884, this very firm, Messrs. Burroughs Wellcome and Co., had found tablets a useful and convenient mode of putting up medicines. They had sold medicines so made up under the name of tablets, and had registered that word "tablet" as their trade-mark. They were advised that "tablet" would not stand, and they set about finding another word. They fixed on "tabloid," which suggested a connection with "table" or "tablet," and registered it for preparations used in medicine and pharmacy. He had not heard of the use of tables in that connection, but they had so heard of tablets, and it might well be inferred that "tabloid" had a descriptive meaning. "Oid" was a common termination, meaning "of a shape or kind." He confessed to A Great Deal of Hesitation in deciding whether "tabloid" did not mean a preparation made up, not precisely in the same form as a tablet, but something of the same kind, and whether the word was not descriptive in the same sense. But Mr. Justice Byrne, and his brethren in that Court, took another view. For that reason, and because he felt it was fair that, after so long, the owner of the trade-mark should have the benefit of the doubt, he was not prepared definitely to differ from his brethren.

Lord Justice Cozens-Hardy said that to a great extent he shared the difficulty of Mr. Justice Stirling. If the word had been impeached ten years ago, he could not doubt that it would have been taken off the register. But the swing of the judicial pendulum had been very great, and the extreme point was probably reached now. A fancy word, in his view, meant something more than a newly-coined or invented word. The present case was extremely near the line. But, after reading most carefully the decision in the Bovril case, he was driven to the conclusion that, although the word was certainly suggestive, it was not necessary that a good trade-mark should be absolutely non-descriptive. There was nothing in the word "tabloid" which was sufficiently descriptive to enable him to distinguish between this case and the Bovril case. As a juryman, deciding on a question of fact, he was not able to say that the trade-mark intelligibly described the thing sold. He therefore could not differ from Mr. Justice Byrne, but concurred with the other Lords Justices.

The appeal was therefore dismissed, with costs.

Dublin Law Courts: Chancery Division.

Liquidation of the Ulster Chemists, Limited.

On Wednesday, March 23, in the Chancery Division of the Dublin Law Courts, a settlement was arrived at in the case in which an application was made on behalf of Mr. Hugh Smiley, of Belfast, the liquidator, for liberty to bring an action against Mr. M'Crea, the purchaser of the company's business in Newry, to enforce specific performance of the purchase agreement, dated December 12, 1901, whereby Mr. M'Crea agreed to purchase the business, which had previously belonged to himself. The agreement contained several clauses as regards ascertaining the debts, etc., and difficulties had arisen between the purchaser and the liquidator on these points, delaying completion now for about two years. Counsel for the liquidator now intimated that a settlement had been arrived at substantially in the following terms:—(1) That the solicitors for Mr. M'Crea should endorse to the liquidator a deposit receipt for £324 in his hands; (2) that Mr. M'Crea should abandon all his claims against the liquidator; (3) that the liquidator should allow Mr. M'Crea £25 off the costs, which Mr. M'Crea was liable to pay for the collection of the debts.

Mr. Justice Barton said he would accept the compromise.

NOTES IN PARLIAMENT

Victoria University of Manchester Bill.

Lord Balfour, Acting Chairman of Committees of the House of Lords, had before him, on Thursday, the 24th ult., as an unopposed measure, the Victoria University of Manchester Bill. The Bill is promoted to give effect, so far as Manchester is concerned, to the decision of the Privy Council dissolving the Victoria University as originally constituted of the Owens College, Manchester, University College, Liverpool, and the Yorkshire College, Leeds, and to the grant of charters for the creation of separate universities in each of the three centres. Under the provisions of the present Bill, Owens College is incorporated with the Victoria University of Manchester, and the property and liabilities of the college are transferred to the University. Dr. Alfred Hopkinson, Vice-Chancellor of the University, produced the original charters of the college and University and formal proof was given in support of the preamble of the Bill. It was stated that verbal amendments had been introduced at the instance of the Attorney-General and the Board of Education. Lord Balfour found the preamble proved, and ordered the Bill, as amended, to be reported to the House for third reading.

Sir C. Dilke's Shops Bill.

Sir C. Dilke's Shops Bill came before the House of Commons on Friday, March 25, at a rather advanced period of the sitting. The chief objects of the Bill are to enable local authorities to regulate the hours of closing of shops in their areas on week days; to provide for Sunday closing; to provide that no employee shall be kept on duty more than half an hour after the shop is closed; to prohibit the employment of children under fourteen years of age, and to secure that no person shall be employed in or about a shop for more than sixty hours, including meal times, in one week. The provisions relating to the closing of shops are not to apply to a shop kept open solely for the sale of the following articles:—Medicines or medical or surgical appliances, refreshments for consumption on the premises, tobacco, pipes, matches, and smokers' necessaries, newspapers and (so far as concerns railway bookstalls only) magazines and books, fruit other than preserved fruit, and intoxicating liquors. The rejection of the Bill was moved by Sir F. Powell. Sir F. Banbury was speaking against the measure when the debate stood adjourned. It is improbable that there will be an opportunity for the further consideration of the Bill this session.

Standardising of Drugs and Experiments on Dogs.

In view of the fact that in 1902 there were 14,906 experiments upon living animals, the Home Secretary has been asked by Sir J. Rolleston if he could obtain from the institutions or persons to whom certificates were granted a statement of the practical results in scientific knowledge or in the improvement of medical treatment which can be traced to those experiments. Mr. Akers-Douglas, in his reply, points out that certificates are not granted to institutions. He adds that persons holding certificates under the Cruelty to Animals Act, 1876, publish in considerable numbers in books, journals, and the proceedings of learned societies reports of the experiments performed by them. He thinks that these reports enable those who are interested and qualified to judge as to the results which the experiments have yielded or are likely to yield in the advancement of scientific knowledge or the improvement of medical treatment. He also points out that by far the most of the experiments are inoculations, many of which are performed either for diagnosis or in connection with the preparation and standardising of drugs and curative sera, of which the practical utility is well known.

COMPANY INTELLIGENCE.

W. T. Symes, Limited.—Capital £500, in £1 shares. Objects: To acquire the business now carried on at 66, Stokes Croft, Bristol, as W. T. Symes, and to carry on the business of dentists, druggists, drysalters, oil and colour men, importers and manufacturers of and dealers in artificial teeth and limbs, and other appliances, etc. Registered office, 66, Stokes Croft, Bristol.

Steel, Murdoch and Co., Limited.—Capital, £1,000 in £1 shares. Objects: To acquire the business of manufacturing chemists, wholesale druggists and druggists' sundriesmen carried on by I. Steel and J. Murdoch at 70, Carlton Road, Nottingham, as Steel and Co., to carry on the said business, and to employ qualified persons to act on the company's behalf as pharmaceutical, analytical and advising chemists, opticians, etc.

BANKRUPTCY INTELLIGENCE.

Re **Philip Stoneham Canning**, Leighton, Chemist and Druggist.

The public examination of this debtor was commenced at the Luton Bankruptcy Court on Thursday. Gross liabilities, £3,594; expected to rank for dividends, £1,213 14s. 1d.; assets, £190; deficiency, £1,022. The examination was adjourned.

Re **Thomas Henry Thomas,** Chemist and Druggist, late of 97, Saltley Road, Birmingham.

A meeting of creditors was held on Friday of last week. The liabilities, according to the debtor's statement of affairs, amounted to £270 7s. 10d., and the assets to £25 17s. 6d., leaving a deficiency of £244 10s. 4d. Bankrupt alleged that his failure was due to having given too much for his business and bad trade. In May, 1903, the bankrupt started business at 97, Saltley Road, with capital amounting to £44, which he had saved. The stock, fixtures, and possession cost £120, which he paid out of a sum of £150, borrowed upon the understanding that he repaid £200, by instalments of £13 10s. per quarter; £6 had been paid on account. Shortly after he commenced he found he had made a bad bargain, and that the profits were insufficient to pay the expenses. He tried to sell the business privately, but without success, and, as an execution was about to be levied, he gave instructions for a sale by auction. The sale took place on February 17, 1904, and the bankrupt states that the auctioneer has £12 in hand, but the latter states the goods realised £26 10s. 6d., out of which the following payments were made:—Solicitor, on account of the bankruptcy fees and costs, £15; debtor, £2 10s.; gas and rent, £4 10s. 6d.; auctioneer, £4 10s. The unsecured liabilities include £49 10s. 4d. ordinary trade debts; £214 4s. money borrowed; and £6 13s. 6d. for clothing. Questions were put to the debtor on behalf of a creditor in respect of a loan which he had obtained. Debtor admitted that the statements he made when making the application in regard to the profits and takings of his business were untrue. The case being a summary one, the Official Receiver will act as trustee.

PERSONALITIES, BUSINESS CHANGES, &c.

Mr. S. N. Pickard has been elected President of the Ossett Tradesmen's Association.

Messrs. D. and C. Cowper, chemists, are to open up a pharmacy in the village of Winchburgh, N.B.

Mr. Alfred Gall, chemist and druggist, of Thoro'fare, Woodbridge, was re-elected a member of the Urban District Council.

Mr. W. C. Austen, chemist and druggist, of St. Mary Street, Southampton, has been re-elected a member of the Board of Guardians.

Mr. John C. Hewlett, head of the firm of C. J. Hewlett and Son, has been elected at the head of the poll for the Cooper's Cope Ward of the Beckenham Urban Council.

Mr. John Snowdon, chemist, Yarm, has been elected to Yarm Parish Council, at the second position on the poll, by the highest voting ever recorded in any parish election.

Mr. G. T. W. Newsholme, ex-President of the Pharmaceutical Society, has been re-elected to the Sheffield Board of Guardians, being placed at the head of the poll in St. Peter's Ward.

Mr. John Earl James, M.P.S., who has been managing the business of E. Pegg, 293, Sherlock Street, Birmingham, is opening a new pharmacy at 184, Witton Road, Aston (corner of Lodge Road).

Mr. J. V. Cobb, chemist and druggist, who has carried on business at 52, High Street, Hythe, Kent, for forty-seven years, has retired from commercial life, and will reside at Cheriton, near Folkestone.

Bro. Charles Swinn, pharmaceutical chemist, of St. Mary's Pharmacy, Hulme, Manchester, has been for the sixth time in succession unanimously elected treasurer of the Dramatic Lodge of Freemasons.

Mr. F. W. Biggs, chemist and druggist, has been returned for the East Ward, and Mr. W. R. Selleck (pharmacist and Divisional Secretary) for the West Ward of the Stourbridge Urban Council, after a stiff contest.

Mr. T. E. Doeg, chemist and druggist, of 68, Bridge Street, Evesham, has removed to 68, High Street. The pharmacy has been at the former address for about a century, Mr. Doeg having been there for nearly thirty years.

Mr. Wm. Motts, who is severing his connection with Messrs. Grimwade, Ridley, and Co., wholesale chemists, of Ipswich, after twenty-seven years' service, has been presented by the firm and employees with a malacca cane walking-stick.

Mr. John Clayton, chemist and druggist, of Ascot, on the occasion of his removal to Saffron Walden after many years' connection with the place, has been presented by a number of friends with a marble clock, a silver cigarette case, and a silver rose bowl.

Mr. H. J. Barker, M.P.S., for ten years manager of the business of Barker and Son, Brighton, was placed at the head of the poll at the Bletchingley Parish Council election. He is also one of the County Council Schools' managers for the same parish.

Sir Mark Stewart, M.P., who has blocked the Pharmacy Bill on the ostensible ground of its prejudicial influence on agriculture in general and Scottish agriculture in particular, has been appointed Deputy-Lieutenant of Wigtownshire by the Lord-Lieutenant, who happens to be Sir Herbert Maxwell, M.P., Chairman of the whilom Committee of the Privy Council on the Poison Schedule.

MISCELLANEOUS NEWS.

ivisional Secretaries and other Members of the Pharmaceutical Society are requested to assist the Editor by sending local newspapers containing items of interest to chemists and druggists.

The Warrants for Dividend on preference shares of Evans Sons Lescher and Webb, Limited, were posted on March 31.

Medicated Cigarettes.—At Cullompton, on Saturday, Isaac de Costa, of Bow, London, was committed for trial on charges of fraud in connection with the sale of "medicated" cigarettes.

Radium Investigation.—The Worshipful Company of Goldsmiths has recently placed the sum of £1,000 at the disposal of "one of the leading learned societies" for the purpose of aiding investigations on the properties of radium and the phenomenon of radio-activity.

Agriculturists and the Metric System.—By a large majority the Council of the Central and Associated Chambers of Agriculture on Tuesday declined to approve the Weights and Measures (Metric System) Bill, and carried an amendment in favour of a decimal system.

Dangers of a "Corn Cure."—Through using an alleged corn cure, the Rev. C. J. Parker, vicar of St. James's, Clerkenwell Green, is reported to have lost his toe. He is now in the Royal Free Hospital, Gray's Inn Road, and it is feared that he may lose the foot.

Wine Licence Granted.—At the annual meeting of the Gloucestershire County Licensing Committee on Saturday, the wine licence granted to Mr. Frank Moss, chemist and druggist, of Kingswood, Bristol, was confirmed on the undertaking that none but medicated wines would be sold.

Another Doctor's Shop for Linlithgow County.—Dr. Alexander Kelso is opening a handsome new shop in Broxburn, N.B. It is being fitted by an Edinburgh firm of shop-fitters in elaborate style; also the latest style of York Glass Company's recessed labelled bottles and pots are being put in.

Derby and District Chemists' Association.—A meeting of this Association was held at the Derwent Hotel on the 22nd ult., only a few members attending. P.A.T.A. affairs and the arranging of a deputation to attend on the local M.P.'s with respect to the forthcoming Pharmacy Bills constituted all the business of importance.

The Trouble at Cardiff Dispensary.—The Cardiff Board of Guardians, at a recent meeting, had before them the result of the recent Local Government Board inquiry into the conduct of their outdoor dispenser, Mr. W. B. Taylor, in a letter from the Board sanctioning that official's dismissal. The Guardians accordingly resolved to dismiss him. It is understood that Mr. Taylor has notified the Local Government Board that he will take legal proceedings to vindicate his character.

Chemists' Wills.—The will of the late Mr. William Ward, chemist and druggist, of Kenwood Park Road, Sheffield, has been proved at £3,948 18s. 8d. gross, the net personalty being £3,862 6s.—Sir Edward Matthew Hodgson, of St. Kevins, Upper Rathmines, Dublin, and of Messrs. McMaster, Hodgson, and Co., of 121 and 122, Chapel Street, and Henrietta Place, Dublin, and Ashtown, Phœnix Park, wholesale druggists and oil merchants, who died on January 11 last, left estate of the net value of £13,860 8s. 7d.

City of London Analyst's Report.—The Medical Officer of Health to the City of London reports that during the four weeks ended March 12, 1904, four samples of cream of tartar were analysed. Three of these contained lead, to the extent of 1·75, 2·03, and 0·84 grains per pound respectively. Dr. Collingridge recommends that the certificates relating to two of those samples be referred to the solicitor to take such action as he considers necessary. Various samples of lard, mustard, and olive oil were found to be of genuine composition.

Laudanum Drinking.—A charge against a girl (24) at Bradford City Police Court of stealing a lady's watch, a diamond ring, and £3 15s. in cash elicited evidence to the effect that she had been in the habit of taking laudanum for seven years, and that as many as thirty-two bottles of the drug had been purchased by her in the course of a fortnight—some shilling bottles and some sixpenny. The girl was also addicted to tobacco smoking, and it is believed she stole the articles in question in order to get more laudanum and tobacco.

Irish Chemists' Assistants' and Apprentices' Association.—At Dublin, on Monday last, the closing general meeting of the past session was held at 73, Harcourt Street, the President, Mr. Edgar B. Aplin, in the chair. The Secretary's report and Treasurer's statement of accounts were submitted. The former showed a steady increase of membership and the latter a substantial credit balance. The sum of £4 was cleared out of the recent smoking concert, and when some outstanding subscriptions were collected the reserve fund would be greatly augmented. The reports were adopted.

Shop-lifting at Bournemouth.—At Bournemouth, last week, a fashionably-dressed woman was charged with stealing a bottle of eau de Cologne, value 6s., the property of Mr. G. F. R. Pars, chemist, Bournemouth, and further with stealing a perfume spray, valued at 4s. 9d., the property of Mr. Robert Robinson. The prisoner first visited Mr. Robinson's shop, and her suspicious behaviour there induced him to follow her out, and he saw her enter the shop of his neighbour and take the bottle of scent from the counter. She was subsequently arrested at the Grosvenor Hotel, when she admitted taking the scent, and the spray was found upon her when she was searched at the police-station.—She was fined 20s. in each case.

Dispensing by Doctors.—The *Daily Chronicle* has reopened this controversy by publishing an interview with a medical man. The practitioner spoke as follows:—"When patients pay for advice alone, they will attach more importance to it, and will, perhaps, obey the doctor's directions about treatment, where they are now content with swallowing his drugs. In Margate no dispensing has been done by doctors for about fifteen years. The local practitioners agreed to try the experiment, and it has succeeded." The doctor also stated that patients who have the prescriptions may continue taking medicine when it is no longer required. Another danger arose from the ignorant benevolence of patients, who, when they receive benefit from a certain course of treatment, are often only too ready to hand over a copy of the prescription to their friends. All these objections have already been discussed in the columns of the *Pharmaceutical Journal.*

Chemists' Assistant Awarded £1,500 Damages.—In the Court of Sessions on Tuesday, March 29, the Lord President and a jury tried an action in which George Priestley, 8, Glenview, Paisley, sued the Glasgow and South-Western Railway

Company for £3,000 damages for injuries received on July 27, 1903, in the St. Enoch Station collision. The pursuer, who is twenty-nine years of age, was for a considerable time prior to the date of the accident employed as an assistant to a chemist in Glasgow, and travelled daily between Paisley and Glasgow. On Monday morning, July 27, 1903, he left Paisley about 7.45. He occupied the third carriage from the engine. The train was driven into the platform at an excessive speed, and dashed into the buffers at the end of the platform, with the result that sixteen persons were killed and several others severely injured. The pursuer suffered severe injuries, and the jury awarded him £1,500 damages and expenses.

Charge of Drugging Children.—George Hallam (55), a draughtsman, of 30, Camberwell Grove, was charged at Lambeth Police Court on March 28 with administering to Henry Hallam and Edith Hallam a noxious thing, with intent to endanger their lives. Detective-inspector Badcock gave evidence as to arresting the prisoner, to whom he said: "It has come to my knowledge that you caused chloroform to be purchased, and that you took your children to an empty flat, where they were partly insensible for two nights and a day, and that their symptoms afterwards were those of persons recovering from the effects of chloroform or some similar drug. A bottle of chloroform which had previously been seen in your possession was afterwards found at the flat."—Prisoner replied: "Since you know so much I will tell you my wife is at the bottom of this. I have had a lot of trouble with her. I totally deny having done anything to the children."—The accused was remanded in order that the Treasury might be communicated with.

Early Closing.—A deputation, organised by the Early Closing Association, on Tuesday waited upon Mr. Cochrane, Under-Secretary of State for Home Affairs, at the Home Office for the purpose of appealing for assistance in passing the Shops (Early Closing) Bill, or in securing the introduction of a similar measure as mentioned in his Majesty's Speech at the opening of Parliament. Representatives of the shopkeeping interest and of religious, medical, and other bodies attended from all parts of the United Kingdom. Mr. Cochrane said he gathered from the speeches that there was practically unanimity in favour of legislation on somewhat similar lines to the Bill which they were all familiar with as Lord Avebury's Bill. What they aimed at, as it appeared to him, was the early closing of shops, and by this means they hoped that automatically the hours of shop assistants would be shortened. They recognised, however, the difficulties there were in placing restrictions upon the hours of adult labour. Such restrictions had never been successful, even in the case of miners who were employed below ground. Deputations on the same subject were subsequently received by Mr. Cochrane from the National Amalgamated Union of Shop Assistants and the National Association of Grocers' Assistants. It was pointed out that voluntary effort had proved a failure, and it was therefore urged that the hours of closing should be fixed by statute. In each instance Mr. Cochrane assured the deputation that their representations would be carefully considered.

SCHOOL AND COLLEGE NEWS.

Central School of Pharmacy.—On Thursday, March 24, a party of students from the above school visited Woolwich Arsenal, where they were permitted, by the courtesy of the Chief Inspector of Ordnance, to view the various operations of steel manufacture. A charge was finished off in a Bessemer converter and run into moulds in the presence of the students, and the different parts of the blast furnaces and the apparatus in the foundry were explained. Visits were also made to the machine shops, bullet and cartridge-making departments, and great interest was evoked in the workshops where the 12-inch guns were being made.

TRADE NOTES.

"**Natural Mineral Waters: Their Properties and Uses**" is the title of a pamphlet issued by Messrs. Ingram and Royle, Limited, 26, Upper Thames Street, London, E.C. This, the eleventh, edition comprises in a condensed form every particular which is likely to be of use for all the natural mineral water in demand both here and on the Continent. It contains the analyses of the waters obtained from about 160 springs, and in a conveniently tabulated list states their properties and the medicinal uses. It is a very handy booklet for reference, and readers should apply to Messrs. Ingram and Royle, who will be pleased to forward a copy free.

Furniture Gloss and Cloth-Cleaner.—"Pasmore's Liquid Furniture Gloss" is an old-established article which will already be known to many chemists. It is sold in 3d., 6d., and 1s, bottles, and is worth the attention of readers dealing in this class of article. "Pasmore's Cloth Renovater and Cleanser" has just been introduced, and should also prove a selling line. The sole proprietors of both these articles are Messrs. Evans Gadd and Co., Limited, Fore Street, Exeter, who will be pleased to supply advertising matter and sample bottles for distribution to the public.

PRACTICAL NOTES AND FORMULÆ

Perfumed Fumigating Paper.

Make a solution of potassium nitrate, 1, in hot water, 2; pass good stout blotting-paper, cut into suitable strips, through this solution, and dry by hanging up. Then saturate in the following tincture:—Siam benzoin, 1 oz.; storax, 2 drachms; olibanum, 40 grains; mastic, 40 grains; cascarilla, 2 drachms; vanilla, 1 drachm; alcohol (90 per cent.), 8 fl. oz. Macerate for five days. After saturation, the papers should be dried by hanging up, as before.—*Spatula*, **9**, 677.

Fumigating Ribbon.

Saturate ½ inch cotton tape in a hot solution of potassium nitrate, 1 oz., in water, 12 oz. Dry by exposure to air. Then macerate in the following tincture:—Olibanum, 2 oz.; storax, 1 oz.; benzoin, 6 drachms; balsam of Peru, ½ oz.; balsam of tolu, 3 drachms; alcohol, 90 per cent., 10 oz. Macerate ten days and filter. Moisten the ribbon in the above and dry. [The addition of 2 oz. of finely powdered cascarilla bark to the above ingredients for the tincture improves the aroma of the burning tape.—Ed. *P. J.*]—*Spatula*, **7**, 677.

Lord Plymouth's Pot Pourri.

Crushed Siam benzoin, 8 oz.; orris root, 8 oz.; storax, 8 oz.; angelica root, 8 oz.; grain musk, 20 grains; Tonka beans, 4 in number; mace, ½ oz.; cloves, ½ oz.; crushed cinnamon bark, ½ oz. Mix, after the orris and angelica have been powdered, then add—English lavender oil, 1 drachm; otto of rose, 1 drachm; rosa petals, 4 oz.; lavender flowers, 4 oz. Again mix.—*Spatula*, **9**, 673.

MARKET REPORT.

General Markets.

London, Wednesday, March 30, 1904.

Business on the drug and chemical market has been very flat during the week, and things have worn a holiday appearance. There is no fluctuation of any note to record. Quinine is dull pending the bark shipments. Cod-liver Oil is again a little dearer, but very little business has been done. Japanese goods remain quiet at nominally unaltered prices. No transactions in Menthol or Camphor of any importance are reported. American Peppermint Oil has advanced since last week, but the price for H.G.H. is still below the equivalent here to the American price. The death of Mr. Thomas Whiffen at the age of 85 was announced in the City on Monday. Deceased was one of the oldest, if not the oldest, *habitué* on 'Change, where he was very deeply respected. During the last year or two, however, he had ceased to attend.

BICARBONATE OF SODA.—£7 5s. per ton, landed.

BISMUTH.—Carbonate, 8s. 1d.; Subnitrate, 7s. 4d.

BORACIC ACID.—Powder, £1 4s. 6d.

BORAX.—In powder, 14s. 6d.; crystals, 13s. 6d.

CAMPHOR—Is nominally unchanged. Although little business has been done during the week, there have been more inquiries. The quotations for English refined are:—Bells 4s., and Flowers 3s. 11d. Japanese refined is quiet and unchanged.

CARBOLIC ACID.—Crystals, 39° to 40°, 7¼d.

CASCARA SAGRADA—Is very quiet; the price for five-year-old bark is 105s., and for last season's from 80s. to 82s. 6d.

CASTOR OIL.—Belgian 1sts, £19 17s. 6d. to £20.

CITRIC ACID.—1s. per lb.

COCAINE.—11s. 9d. to 12s. 3d. per oz. for the Hydrochloride, according to quantity.

COCO-NUT OIL.—Cochin, £30 spot; Ceylon, spot, £25.

CODEINE.—The price now quoted is 8s. 4d., with further reductions for large quantities.

COD-LIVER OIL—Is again dearer. As reported last week, the fishing has not turned out so good as was anticipated. The price quoted for Norwegian non-freezing is 290s. c.i.f.

CLOVES.—Zanzibar are easier. Sales have been made at 6 27/32d. for March-May delivery.

CREAM OF TARTAR.—98 per cent. foreign powder, 87s.

ESERINE.—5s. per gramme for the sulphate and salicylate.

GAMBOGE—Is scarce on the spot, and quotations are higher in consequence.

HYPOPHOSPHITES.—Lime, 1s. 8d. to 1s. 9d., according to quantity; Soda and Potash, 2d. per lb. extra.

IODIDES.—Sodium Iodide, 11s. 10d. to 12s. 1d.; Potassium Iodide, 10s. 3d. to 10s. 9d.

LINSEED OIL.—London spot, barrels, £15 15s.

MENTHOL—Is flat. The nominal price is unchanged since last week, "Kobayashi" 18s. 6d.

MERCURIALS.—Calomel, 2s. 8d.; Corrosive Sublimate, 2s. 4d.; Red Precipitate, 2s. 11d.; White Precipitate, 2s. 11½d.; Mercuric Sulphate, 2s. 4d.

MORPHINE.—For wholesale quantities the acetate, muriate, and sulphate are 4s. 5d., for the powder, for the crystal sulphate and muriate, the quotation is 4s. 7d.

NUX VOMICA—Is dearer. The collectors on the other side are asking more money. There is nothing on the spot. Strychnine is firm.

OIL OF PEPPERMINT.—H.G.H. has advanced since last week, and the price is now 14s. 6d.; this is still lower than it can be had from the other side, the New York price being equal to 15s. 6d. For American oil, in tins, the quotation is 12s. 6d., and for Japanese dementholised 6s. 9d.

OPIUM—Is quiet and unchanged.

OXALIC ACID.—2⅝d., delivered free, London.

QUININE.—Makers' prices remain unchanged. In the second-hand market things are rather flat, the nominal price for the German Sulphate being 11¾d. to 1s. The next auctions in Amsterdam will be held on April 7.

SHELLAC—Is tending higher on the spot; the price for TN is 210s. to 213s., according to quantity.

TURPENTINE.—American spot, £2 2s. 3d.

INDIA-RUBBER.—The new form of Ceylon rubber is now a distinct feature at india-rubber sales. It is in the shape of thin circular plates about 20 Cm. in width and 10 to 15 Mm. in thickness. It fetches a higher price even than the best Para rubber, in fact, about 4d. to 6d. per lb. more. It is of a brownish colour, and so translucent that it is easy to see that it contains no impurity. According to a paper by Mr. Holloway, published in the *India-Rubber World* in March, 1903, the process of manufacture is remarkably simple. The juice of the tree is collected in small cups about 2 in. in height and diameter, fixed at the base of V-shaped incisions in the trunk; in each of these a little water is placed, to prevent spontaneous coagulation. The work commences at 6 a.m. and at 11 a.m. the juice is collected and carried to the factory, where it is strained through a fine metal sieve, then poured into shallow white enamelled iron basins about 55 Mm. deep and 20 Cm. wide, and left until the next morning. The liquid has by that time coagulated, the plate of caoutchouc is removed from the dish to a table, where it is gently pressed with the hand to remove moisture, and then rolled with a wooden rolling-pin. The plate of india-rubber, now about ⅜th of an inch (15 Mm.) thick, is laid upon bamboo wicker-work to dry for four or five days, and finally hung on iron wire, in a room where a man is employed to remove all traces of mildew that appear on the surface of the rubber. In about two months the discs of rubber are perfectly dry, and are then packed in cases holding about 50 lb. (22 kilo.). The total export for Ceylon in the first half of the year 1903 was estimated at about 22½ tons. Its high price is due to the fact that it is perfectly free from impurities and to its translucency permitting of easy proof of this fact. It is prepared from the same species as Para rubber, *Hevea Brasiliensis*, which is largely cultivated in Ceylon. The chief difference between the two rubbers probably consists in the fact that much albuminous matter, which is retained in the Para rubber and prevented from decomposition by the antiseptic smoke in which it is dried, is not present in the Ceylon rubber, being almost entirely squeezed out in the preliminary process or left behind in the mother liquor. The plants were introduced into Ceylon and the Straits Settlements in 1876, and it is calculated that there are now 11,630 acres of the trees in Ceylon, containing about one million trees yielding rubber, three million less than two years old, and in the Straits Settlements about one and a-half million trees. At five years old a tree yields only ¼ lb. of dry rubber, at six years ½ lb., at seven years ⅞ lb., at eight years 1 lb., at nine years 1½ lb., at ten years 2 lb., or sometimes more; at ten years the trees are about 65 ft. high and 4½ ft. in circumference. In the Straits Settlements a method of quick coagulation by the use of a little acetic acid has been tried, coagulation taking place in about an hour. The plates are then squeezed in a press, and finally smoked to preserve them. But it seems probable that traces of acetic acid might be prejudicial to the use of rubber for certain purposes, and the Ceylon rubber will probably have a wider sale, since it is free from all chemicals.

LETTERS TO THE EDITOR.

All Communications for the *Pharmaceutical Journal* must be addressed to the Editor, 17, Bloomsbury Square, London, W.C., and, if intended for publication in the current week's issue, should reach the Office not later than Wednesday, unless specially arranged for in advance. The matter should be written clearly and concisely on one side of the paper only and must be authenticated by the names and addresses of the writers, as no notice can be taken of anonymous letters. Articles submitted for the Editor's approval should be accompanied by stamped addressed envelopes, otherwise no guarantee can be given that they will be returned if not found suitable. Reprints of articles cannot be supplied unless the authors communicate with the Editor before publication. The right to reproduce all original matter and illustrations published in the Journal is strictly reserved.

The 'P.J.F.' and the Stamp Acts.

I have duly received the 'P.J.F.,' and am of opinion that compliments have been paid *ad redundantiam.* I will, therefore, address myself to other matters. Recognising all the labour and ability required for getting up and getting out such a volume, I yet deprecate its very *raison d'être.* Roughly speaking, the Medicine Stamp Duty Act, or whatever else it is called, has been in operation a century. For more than fifty-two years of that period I have had personal experience of its operation. If the public have used a footpath across a field for twenty years without hindrance they have acquired a right to use it. For several score years antibilious pills, *et hoc genus omne,* have been sold in penny boxes by the thousand without demur. I question whether the great providences who direct pharmaceutical affairs really know to what an extent this particular kind of business is carried on. A change should be made, if at all, by an amending Act, debated *coram populo* by the representatives of the people. Its conditions should be simple and intelligible "to the unwary," demanding that articles liable to stamp duty should be medicines for which secrecy of composition and monopoly of manufacture are claimed.

It is absurd that a humble purchaser of a penny box of pills, or of two or three different kinds, should be taxed 150 per cent. if he wants them labelled in such a way as to distinguish them, or that he should escape such liability by cumbrous reference to a particular book in which the composition is made "known"—not to the public, in whose name and by whose authority Parliament makes laws, but to every cutting competitor in the trade. If, however, this method of reference is the best, would it not have been better to have published a tenth, or twentieth, part of the formulæ contained in the 'P.J.F.,' types of all? The insignificant difference between many of them is of no importance whatever. Any maker, wedded to his own exact proportions, would have the alternative of stamping and selling at 7½d. or 1s. 1½d. I confess that I have lacked both time and inclination to examine the formulæ minutely. I take, for illustration, the very simplest, such as children's powders, containing not more than three ingredients. What matters it whether the proportion of sugar (cane or milk) to calomel is that of 2 or 3 to 1? The strength would be adjusted by the weight of the powder. But, admitting the desirability of the several proportions, why publish the same proportion over and over again? [Because time did not permit all the duplicates to be weeded out.—Ed. *P.J.*]

I anticipate one result from the 'P.J.F.' We shall be asked for, say, pills, "Form. 10,001," and shall say that we have not that particular number, but we have "Form. 10,002," alike in all essentials, and we shall be set down as substitutors; or we shall offer to prepare a fair number from the desired formula, but they may not be finished in the right manner, varnished where they have previously been coated, or coated white where they were pink before; or they will lack some accidental characteristic by which common people judge, and be rejected with a leer that says inaudibly, but clearly, "you are a fool or a rogue."

Ryde, March 28, 1904. Henry H. Pollard.

The Council Election.

Re the Council election and Mr. Sargeant's candidature, I do not see that it is any more dangerous to have a school proprietor in the Council than it is to have labour, agriculture, liquor, or any other interest represented in Parliament, or multishop proprietors in the Council, who might influence legislation which would touch themselves. On the contrary, one would think that a representative in touch with the younger generation, as a school teacher must be, would be better able to reflect the ideas of a great number of those who must become the Society of the future—in short, be up to date.

Batley, March 29, 1904. H. Mortimer.

I was sorry to see the tone of discord introduced into the forthcoming election by Mr. Branson in your last week's issue regarding Mr. Pilkington Sargeant's candidature. It is particularly regrettable, considering that Mr. Sargeant is being supported by the Leeds Chemists' Association, of which Mr. Branson is, I believe, a member, and I venture to think that Mr. Branson's opinions are not in accordance with the vast majority of Leeds chemists. Why should the proprietor of a school of pharmacy be less qualified to serve on the Council any more than, say, a director of company pharmacy, a retired chemist, or even an ex-editor, be it on either educational or trade reform matters? In my opinion, Mr. Sargeant possesses most of the qualities necessary in a desirable candidate for pharmaceutical politics, as a glance at his address will prove even to the most sceptical of critics; and I have sufficient faith in his ability to know that whatever subject should be under discussion (should he be returned) it will receive every consideration at his hands in an impartial, unbiassed, and honourable manner, and regardless of his calling. After all, I suppose Mr. Sargeant is a qualified chemist, and, surmising he has paid the current year's subscription, what reasonable objection can be made to his nomination? Mr. Sargeant has already done a great amount of work in connection with our associations in the West Riding of Yorkshire, and is highly esteemed and respected by all whose good fortune it is to be acquainted with him. He takes a keen interest in all matters relating to the welfare of the pharmacist, and knows all that is necessary from a provincial chemist's standpoint. In short, he is an ideal representative of the masses in the pharmaceutical world, and I have no hesitation in saying that, should he have the good fortune to be elected to a seat on the Council, he will perform his duties with honour to himself and credit to the Society of which he is a most worthy member.

Ossett, March 29, 1904. S. Norman Pickard.

Further Opinions on the 'P.J. Formulary.'

It is the best value for money I ever received.

Whitehaven, March 17, 1904. F. B. Bennett.

It is a most valuable and useful book.

Hampstead, N.W., March 21, 1904. Edward Young.

It will be extremely useful to chemists.

Elland, March 19, 1904. W. E. Smithies.

I like the book very much. Just the thing a chemist wants.
186, Mare Street, N.E., March, 1904. W. Sharman.

The book is capital, and already has been of the greatest service to me. I like the sensible, uniform way of putting the various preparations under the full English official name.
Formby, March 21, 1904. J. T. Woods.

I am very pleased with the appearance of the 'P.J.F.,' and I think it should be in the hands of every chemist, who will be amply repaid for his outlay in so wonderful a production.
Birmingham, March 21, 1904. Edward B. Place.

It should be of eminent use to the up-to-date pharmacist.
J. H. B. Wigginton.
Kennington Cross, S.E., March 21, 1904.

It is a very useful addition. The information contained therein will, I am sure, be valuable to every subscriber, and I shall certainly recommend it.
Barbourne, Worcester, March 21, 1904. J. Hughes.

To have compiled a volume of such dimensions in the short time at your disposal you have created a monument to your industry.
New Barnet, Herts, March 21, 1904. F. D. Coghlan.

I cannot add to but must endorse in full every favourable comment made by your numerous correspondents, who are evidently as well pleased with the 'P.J.F.' as I am myself.
Hoddesdon, Herts, March 19, 1904. J. Hayllar.

I herewith enclose P.O. for 10s. 6d. for an additional copy of the 'Formulary.' I am highly delighted with the copy I have got, and shall, I have no doubt, find it a friend and companion in after years.
Glasgow, March 21, 1904. Isaac Hislop.

No chemist can afford to be without it. The information contained, in addition to the chemists' and druggists' receipts, is alone well worth the guinea.
Leytonstone, March 24, 1904. J. H. Matthews.

I have just finished going through the Formulary, and warmly congratulate all those concerned in its production. It is a book I can never tire of taking up.
George H. Jamieson.
Roslin, Midlothian, March 11, 1904.

For the price charged it is a marvellous volume.
St. Albans, March 1, 1904. R. H. Shields.

It is the finest compendium of chemists' recipes I have seen. I fail to understand how it is published for the money. After glancing through it for ten minutes I found what I had been looking for for the last two years, and now three days after arrival I have about paid for the book by the sales of the one article in question.
Birmingham, March 1, 1904. Jas. Austin.

It is a most valuable book for the retail pharmacist. Such a book of reference fills a long-felt want.
Kendal, March 7, 1904. G. N. M. Birkett.

It is a great triumph, and reflects great credit on the editor and his staff.
Ombersley, March 11, 1904. W. Ratheram.

It is the most useful work of the kind ever published. No chemist in business can afford to be without a copy.
London, N.W., March 9, 1904. W. H. Aukland.

It is a wonderful collection, and well compiled.
Bromley, March 11, 1904. S. Grisbrook.

The book is a most creditable production. In plan and arrangement it is excellent. It will be most useful for reference.
Glasgow, March 12, 1904. Alexander Boyd.

It is a splendid collection of formulæ, and I am sure it will be a great benefit to pharmacy. W. R. Barnes.
Upton Manor, Plaistow, E., March 12, 1904.

As a work of reference, etc., it is unequalled. I am ordering another copy per this post.
Cork, March 11, 1904. Michael A. Fielding.

It is a most valuable work, and I would suggest that all chemists who are not members of the Society should now show their practical appreciation by becoming such.
Birmingham, March 13, 1904. F. J. Richards.

The work, as a book of reference, will be of great service to all those who have subscribed for it, and whose anticipation of its contents will be amply satisfied.
Wigan, March 10, 1904. Richard Thomas Walker.

As a standard book of reference it will prove extremely useful. It is a huge compilation that commands admiration.
Wm. Sutcliffe.
Dudley Hill, Bradford, March 12, 1904.

It is a very valuable collection of recipes, and should be an aid to all pharmacists in business.
Edinburgh, March 14, 1904. J. L. Reid.

The work is "prodigious"!
Liverpool, March 11, 1904. John J. Smith.

It is one of the best books of reference which has ever been published for the work-a-day chemist.
P.S.—It improves on further perusal.
Chorley, March 21, 1904. H. R. Dorning.

It will prove invaluable to members of our profession. Had no idea it would be so large and comprehensive. Wonderful value. Feel greatly indebted to my fellow-chemists for their recipes, etc.
High Wycombe, March 23, 1904. Ralph P. Bristow.

A Dispensing Query.

The following mixture, when dispensed, is perfectly clear, but on standing a few days becomes mucilaginous, resembling mucilage of tragacanth.

℞ Heroini	gr. i.
Tinct. Scillæ	ʒiii.
Tinct. Strophanth.	ʒiss.
Syrup Tolutani	ʒi.
Aq. Destil. ad	℥viii.

M. ft. mist.

If kept for about a month it becomes so viscid that it is practically impossible to pour it from the bottle. Can any of your readers enlighten me as to the change that takes place?
Bournemouth, March 26, 1904. S. H. Oliver.

DEATHS.

Bennet.—On March 27, at his residence, 31, Beech Avenue, Sherwood Rise (suddenly), Andrew Russell Bennet (Principal of the Nottingham School of Pharmacy, Victoria Street). Aged 38. Although Mr. Bennet had only been settled in Nottingham a few years, he had won the respect and esteem of the chemists in the city. Purchasing the business at 179, Alfreton Road, formerly carried on by the late Mr. W. H. Parker, he there established the Nottingham School of Pharmacy, which soon became very successful. In 1901 he disposed of his retail business and devoted himself entirely to teaching and analytical work, the School of Pharmacy being then removed to more central premises in Victoria Street. As recently as March 21 he conducted the classes apparently in his usual health, but was unable to attend school on the following day; on the 25th ult. he underwent an operation for appendicitis, and appeared to be progressing favourably, but the end came suddenly on the 27th. The funeral took place on Tuesday, March 29, and was attended by many students and a deputation from the Nottingham Chemists' Association, of which Association the deceased was a member, and before which he had on several occasions read papers of scientific interest. Last year Mr. Bennet lost a son, who also fell a victim to appendicitis, and great sympathy is felt for the widow in this double bereavement.

Davy.—On March 27, Arthur Davy, Chemist and Druggist, Penge. Aged 41. Mr. Davy, who was a native of Bradford, was formerly in business at 17, Battersea Rise, and has recently been the proprietor of chemists' businesses at Penge, Sydenham, and West Croydon. Mr. Davy had suffered from valvular disease of the heart, and had been ill for over three months.

Lloyd.—On March 27, John Lloyd, Chemist and Druggist, West Croydon. During the last twenty years of his life Mr. Lloyd was associated with the firm of Messrs. Baiss Bros. and Stevenson, Limited, his duties lying for the most part among institutions and doctors. For many years he also conducted the *Therapeutic Review* issued by his firm. Earlier in life he was with Messrs. T. Morson and Son, and had also been in business on his own account as a retail chemist. Deceased was an amateur musician of some repute and a prominent Freemason. Mr. Lloyd bore a striking resemblance to "Mr. Pickwick," and his genial manner and kindly disposition made him popular wherever he went. He will be especially missed at the firm's annual gathering, on which occasions his speech was always the feature of the evening. At these functions he generally brought his good-humoured remarks to a conclusion with the words "and, gentlemen, then I went to Messrs. Baiss Brothers and Stevenson, and they took me in."

Martin.—On March 15, John Martin, Chemist and Druggist, Nantwich. Aged 68. Mr. Martin was the son of the late Mr. Richard Martin, chemist and druggist, of Nantwich, and succeeded to the business. He was for forty years actuary of the Nantwich Savings Bank. The funeral, which took place last week, was attended by many of his fellow-townsmen, by whom Mr. Martin was highly esteemed.

Parkinson.—On March 25, Thomas Parkinson, Chemist and Druggist, Driffield. Aged 70.

Tijou.—On March 4, Tom Tijou, Chemist and Druggist, Coventry, formerly of London. Aged 55.

Whiffen.—On March 28, at Cerris House, West Hill, Putney, Thomas Whiffen, Manufacturing Chemist, Battersea. Aged 84. Mr. Whiffen was head of the firm of Thomas Whiffen, of Battersea, and was also senior member of the firm of George Atkinson and Co., St. Andrew's Hill, E.C., and Southall, Middlesex, manufacturers of quinine and its salts, strychnine, emetine, nicotine, caffeine, and similar preparations. Mr. Whiffen was born in London on July 28, 1819. He married Faith, daughter of Mr. George White (formerly manager of Copper Mills Royal, Harefield), who predeceased him by thirteen years after a most devoted partnership. He showed great ability in mathematics, a talent probably inherited from his grandfather, who was a schoolmaster. Deceased was trained for a mercantile career, and joined the late Edward Herring in 1854. His leaning towards chemical investigation led him to devote all his attention to this side of the business. In 1858 the late Mr. Jacob Hulle succeeded Edward Herring, and the business was continued at Trinity Street, Southwark, until it was removed to Battersea in 1859. Jacob Hulle retired in 1868, and Mr. Whiffen, together with his second son, Mr. William George Whiffen, took control of the business. In 1873 his eldest son, Thomas Joseph Whiffen, joined them, and the business has been carried on by the father and two sons until the present date. The business of George Atkinson and Co., London and Southall, was purchased by deceased and his sons in 1887, and since then other concerns have been acquired. Details, however, have not been made public. Mr. Whiffen will be missed by a large number of friends. He was greatly beloved and respected by every member of his staff, and, indeed, by all who knew him. It is not necessary to make more than the briefest allusion here to the generous nature of the deceased gentleman, many of whose acts of kindness were known only to him and to the recipients.

THE LATE MR. THOMAS WHIFFEN.

REPLIES TO CORRESPONDENTS.

Information required by readers will be published in this column as early as possible, but the Editor cannot undertake to reply by post, even though stamped addressed envelopes accompany the queries. Replies will, in all cases, be referred to the sender's initials, and the registered number added in each instance should be quoted in any subsequent communication on the same subject. When formulæ are given without definite weights and measures, it should be understood that the solids are to be weighed and liquids measured. Plants for recognition should be addressed to the "Curator, 17, Bloomsbury Square, London, W.C.," accompanied by a stamped, directed envelope for reply. No notice can be taken of anonymous communications.

Carbolised Resin (J. L.—110/36).—Resin, in fine powder, 80 grains; phenol, 60 grains; chloroform, 40 grains,

Tests for Spirits (W. H. D.—109/30).—Refer to Blyth's 'Foods: Their Composition and Analysis,' for particulars of suitable tests.

Labels.—(J. H.—110/2).—No. 1 will not incur liability if you give the names of all the active medicinal ingredients; No. 2 is too vague.

Diarrhœa Mixture (J. B.—109/31).—A reference should be made to the 'P.J.F.' on a separate slip label, as we doubt whether the Board will be satisfied with the label as it is.

Syrup of Aniseed (W. R. F.—297/31).—Anise fruit, bruised, 30 grains; hot distilled water, 4 fl. oz.; refined sugar, 2 oz. Infuse the anise in the water for half an hour; then strain, and add the sugar.

Stain (A. W.—109/34).—Saturated aqueous solution of methylene blue, 2; half per cent. solution of eosin in 70 per cent. alcohol, 1; distilled water or glycerin, 2. This mixture will keep for about eight days.

Powders (A. F. C.—109/33).—You do not say what the Inland Revenue authorities told you, or what the "puzzle" is. But, in any case, entire drugs are not liable to stamp duty, and you may label them as you like.

Riga Balsam (J. L.—110/35).—True Riga balsam is obtained by distillation from the shoots of *Pinus cembra*, Linné, but compound tincture of benzoin is sometimes sold under that name as an application for wounds.

Books on Photographic Chemistry (B. W.—109/15).—Townsend's 'Chemistry for Photographers' (Dawbarn and Ward, Ltd., London. 1s. net). A larger book is Meldola's 'Chemistry of Photography' (Macmillan, London. 6s.).

Corn Silk (W. R. F.—297/31).—Salicylic acid, 2 oz.; green extract of belladonna, 1 oz.; rubber plaster, 7 oz. Mix, and spread on silk or adhesive plaster. In many cases the extract of belladonna is replaced by extract of Indian hemp.

'P.J.F.' Corrections (E. B.—109/36).—A list of corrections and additions, complete up to date, is in course of preparation and will be published shortly. Meanwhile, we shall be glad to hear from anyone who may note inaccuracies in the book.

Syrup of Lobelia (W. R. F.—297/31).—Vinegar of lobelia, 6 fl. oz.; refined sugar, 12 oz. Dissolve by the aid of gentle heat. The vinegar of lobelia is made by percolating lobelia, in No. 30 powder, 2 oz., with sufficient diluted acetic acid to produce 1 pint.

'P.J.F.' Supplement (B. J.—110/38).—It will be some little time before the supplementary pages are ready for publication, but we are arranging to notify the registered numbers of the additional recipes at once, so that there may be no undue delay in getting the labels printed.

Recipes (J. D.—298/25).—Your corrections will be included in the list now in course of preparation. The "Headache Powder" need not be registered, as it consists of an entire drug, and is therefore exempt. The name "Gregory's Powder, B.P." will meet the requirements of the Board of Inland Revenue.

Books (F. A. L.—109/14).—(1) 'The Art of Dispensing' (5s. 6d. net). (2) We know of no suitable elementary work on these two subjects. Lauder Brunton's 'Pharmacology and Therapeutics' (Macmillan, 22s. 6d.), and Mitchell Bruce's 'Materia Medica and Therapeutics' (Cassell, 7s. 6d.) are standard works.

Cough Lozenges, etc. (H. M.—110/3).—(1) If the lozenges bear the name the packages must be stamped; otherwise, no liability will be incurred if the inclosures are not labelled. (2) Yes, they will be rendered dutiable if advertised. (3) There would be no offence under the Medicine Stamp Duty Act in such a case.

'P.J.F.' and Prices (H. A.—296/43).—Your suggestion has much to commend it, but it is to be feared that the fixing of standard prices would only inform and encourage "cutters." Loyalty to the craft is not a universal attribute, and you must remember that it may not prove impossible for outsiders to obtain access to the book.

Preserving Eggs (A. F. C.—110/1).—Dilute the thick, syrupy water-glass of commerce with nine times its volume of water, and immerse the eggs completely in the liquid. After remaining for a short time, remove the eggs carefully, and allow them to dry in a current of warm air, moving them occasionally to prevent them sticking.

Syrup of Cinchona (J. L.—110/37).—Yellow cinchona bark, in moderately fine powder, 1 oz.; alcohol (30 per cent.), 10 fl. oz.; refined sugar, 10 oz.; distilled water, *q.s.* Percolate the bark with the alcohol, and then with sufficient water to produce 10 fl. oz. Distil off the alcohol, cool, filter on to the sugar, and dissolve by the aid of gentle heat.

Medicine Stamp Duty (G. W.—110/40).—There is nothing new in the information published by our contemporary, the "step in advance" to which reference is made having been taken by the Board of Inland Revenue last year, while all the particulars were published in the *P.J.* of December 5, or earlier. The further concessions suggested may prove less valuable than you think, as they would prove of much greater advantage to unqualified persons than to chemists and druggists. Too much mischief has already been caused by the efforts of trade journalists in that direction.

Liability to Duty (F. H.—110/41).—You must bear in mind that all compounded medicines may be liable to stamp duty unless specially exempted, if they are intended to be used or applied externally or internally for the prevention, cure, or relief of human ailments. It is not necessary that they should be held out or recommended as remedies in order to render them dutiable. Indeed, it is quite conceivable that preparations sold under such designations as "The Mixture," or "The Ointment" might be held to be considered liable to duty if the Inland Revenue authorities could prove that they had been made or sold as medicines for human use. The fact that no action is taken in this direction should help to satisfy you that chemists and druggists are not treated inconsiderately by the Board.

Calendar for the Week (April 3—9, 1904).

Days of		Events of the Week.	Sun	
M	W		Rises	Sets
3	**S**	**Easter Day.**	5.33	6.34
4	M	Bank Holiday.	5.31	6.35
5	Tu	Lord Lister born, 1827.	5.29	6.37
6	W	School of Pharmacy closed till April 11. Stockport Chemists' Association, Albert Hall, at 9 p.m.—Ordinary Meeting.	5.27	6.39
7	Th	☾ Last Quarter, 7.53 p.m. Great Yarmouth Pharmaceutical Association, 156, King Street, at 8 p.m. — Annual Meeting. North Staffordshire Chemists' Association, Grand Hotel, Hanley, at 3.30 p.m.—Annual Meeting and Dinner.	5.24	6.40
8	F		5.22	6.42
9	S		5.20	6.44

LETTERS, NEWSPAPERS, QUERIES, and other COMMUNICATIONS have been received from Messrs. Aspinall, Aston, Barker, Barry, Barton, Beken, Bell, Bingham, Black, Bletsoe, Bowman, Brierley, Bristow, Burton, Carpenter, Charnley, Corder, Corfe, Coulson, Curtis, Davies, Dawson, Deacon, De Peare, Dobson, Eakin, Embleton, Eynon, Fargher, Fellows, Fielding, Finnemore, Gartside, Gibson, Glasspool, Goodess, Green, Hallaway, Harris, Higgs, Hill, Holstead, Howes, Hughes, Jackson, Jones, Lennox, Martin, Matthews, Maynard, Metcalfe, Mitchell, Napier, Oliver, Palmer, Parker, Pickard, Pollard, Richardson, Ricketts, Rowland, Sanders, Shepherd, Shuttleworth, Sinclair, Smart, Stooke, Taplin, Tippetts, Todd, Townley, Vallance, Watson, Welby, Wilson, Wolstenholme, Wright, Yates.

Telegrams. "PHARMACEUTICAL JOURNAL, LONDON"
ESTABLISHED 1841
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FOR CHEMISTS AND DRUGGISTS.
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Telephones, "Editor", 3229 Gerrard: "Publishers" 370 Holborn.

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The Journal circulates widely in the United Kingdom, France, Germany, Austria, Italy, Russia, Switzerland, Canada, the United States, South America, India, Australasia, South Africa, etc. It is supplied regularly to the majority of the Chemists and Druggists in business in England, Scotland, and Wales, and to the whole of the members of the Pharmaceutical Society of Great Britain. Orders for Advertisements or for Copies of the Journal should be addressed to the Publishers, 8, Serle Street, London, W.C.

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Annual Subscription, 20s. Post Free; Single Copies, 4d. each, by Post, 4½d.

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CHANGES OF ADDRESS.

Instructions from Members of the Pharmaceutical Society, with reference to the transmission of the Journal, should be sent to the SECRETARY, 17, Bloomsbury Square, London, W.C.

The Pharmaceutical Journal Office.

Thursday, April 7, 1904.

An Article on Manchurian Drugs, which appears this week, is particularly topical.

Those About to Go into Business will find some useful hints in an article contributed to this issue of the Journal by a West-End chemist.

The Demand for Copies of the 'P. J. F.' since Easter has been larger than ever. The chemist who can afford to be without the book is to be envied.

The Public Dispensers' Association has been active, in spite of the Easter holidays. It held a successful exhibition of apparatus and druggists' sundries on Wednesday, March 30, and a smoking concert last night.

The Medicine Stamp Question has formed the subject of articles in the columns of numerous lay contemporaries. The *Daily News*, in a concise article, has briefly traced the history of the tax from the time of the American War of Independence.

Local Associations have, for the most part, been taking a holiday during the week. The Halifax and District Chemists' Association held an ordinary meeting on Tuesday night, and the North Staffordshire Association dines at Stoke to-night. The April meeting of the Council of the Pharmaceutical Society will be held on the 13th inst.

The Number of Deaths caused by poison has been rather large during the week ended to-day. Of the twenty-one cases reported, six are attributed to carbolic acid. Although there seems to be no apparent reason for such a state of affairs, it often happens that suicides are more numerous during public holidays than at ordinary times.

The Council Election Campaign can hardly be said to be in full swing as yet, but Mr. W. H. Gibson's election address has been circulated, and will be found in the advertisement columns of this week's Journal. When the holiday feeling has worn off candidates will probably set to work in real earnest. As stated last week there are thirteen aspirants for seven seats.

Vol. 72. No. 3416. (4th Series, Vol. 18. No. 1763.)

The Anti-Quackery Crusade in Germany has reached a practical stage. The new tariff, which was adopted over a year ago, will shortly be brought into operation, and a tax equivalent to about £12 10s. per cwt. will be imposed on foreign proprietary medicines. The German definition of a "secret remedy" is about as comprehensive as it is possible for a definition to be.

Friendly Negotiations are now in progress between the Council of the Pharmaceutical Society and the Privy Council, with reference to the expected Government Bill. Some few weeks may probably elapse before further information can be published with regard to the provisions of the measure, as there is no likelihood that it will be introduced until some time after Parliament reassembles.

The Death of the Hon. Sir Edmund Widdrington Byrne, which occurred on Monday night, removes one of the principal actors in the "Tabloid" action. Mr. Justice Byrne was born in 1844, was called to the bar in 1867, took silk in 1888, and was appointed a Judge in the Chancery Division of the High Court in 1897. For several years he was the Conservative representative of the Walthamstow Division of Essex in Parliament.

"In Consequence of New Regulations of the Inland Revenue we cannot give it you without a 1½d. stamp," was what a "store" assistant said to a customer who asked yesterday for two pennyworth of toothache tincture. At the branches of other limited companies "Antibilious" pills still appear to be sold as heretofore, but a 10½d. stamped bottle of a proprietary was sold to a customer who asked for sixpennyworth of cough mixture.

The Drug and Chemical Markets have been practically at a standstill during the last few days. With the exception of some transactions in quinine little business has been done since our last report appeared. Cod-liver oil still exhibits an upward tendency. Cocaine is one shilling per ounce dearer.

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THE PRIVY COUNCIL AND THE PHARMACY BILL.

The next few months may be expected with reason to be marked by political developments of the first importance to registered chemists and druggists, since members of Parliament will soon, for the first time for many years, be given the opportunity of actually speaking and voting on proposals to amend the principal Statutes which govern the conduct of a chemist's business in Great Britain. For, however often circumstances may compel the postponement of the second reading in the House of Commons of the Pharmacy Bill drafted by the Pharmaceutical Society, the Bill which the Government has decided to introduce in the Upper House is certain to receive close attention. We are in a position to state that the Privy Council has not forgotten the promise made two years ago, that the Pharmaceutical Society should be consulted when new legislation was contemplated. Negotiations, of a cordial character, are at present being conducted between the two bodies. The adoption by the Pharmaceutical Society of the regulations for the storage and sale of poisons, in January, 1899, removed what had for long been an obstacle to the establishment of sympathetic and friendly relations between the Privy Council and the Pharmaceutical Society. When Mr. R. A. Robinson, at a general meeting of the Pharmaceutical Society on January 11, 1899, proposed the adoption of the Poisons Regulations, he told the members present that, in the opinion of the Clerk of the Privy Council, the Society, in making regulations for the storage of poisons, "would be putting itself right, both with the Government and with the public." It may be taken for granted, therefore, that the proposals of the Government will, when definitely known, prove to have been framed with greater regard to the wishes of qualified chemists than at one time seemed possible.

The recent increase in the membership of the Pharmaceutical Society, which now has considerably over six thousand members, the remarkable unanimity among chemists with regard to the Society's Pharmacy Bill, and the very numerous pledges of support given by members of Parliament, are all factors which must necessarily weigh with Ministers and Government officials. It may, therefore, be assumed that the negotiations between the Privy Council and the Council of the Pharmaceutical Society will not be without a good effect; and, as has already been stated in these columns, the substance of some of the more useful provisions of the Society's Pharmacy Bill may be expected to reappear in the Government measure. But it would be futile to disguise two facts. One is that the Agricultural Society which suggested the Committee on Poisons has not neglected to take advantage of the Majority Report, despite the emphatic condemnation which that report received. As a probable result, some revision of the law as it affects the sale of "agricultural poisons" in remote country districts is likely to be attempted, although it is by no means certain, and perhaps by no means probable, that the recommendations of the Departmental Committee will be followed in their entirety. The second fact is that many members of Parliament derive pecuniary advantage from the sale of poisons by limited companies entirely controlled by unqualified persons. In spite of that, however, there is no doubt that the Privy Council recognises the dangers arising from the limited drug company which consists to all intents of one unqualified owner and manager. Further, everyone who is conversant with the history of cases taken under the Pharmacy Act is familiar with the difficulty experienced in making the employer, whether he remains an "individual" or turns himself into a "limited company," responsible for illegalities which he encourages in his servants.

There is a danger, to which attention has already been directed in these columns, lest chemists, in attempting to educate their Parliamentary representatives, should, in their laudable anxiety to explain Clause 7, neglect to emphasise the value, from a public as well as from a professional standpoint, of the other provisions of the Pharmacy Bill. The text of the measure has been printed in the Journal (see p. 278, *antea*), and we particularly commend to our readers as worthy of the close attention of legislators Clauses 2, 4, 6, 10, and 11. With those clauses in mind, it cannot truthfully be said by any of those members of Parliament whose profits are restricted by the operations of the Pharmacy Act, 1868, that the Pharmaceutical Society's object is to create a monopoly for its members, without regard to the safety of the public. The five clauses referred to have rarely been discussed, and perhaps little thought of, outside the confines of Bloomsbury Square and Whitehall respectively. None the less, the incorporation of those clauses in a Government measure would be a proceeding of sufficient importance to call for the careful consideration and cordial support of all registered chemists and druggists.

GERMAN TARIFFS ON IMPORTED MEDICINES.

During the last few years the feeling in Germany against the sale of proprietary medicines has been growing. And readers will probably remember that new regulations concerning the trade in these articles were adopted over a year ago. These new conditions have not, however, as yet been enforced, but it is now announced that the tariff will very shortly come into operation. This new tax is of particular interest, coming as it does at about the same time as the change in practice with regard to the administration of the Medicine Stamp Duty Acts in our own country. This coincidence is, however, about the only point the two taxes have in common. By the German tariff a duty of 500 marks per double "centner," or about £12 10s. per cwt., will be imposed on imported proprietary medicines. It will thus be seen that the tax works out at about 1s. 1½d. on an eight-ounce bottle, which certainly ought to be enough to kill the sale of bulky proprietaries entirely. On the other hand, such preparations as pills, and other articles which do not weigh heavy, will escape with a comparatively small tax; this being the principal fault of the system of taxing by weight instead of by value.

The time that has intervened between the adoption and the enforcement of the regulations has been employed in drawing up a guide for the use of the Custom House officials, and perhaps the most interesting feature of this guide is the definition of what is meant by "secret remedies." Hitherto pharmacists have been opposed to the plans of the Customs authorities chiefly on account of the vagueness of the term "secret remedy"; but opposition on this ground is no longer logical, for the definition is about as comprehensive as human foresight, anticipating the proverbial coach and four, could devise. Secret remedies comprehend prepared medicines or other prepared pharmaceutical products which are intended for the prevention or cure of human or animal ailments. To make the meaning clearer the following classes of preparations are enumerated as forms of secret remedies liable to the duty:—

Decoctions and infusions, extracts in solid or liquid form, dry mixtures of salts, lotions, fluid mixtures and solutions (including honey preparations and syrups), filled capsules, electuaries, liniments, pastilles, tablets, pills and granules, plasters and salves, suppositories, etc.

It is not sufficient that the composition of a medicine be known to the distributor: the recipe must also be known to the consumer. Moreover, it appears that even if the recipe is published the medicine is still dutiable if it is recommended with absurd or deceptive statements with regard to its curative properties. If the consumers are erroneously caused to believe the remedy to be highly efficacious or to possess mysterious powers it is also liable. In addition to these the ninety-five articles specifically mentioned in the regulations issued by the Federal Council in August, 1903, are also subject to the heavy tax of £12 10s. per cwt. In this list of ninety-five articles a number of British medicines are included.

The first public meeting of a newly-formed society for the repression of quackery was held on March 8 of last year. And while the tariff can hardly be attributed to the "Anti-Quackery Society" (for the tariff has been under consideration for a number of years), the determination to enforce the new regulations at an early date has doubtless been hastened by the representations of this Society.

EDUCATING PUBLIC OPINION.

An anonymous writer, in his anxiety to serve the interests of the drug-store proprietors, recently succeeded in obtaining publicity in the *North Mail* for a more than usually gross series of aspersions on the objects of the Pharmaceutical Society as shown by the Pharmacy Bill. The letter has been answered by two communications, from Mr. E. R. Cherrett, of Monkwearmouth, and the Secretary of the Pharmaceutical Society, respectively. Mr. Bremridge, in his letter, has pointed out that the controversy over Clause 7 of the Bill "turns on the point whether companies shall continue to be beyond the law which applies to individuals, and it is only natural that those large concerns which have fattened for years upon a stolen professional title should endeavour to confuse the issue by talking loudly and hysterically about '11½d. in the 1s. profit' and medicines being now within the reach of all." The Secretary's letter concludes with the statement that the majority of the Northern M.P.'s support the principles of the Pharmacy Bill as being desirable in the public interest. Incorrect references to pharmaceutical politics in the lay Press may usually be made the text of a reply, in the course of which public opinion may be educated as to the true nature of the aims and ambitions of the Pharmaceutical Society.

THE MEDICAL AND DENTAL REGISTERS.

The year 1903 saw 1,344 names added to the Register of qualified medical practitioners, this number being about 70 less than the average for the past five years. The removals from the Register, from death and other causes, numbered 698, as compared with 1,051 in 1902. The total number on the Register on December 31, 1903, was 37,878, an increase during the year of 646, and a higher number than there has ever been in the past. The number of registered dentists is now 4,676. Of these, 2,227, or 47·63 per cent., are Licentiates in Dental Surgery of one of the colleges in the United Kingdom; 2,422, or 51·80 per cent., were registered on their own declaration as being in practice before the Act, and the remainder hold recognised colonial or foreign diplomas.

MEDICINE STAMP DUTY.

In reply to several inquiries which have been received respecting an announcement with regard to medicine stamp duty, contained in an advertisement which appeared in last week's issue of the *Pharmaceutical Journal*, it appears desirable to state that no further concession or extension of time has been granted by the Board of Inland Revenue. We are informed by the authorities at Somerset House that medicines which are held to be dutiable must now bear a stamp when retailed, even though they may have been purchased from a wholesale or manufacturing house before the expiration of the period of grace allowed by the Board.

SIGHT-TESTING BY OPTICIANS.

The decision of the Worshipful Company of Spectacle-Makers to "institute a diploma in the art of sight-testing" has already been referred to in the *Pharmaceutical Journal*, and it has been mentioned that the principal journals of the medical profession regard the new departure with much disfavour and distrust. During the past week the same subject has received attention in the lay Press. The *Times* is among the newspapers which have dealt with the matter. According to that organ, "It is well known that spectacles are required for reading, or other near vision, by the great majority of persons of fifty or thereabouts; and long experience has so far established the fact that this requirement can frequently be supplied by the tradesman. Everything beyond this that is known with regard to the uses of spectacles has been established by purely medical investigation within the last forty years; and so-called opticians who attempt to apply the newly-acquired knowledge without possessing the foundations on which it rests will be likely to find their paths beset with many snares which they will be unable to recognise or to avoid. A diploma which will allow persons ignorant of essential matters connected with sight to pose as the possessors of complete knowledge will not only be extremely dangerous to the public, who are likely to be misled by it, but can hardly fail to react injuriously upon the very sciolists by whom it will be put forward as a credential. It would not be unreasonable to require that the power to issue diplomas of any sort should be subject to the control of some responsible body in the State, and should not be exercised at their own discretion by trade companies, even after they have been approached in the manner indicated. Everyone would desire that manufacturers and dealers in optical appliances should understand as much about them as possible; but it is not for the public advantage that knowledge of one element of a complicated subject should be passed off as knowledge of the whole." The whole question turns on a point precisely similar to that which arises when a pharmacist sells cough lozenges. Most pharmacists know from experience that there are members of the general public who never will be persuaded to call in the aid of a medical man when their sight begins to fail, just as they never will ask him to write a prescription for cough lozenges. In the great majority of cases they suffer no harm, and probably receive some good, from the spectacles of the "optologist" and the cough lozenges of the pharmacist. And although it cannot be disputed that, by neglecting to have recourse to the advice of an oculist or a physician respectively, the public may incur the risk that their failing eyesight or their tickling in the throat proceeds from a diseased condition that only a medical man can treat, it would seem that the only effect of severe restrictions on so-called "counter-prescribing" will be to increase the much more dangerous practices of "sight-testing at home" and "self-prescribing."

BRITISH PHARMACEUTICAL CONFERENCE.

We are asked by Mr. H. Antcliffe to state that the Sheffield meeting of the British Pharmaceutical Conference will open on Monday, August 8, and not on the date incorrectly given in last week's issue, at page 465.

ABSTRACTS—SCIENTIFIC AND TECHNICAL

A REVIEW OF CURRENT WORK IN PHARMACOPEDICS AND ALLIED SCIENCES

Characters of Fixed Oil of Melia Azedarach.

J. Lewkowitsch gives the following characters for the oil of the Indian "neem" tree, known as "margosa oil," "veepa oil," "veppam fat," and "neem oil";—Sp. g. at 40°/40° 0·9023; at 15 15°, 0·9142; saponification value, 196·9; iodine value, 69·6; Reichert-Meissl value, 1·1; refraction by butyro-refractometer, 52°; titer test of fatty acids, 42·0° C. The oil is solid at ordinary temperatures.—*Analyst*, **27**, 343.

Pharmacy of Anthrasol.

Anthrasol is soluble in all proportions in fatty oils, liquid paraffin, vasogen, acetone and absolute alcohol; to the extent of 5-10 per cent. in alcohol, 90 per cent. The following are some pharmaceutical preparations:—*Anthrasol Spirit.*—Anthrasol, 2 to 10; absolute alcohol, 30. *Anthrasol Ointment.*—Anthrasol, 2 to 10; vaseline, 30; lanoline, 30. *Anthrasol Paste.*—Anthrasol, 5; vaseline, 5; zinc-oxide, 10; wheat starch, 10. *Anthrasol Glycerin Paste.*—Anthrasol, 5 to 10; precipitated sulphur, 10; soft soap, 2 to 10; vaseline or zinc paste to make 40; prepared chalk, 10.—*Pharm. Centralh.*, **44**, 301.

Characters of Fixed Oil of Pongamia Glabra.

J. Lewkowitsch has examined the ether-extracted fixed oil of the seeds of *Pongamia glabra* and compared it with the native pressed product. The oil is known in India as "kanoo-gamanoo," "kanoogoo," "kanuga-karra," "kanuga-chettu," "korung oil," "kagoo oil"; and in Mysore, "honge oil." It is used as an illuminant and for medicinal purposes. The ether-extracted oil had the following characters:—Sp. g. at 40°/40° C., 0·9352; saponification value, 178; iodine value, 94; unsaponifiable matter, 9·22 per cent. Melting-point of saponifiable fatty acids, 44·4° C. Refraction by butyro-refractometer, 78·0°. Free fatty acids (as oleic acid), 3·05 per cent. The native pressed oil had the sp. g. 40°/40°, 0·9240; 15°/15°, 0·9369; saponification value, 183·1; iodine value, 89·4; Reichert-Meissl value, 1·1; refraction by butyro-refractometer, 70°; free fatty acids as oleic acid, 0·5 per cent. As the oil is obtainable in large quantities it might find technical application in soap and candle manufacture.—*Analyst*, **27**, 342.

Emission of N-rays by Plants in the Dark.

E. Meyer finds that plants maintained from four to six days in a box, placed in a dark room, emit N-rays from their roots, leaves, and flowers. Sprouting onions, kept in the dark for twenty days, excited the phosphorescent screen almost as much as those grown during the same period in daylight. The slight difference, if any, might be attributed to the more active growth of the latter. Seeds sown in a hermetically-sealed cardboard box, kept in the dark, gave out N-rays as powerful as the same sown and grown in daylight, although the young plants of the former were etiolated. To eliminate the possibility of the interference of N-rays derived from exterior sources, or stored up, a sowing was made in a lead box, 4 Mm. thick, which was covered with the same metal, and enveloped in paper which was kept wetted. A second sowing was made on moistened cotton wool, in a glass-stoppered vessel, which was then plunged beneath the surface of water. The latter seeds, therefore, germinated in full light, but protected from exterior N-rays. Both germinations, the one etiolated, the other green, excited the phosphorescence of the screen.—*Compt. rend.*, **138**, 272.

Characters of Ben Oil.

According to J. Lewkowitsch the characters usually given for "ben oil" do not accord with those afforded by an authentic specimen of the true oil, furnished by the Director of the Imperial Institute, derived from *Moringa pterygosperma*, from Jamaica. The chief interest lies in its very low iodine value; this explains why the oil is specially valuable for lubricating watch springs and other delicate machinery. Sp. g. 15°/15° 0·9126; iodine value, 72·2; iodine value of fatty acids, 97·53; refraction by butyro-refractometer, 50°.—*Analyst*, **27**, 343.

Action of Carbon on Quicklime at the Melting-Point of Platinum

H. Moissan finds that at the fusing-point of platinum it is not possible to obtain calcium carbide by the reduction of lime with charcoal. Mixtures of lime and sugar charcoal, in suitable proportions, were heated together in quartz tubes in the flame of a coal-gas-oxygen blow-pipe, in an atmosphere of hydrogen; although platinum was melted in this apparatus in five minutes, an intimate mixture of charcoal and lime, exposed to the same temperature for ten minutes, gave no indication of the formation of even a trace of calcium carbide; the mixture, when cold, giving no acetylene when treated with water. In the course of the experiments it was observed that silica has a vapour tension below its temperature of softening. Crystals of calcium silicate were observed to form on the surface of the lime at a temperature about 1,200° C. before the containing quartz tube became softened. This notable vapour tension of silica, below its melting-point, will, unfortunately, limit the usefulness of quartz tubes in experiments at high temperatures. Calcium carbide in the crystalline state, was found to have a higher melting-point than platinum; exposed to this temperature, the surfaces of the crystals were not even affected. On the other hand, platinum wire plunged into calcium carbide at the moment when it was solidifying after melting in the electric furnace, was immediately fused.—*Comp. rend*, **138**, 243.

Biochemical Synthesis of Olein and Certain Esters.

H. Pottevin has previously shown that in the presence of pancreatic ferment, oleic acid and glycerin may be combined to form glyceryl mono-oleate. He now finds that by maintaining a mixture of mono-olein and oleic acid at 36° C., in the presence of pancreatic tissue, triolein is ultimately formed, indistinguishable from natural triolein. The decrease of the free oleic acid may be observed from day to day; when this quantity becomes constant, the reaction is complete. By substituting various alcohols for mono-olein in the above experiment, the esters corresponding to triolein were obtained. Iso-amyl alcohol was found to give the best yield, 80·1 per cent. of the acid employed combined as ester in twenty-three days; in that time methylic alcohol united with 69·6 per cent. of the acid, and ethylic acid with 21·4 per cent. Stearic acid esterifies well under like conditions; iso-amyl stearate was obtained as a neutral white substance, solid at ordinary temperatures, melting at 21° C. The lower acids, acetic, butyric, and propionic, are also esterified, provided that their proportion in the alcohol does not exceed a certain limit; in the case of acetic acid, diastasic action ceases if more than 8 parts of acid are present in 100 parts of alcohol. Lactic and benzoic acids do not form esters with the pancreatic ferment, the presence of the former retards the reaction with other acids. The action depends on contact with the pancreatic tissue, and is not due to a soluble ferment; for if a portion of the acid-alcohol mixture be removed during the process, no further esterification takes place in the portion containing no pancreatic tissue, while the acid continues to diminish in the original portion. The esters obtained are saponified when again brought into contact with pancreatic tissue in the presence of water.—*Comp. rend.*, **138**, 378.

THE STRUCTURE OF COCA LEAVES.

BY HENRY GEORGE GREENISH,
Professor of Pharmaceutics to the Pharmaceutical Society of Great Britain and Director of the Pharmacy Research Laboratory.

The *Archiv der Pharmazie* for November 21 contains an interesting article by Professor Hartwich, in which the histological structure of the coca leaves of commerce, and that of some possible admixtures or substitutes is dealt with at some length; in addition, the general characters exhibited by the leaves of a number of other species of *Erythroxylum* are briefly enumerated, and thus an insight is given into the generic, as well as the specific, histological characters of the commercial drug. Some time ago I devoted my attention to the comparative anatomy of commercial coca leaves, more particularly with the view of determining whether any definite means could be found of distinguishing the Bolivian from the Truxillo leaves in the crushed or powdered state. As the conclusions I came to are not in all respects identical with those arrived at by Professor Hartwich, I may be allowed to give a brief summary of the article in the *Archiv*, and append my own hitherto unpublished results.

Professor Hartwich comes to the conclusion that Burck's species, *E. bolivianum*, must be abandoned in favour of Lamarck's *E. coca*, and thus confirms the opinion first advanced by Rusby.* He considers that commercial coca leaves are derived either from *E. coca*, Lam. (producing the variety of the drug known as Bolivian), or from *E. coca*, var. *spruceanum*, Burck (producing the variety known as Peruvian); these two varieties are easily distinguished macroscopically.

The Bolivian leaves vary considerably, both in size and shape, attaining as much as 9·5 Cm. in length, and being lanceolate, oval, ovate-acuminate, or obovate in outline. The ridge above the midrib, which was advanced by Burck as a particular feature of the Bolivian leaf, is well marked, but a ridge in this position is by no means absent from Peruvian leaves, or from the leaves of other species of *Erythroxylum*; in fact, Professor Hartwich finds only one species destitute of such a ridge. The best means of distinguishing typical Bolivian leaves microscopically from the other varieties is the presence in the spongy parenchyma of strongly thickened, but only slightly lignified, branching cells; these cells resemble the other cells of the spongy parenchyma in size and shape, differing only in the nature of the walls. Sclerenchymatous idioblasts are found in several species of *Erythroxylum*, but they differ from those of *E. coca* in being usually T-shaped, the leg of the T being inserted between the palisade cells, whilst the two arms are extended between the palisade and the epidermis.

The Peruvian leaves are much more uniform in size and shape than the Bolivian, and the ridge above the midrib is by no means so conspicuous. The structure of the meristele is in general the same as that of the Bolivian leaves, but the development of pericyclic fibres is usually less marked. The idioblasts that characterise the Bolivian leaves are not to be found in the Peruvian.

Assays made by Dr. Panchaud in the author's laboratory yielded the following amounts of total alkaloid:—

Peruvian (Truxillo)	0·75	per cent.
Bolivian (Cusco)	0·91	per cent.
Bolivian (Huanta)	0·859	per cent.
Bolivian (Ceylon)	0·83	per cent.
Bolivian (Java)	1·22	per cent.

Young leaves of *E. coca*, var. *spruceanum*, cultivated, appear to yield most total alkaloid.

In regard to admixtures and substitutions, the author found one sample of cusco leaves to contain a considerable admixture of another species of *Erythroxylum*, probably *E. pulchrum*; these are distinguishable histologically by the absence of papillæ on the under surface, by the slender stomata, and by the presence of two small supernumerary bundles above the meristele of the midrib. West Indian coca leaves, which were in commerce about fifteen years ago, are referred to an undetermined species of *Erythroxylum*, and are characterised by the presence of large rosette crystals of calcium oxalate in the mesophyll. Juna leaves, from *Dodonæa viscosa* (Sapindaceæ), which are chewed in Peru like coca leaves, are centric in structure, and bear stomata on both surfaces, as well as characteristic external glands, resembling those of labiate plants.

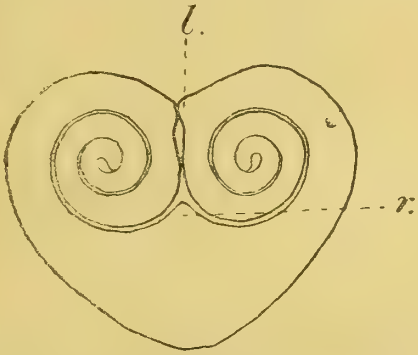

Fig. I.—Transverse Section of Leaf-bud of *E. coca*; *l*, line on under surface; *r*, ridge on upper surface.

From an examination of all the species of *Erythroxylum* in the Herbarium of the Zürich Polytechnic, Professor Hartwich deduces the following general characters of the genus:—

(1) The structure is bilateral.

(2) The midrib is prominent on the upper surface (all except *E. obtusum*).

(3) The structure of the meristele varies.

(4) Pericyclic fibres in all except *E. campestre*.

(5) Papillose lower epidermis only in *E. coca*, *ovatum*, and *subrotundum*.

(6) Stomata occur on the lower surface only and always accompanied by two subsidiary cells.

(7) Trichomes are entirely absent.

(8) Idioblasts are found in *E. coca*, *mucronatum*, *acutifolium*, *squamatum*, *citrifolium*.

In the examination of coca leaves that I undertook some time since, to which reference has already been made, I directed my attention among other things to the origin of the line on either side of the midrib. In English literature this is generally ascribed to a fold of the leaf in the leaf-bud, a very insufficient and unintelligible explanation. Nevinny, who first explained it,* says that the two halves of the leaf are inrolled, and where the inrolling surfaces meet there is a "knickung," or sharp bend; this word has been translated "fold," a term which scarcely conveys the right meaning. Tschirch and Oesterle[*] say that the lines appear to stand in some relation to the revolute vernation of the leaf.

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* *Pharm. Journ.*, **66**, 3.

* 'Das Cocablatt,' Vienna.

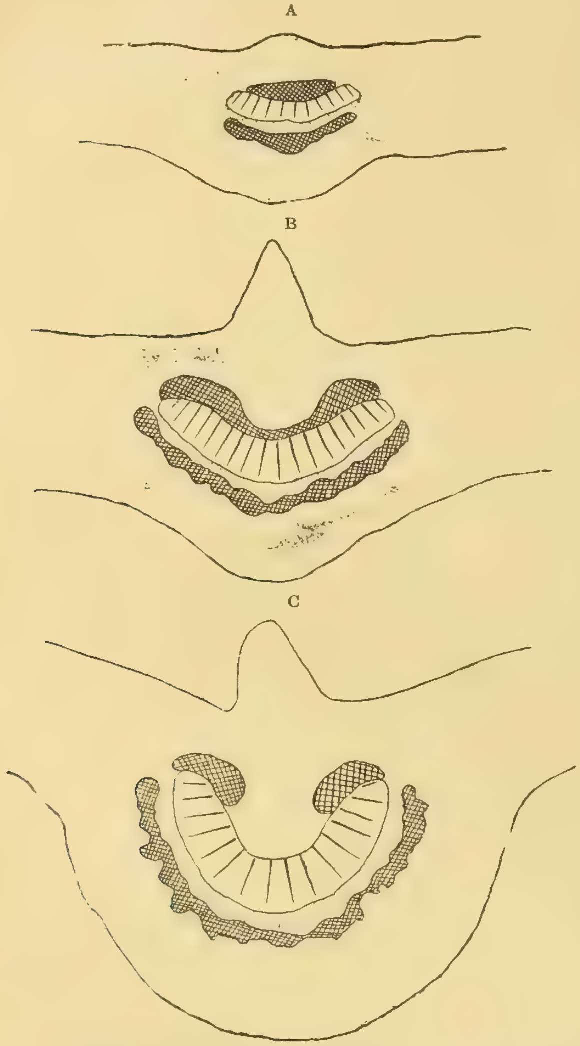

Fig. II.—Bolivian Coca; diagrammatic sections of midrib; A, near the apex; B, near the centre; C, near the base (xylem radiate, phloem dotted, pericyclic fibres crossed).

On a specimen of *E. coca* kindly sent me by Dr. Treub I found several unexpanded leaf-buds. A transverse section of one of these, a sketch of which is appended (Fig. I.), shows the correctness of Nevinny's explanation. The vernation is involute (not revolute, as stated by Tschirch and Oesterle), and just before the point where the curves of the inrolling surfaces would naturally meet, a projection is developed on either side. These meet, and remain closely applied to one another, entirely closing the leaf-bud. The cells of which these projections are formed are axially elongated, narrow, and thin-walled, and when the leaf expands they appear on the under-surface in the form of the well-known lines. In the mature leaf these cells have long and narrow cavities and thick walls, which probably subserve a mechanical function.

Being desirous of finding, if possible, some structural points of difference between the Bolivian and Truxillo leaves, I examined a number of samples, and found the remarkable sclereids described by Professor Hartwich. They did not occur in any specimen of Truxillo coca examined, but out of fourteen samples of the leaves of *E. coca* (*E. bolivianum*, Burck) of varying origin three contained numerous sclereids, six contained a few, whilst in five none could be detected. It is evident, therefore, that whilst the presence of these sclereids is peculiar to the leaves of *E. coca*, their absence cannot be construed as proof to the contrary.

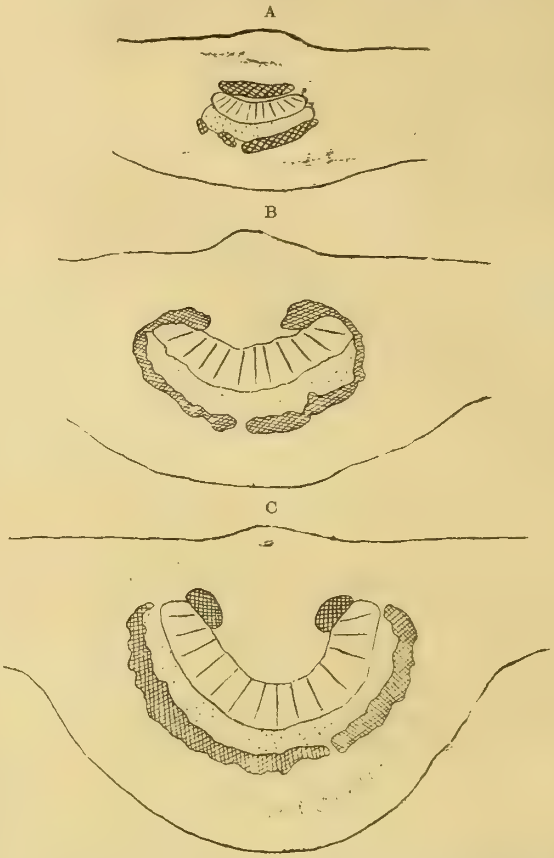

Fig. III.—Truxillo Coca; diagrammatic sections of midrib; A, near the apex; B, near the centre; C, near the base (xylem radiate, phloem dotted, pericyclic fibres crossed).

Bearing in mind the undoubted fact that these elements are purely mechanical in their function I sought for some explanation of this varying occurrence in the relative size and thickness of the leaves. Without attributing too much importance to the results, I found that, generally speaking, as the ratio of the thickness of the leaf to its length increased, the number of sclereids diminished.

Examining further the distribution of these sclereids in the leaves in which they occur, I observed that they exhibited a particular preference for the neighbourhood of the lines on the under surface of the leaf, or for that of the small veinlets, being comparatively rarely present, except when very numerous, in the interneural parenchyma. In other words, as they disappear from the leaf they leave first the interneural parenchyma, then the veinlets, and lastly the lines.

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[*] 'Anatomischer Atlas,' p.

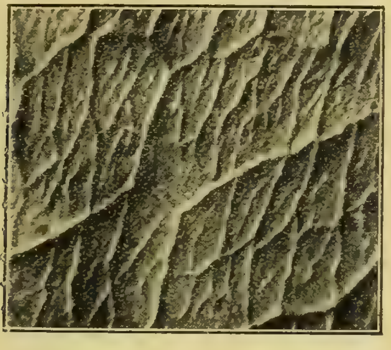

FIG. IV.—Veinlets of Bolivian Coca Leaf (magnified).

Professor Hartwich considers that in the Bolivian leaves the pericyclic fibres of the midrib are more abundant than they are in the Truxillo. I have also examined several leaves in this respect, but have found little difference (compare Figs. II. and III.).

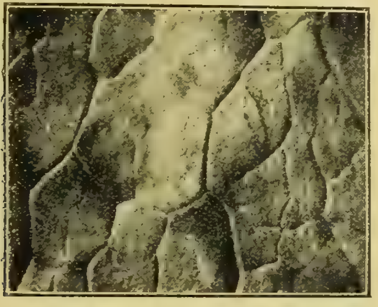

FIG. V.—Veinlets of Truxillo Coca Leaf (magnified).

The assertion has been made* that the shape of the xylem affords a means of distinguishing Bolivian from Truxillo leaves, that of the former being slightly, that of the latter strongly curved. It is, however, well known to every histologist that the curve assumed by the xylem of the midrib generally varies with the point in the leaf at which the section is taken, becoming less marked as the apex of the leaf is approached. The diagrammatic sketches (Figs. II. and III.) of sections of the midribs of typical Bolivian and Truxillo leaves show that this is the case with coca leaves, and show also that the sections do not appreciably differ, provided they are taken at the same point in the midrib. This point should be distant from the base about one-third of the length of the lamina.†

It is well known that commercial Truxillo leaves are easily distinguished, macroscopically, from the Bolivian by (amongst other things) their more broken appearance, and this is generally ascribed to a difference in thickness. In order to ascertain whether the Truxillo leaves are really thinner than the Bolivian, I measured the thickness in the interneural spaces of sections of a number of leaves. Thirteen Bolivian leaves, varying from 120 to 225μ, averaged 185μ in thickness, whilst eight Truxillo leaves averaged 171μ, varying from 144 to 225μ. In a further examination of two specimens of each variety I found that leaves of the same size had the same thickness in both varieties, but that the larger leaves in any one specimen were thicker than the smaller, and this was true for both varieties. Hence it is scarcely in the relative thickness of the leaves that one can find an explanation of the greater fragility of the Truxillo leaf.

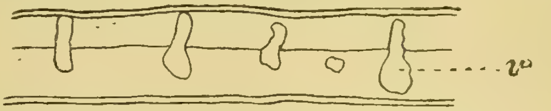

FIG. VI.—Bolivian Coca; diagrammatic section of veinlets; *v*, veinlet.

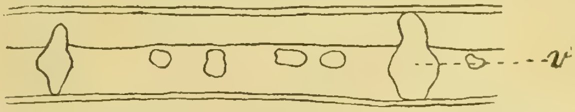

FIG. VII.—Truxillo Coca; diagrammatic section of veinlets; *v*, veinlet.

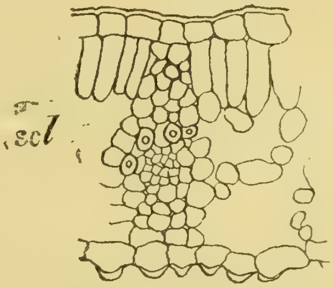

FIG. VIII.—Truxillo Coca; transverse section of veinlet; *scl*, sclerenchymatous fibres.

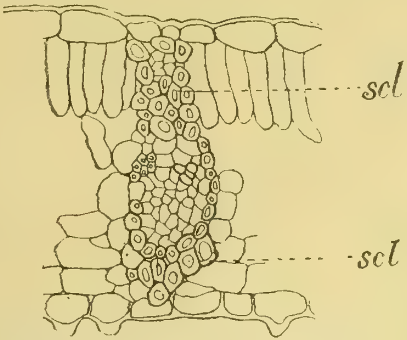

FIG. IX.—Bolivian Coca; transverse section of veinlet; *scl*, sclerenchymatous fibres.

If the upper surface of a Bolivian leaf is examined with a lens it will be observed that even the smallest veinlets are distinctly prominent—much more prominent than the corresponding veinlets in the Truxillo leaf (Figs. IV. and V.). If, now, sections made so as to cut these veinlets at right angles, best near and parallel to the margin, are examined under the microscope it will be observed that the veinlets of the Bolivian leaf are connected with both upper and lower epidermises by a bridge of thick-walled lignified fibrous cells, whilst in those of the Truxillo leaf this mechanical tissue is much less developed (Figs. VI. and VII., VIII. and IX.). This character is constant in all the leaves I have examined, and presents, I think, a means by which the Bolivian leaves may be distinguished from the Truxillo. The strength thus imparted to these veinlets furnishes a sufficient explanation of the greater resisting power of the Bolivian leaves to destructive influences, hence they are less broken than the Truxillo.

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* *Pharm. Journal*, **62**, 485.

† 'Microscopical Examination of Foods,' etc., p. 125.

It is evident, therefore, that the Bolivian leaves require more mechanical support than the Truxillo, and they obtain this—

(1) By the increased development of the line.

(2) By the increased development of pericyclic fibres in the veinlets.

(3) By the thickening and lignification of certain of the cells of the spongy parenchyma.

It is in these characters that anatomical differences between the Bolivian and Truxillo leaves are to be found.

MUSEUM NOTES.

BY E. M. HOLMES, F.L.S.

Curator of the Museums of the Pharmaceutical Society.

Spermacoce Hispida, Linn.

Occasionally vegetable products appear in the London market forwarded by merchants abroad who hope to find a sale for them in this country. When the same sample comes at intervals of some years such exportation appears to arise from ignorance, or rash speculation, as in the case of *Coscinium fenestratum* more than twenty years ago, when an inquiry at Ceylon for a sample for purposes of investigation was followed by a large exportation of the drug to this country. When, however, importations take place at intervals of a few months, or in increasing quantities, there is a probability that some use has been found for the drug which is not generally known. The seeds of *Spermacoce hispida* appear to come under the latter category. These seeds have several times during the last two years been forwarded to the Museum for identification. They are small brown seeds bearing a strong resemblance to coffee in shape, but are not larger than linseed. They are imported from Ceylon, and the last importation consisted of twenty-eight bags. At present the seeds are in the hands of two firms of drug brokers, but do not appear to find a sale. The seeds belong to the same natural order as coffee—viz., Rubiaceæ—but appear to be little used in medicine, as they are not mentioned in Dr. Trimen's list of medicines used in Ceylon, and exhibited in the Indian and Colonial Exhibition in London in 1886. In Khory and Katrak's 'Materia Medica' (II., 343), the seeds are said to be given in doses of ½ to 1 drachm of a confection as a cooling and demulcent in diarrhœa and dysentery, and the root to be used, like sarsaparilla, as an alterative. In 'Pharmacographia Indica' (II., 230) the seeds are said to be aphrodisiac, and the plant to be prescribed to cure hæmorrhoids. A German to whom I showed the seeds remarked that the seeds were used as a substitute for coffee in Germany. Mr. A. E. Bell, who has examined the seeds, informs me that when the crushed seeds are exhausted by ether they yield an oil which seems to possess alkaloidal properties. These seeds seem, therefore, to deserve further investigation from the chemical as well as the histological point of view.

THE STUDENTS' COLUMN.

ACIDS AND ALKALIES IN PRESCRIPTIONS.

The occurrence of an acid and an alkali in a prescription is perhaps the simplest case of incompatibility and one which attracts the attention of the student at a very early stage in his experience. With a free acid and an alkaline carbonate or bicarbonate the effervescence due to the liberation of carbon dioxide is a very obvious sign of chemical reaction. In other cases, however, the change is not so evident, as for example when an alkaline hydroxide is present instead of a carbonate; many pharmacopœial preparations also are acid or alkaline without this feature being evident from the name of the preparation or from a superficial consideration of its chemical composition. Thus amongst those which contain acid may be mentioned the vinegars of squill and ipecacuanha, compound powder of jalap, syrup of squill, syrup of lemon, spirit of nitrous ether, glycerin of pepsin, hydrochloric solution of arsenic, solution and tincture of ferric chloride, solution of ferric acetate, solution of mercury nitrate, syrup of phosphate of iron, and solutions of morphine hydrochloride and acetate. The abovementioned contain free acid as one of their constituents, and therefore behave as such, and many fluid extracts are also acid in reaction; in liquid extract of cinchona acid is added, and in many others—*e.g.*, ergot—acid is formed by fermentation changes. In a similar way free alkali is present in arsenical solution, solution of bismuth and ammonium citrate, solutions of chlorinated lime and soda, compound mixtures of iron and senna, compound powder of rhubarb.

Besides those articles which contain free acid or alkali as a constituent, others when in solution, although apparently neutral in composition, may yield acid or alkaline solutions due to the hydrolytic action of the solvent; this character is more prominently shown by aqueous solutions of certain salts composed on the one hand of a strong base and a weak acid, or on the other hand of a weak base and a strong acid—*e.g.*, potassium cyanide, potassium acetate, borax, and potassium bicarbonate when dissolved in water yield alkaline solutions, even though their formulæ may be correctly expressed as KCN, $KC_2H_3O_2$, $Na_2B_4O_7$, and $KHCO_3$, and these solutions behave towards many substances like a weak solution of the corresponding hydroxide.

Copper sulphate, alum, bismuth nitrate, lead acetate, zinc acetate, and zinc sulphate form aqueous solutions which are acid in reaction, although the salts in question may be strictly neutral in composition as far as the relative proportions of acid and base in the formula may be concerned. Both these sets of phenomena are due to the hydrolytic action of water upon the salts, and although the hydrolysis may in many instances not proceed very far, it is yet sufficiently pronounced to give rise to cases of incompatibility.

NOTES ON MANCHURIAN DRUGS.*

Although Manchuria possesses no direct interest for pharmacists in this country, such is not the case as regards Japan and China, since a number of drugs used in those countries are grown in Manchuria.

Ginseng.

The most important and valuable of these is ginseng (*Panax ginseng*, C. A. Meyer). It is indigenous in Manchuria, growing in the forests of Kirin, especially in the Ch'ang pai Shan range, where the mountains are annually searched for the plants. The roots are not considered to be sufficiently matured until seven years old, the age being ascertained by the character of the leaves. Plants one year old are said to have only a three-partite leaf on a short stem; when two years old, two similar leaves; when three years old, the leaves are four-partite; in the fifth year the stem has a long stalk with several petioles, each with five-partite leaves. After this it flowers and fruits, throwing up a continuation of its stalk, crowned with an umbel, from the junction of the petioles. In Japan the plant is said to mature more rapidly, being ready for collection in the third or fourth year. The young plant is transplanted (the transplanting being said to cause it to grow more rapidly) into a place where it will be under the eye of the cultivator. The transplanted roots form the second quality of the drug, the wild roots being the most esteemed. The largest quantity of Manchurian ginseng is, however, derived from seed, which is sown in narrow beds in the valleys among the mountains, and this constitutes the third quality. The seedlings are invariably transplanted when one year old. The matured roots are prepared in the following manner. They are thoroughly washed in cold water after being dug up, every particle of earth being removed with a soft brush, so as not to injure the epidermis. They are then of a yellowish-white colour. The next process is to coat them, using a soft brush, with syrup of a treacly consistence, made by filling a rice bowl half full of clean sugar, either brown or white, according to the colour to be imparted to the roots, and pouring boiling water on it. The roots are then laid on a piece of clean cloth, spread on the top of a grating over a pot of boiling water, a wooden lid or cap being placed over all. The steam softens the roots, which absorb part of the sugar, and the rest finds its way into the boiling water from which it crystallises on cooling. It acquires a flavour of ginseng, and is sold as ginseng sugar at about a dollar a catty. The sugaring process is repeated several times, and when sufficiently sweetened, the roots are spread on trays to dry in a moderate sun. The root loses two-thirds of its weight in the process, and remains softer than the Corean ginseng, which is nearly as hard as stone, and very brittle. (In Japan, ginseng is first sun-dried, and then baked in kilns, heated to 210-250° F. for two or three days.) The upper portion of the root is usually marked with a series of fine parallel horizontal wrinkles or indentations, which indicate its age to a connoisseur, and these are imitated, when they do not exist in sufficient number, by winding a thread round the upper part of the root during the steaming process, and removing it when the root is dried.

Varieties of Ginseng.

The white ginseng is preferred in the southern provinces of China, Kwangtung, Kwangsi, and Fukien, whereas the central provinces of Kiangsu, Anhui, Hupeh, and Hunan prefer the red, so that for these last districts brown sugar is used in curing the roots. Corean ginseng has mostly a reddish tint, but whether this is due to ferruginous soil or is artificial is not known. The price varies exceedingly; ordinary cultivated ginsing may be purchased for about two taels (about 7s.), a catty of 1⅓ lb., whilst the real wild root has been known to fetch a thousand times its weight in silver. Formerly, when Corea paid tribute to China, Corean ginseng was brought in large quantities into Manchuria, and the members of the mission, whose route to Pekin lay through Southern Manchuria, were allowed to carry, free of duty, certain amounts of the root, according to their rank. This was limited in the case of Legation officers to 20 catties each of red ginseng, and in the case case of the attendants to 10 catties.

Manchurian Opium.

The opium poppy is cultivated throughout the whole of Manchuria, but the chief centre of production and export is in the south of the province of Hei lung chiang, to the north of the Sungari River, and the chief market for the drug is the city of K'uan ch'eng tzu or Ch'ang ch'un Fu, in the province of Kirin. The apparent reason for the more extensive cultivation of opium in the north is that opium, being less bulky and more valuable than cereals, can be carried at much less expense, and can be at once exchanged for ready money. There is a considerable demand for Manchurian opium in Northern China, and agents visit Manchuria annually in the winter, avoiding the main roads and the taxing stations situated on them, and carry back the drug in small fast carts. It is also extensively smuggled, being readily concealed in the larger carts carrying produce. The poppy crop occupies the ground from March to July. The poppy-heads are scarified horizontally, and the sap collected as soon as exuded, and not left till the next morning, as is done in India and Western China. Sufficient is grown for local wants, and to admit of considerable export by junks as well as by land. The taxation being light, it costs only about half the price of Indian opium, the import of which is declining, none having been admitted during the Japanese occupation of Newchang in 1895, and only 32·12 piculs, including one picul of Persian, or 4,284 lb. arriving in 1896. Labourers returning to Chefoo before the closing of the port in winter invest their savings in native opium, and smuggle it across to Shantung, but seizures are frequently made on board steamer by the Custom House authorities at Newchang.

Manchurian Indigo.

The indigo produced in Manchuria is obtained from *Polygonum tinctorium*, L., not from *Indigofera tinctoria*, L., and is called Lantien. The seeds are sown in April in drills, about 9 in. to 1 ft. apart, in the latter half of September. The plants are cut down near the roots in September before blossoming, steeped tops downwards in lime-lined vats containing water, and weighted with stones. After thirty-six hours the plants are removed, and the water, now green in colour, is poured into large earthenware jars standing on a concrete floor having a conduit leading to a large tank sunk in the ground. In a similar jar, containing also green water from the vat, a piece of lime is placed, and the mixture stirred up to the consistency of cream. A portion of this cream, weighing about 3 lbs., carefully freed from undissolved lime and impurities, is poured into each of the jars. The contents of these jars are then beaten with a square piece of wood to which a long wooden handle is fixed, until the green water assumes a blue colour, and when about five hundred blows have been struck the grain or colouring matter has become completely separated. The jars are then emptied into the conduit and the blue granules sink in the tank to which they are conveyed. When completely settled down the surface water is removed and the sediment collected and made up into cakes as dry indigo, or poured into waterproof prepared baskets, and sold as liquid indigo.

Medicinal Plants.

Other plants cultivated in Manchuria, the roots of which are used in Chinese and Japanese medicines, are:—*Aconitum*

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* Abstracts from 'Manchuria, its People, Resources, and Recent History,' by A. Hosie, M.A., F.R.G.S. and H.M. Consular Service. 1903.

Kuznetzoffii, Rich., *Astilbe chinensis*, Franch. and Sav., *Asarum sieboldi*, Miq., *Arisæma* sp., *Astragalus Hoantchy*, Franch., *Atractylis ovata*, Thunb., *Angelica inæqualis*, Max. *Glycyrrhiza glabra*, L., and *G. pallidiflora*, Max., yield liquorice root, and *Gentiana scabra*, Bunge, yields a small gentian root. The root of *Lithospermum erythrorhizon* closely resembles the alkanet root of Europe, and is used for similar purposes. *Polygonatum officinale* supplies Solomon's seal root. The roots of *Pæonia albiflora*, Pall., *Peucedanum terebinthaceum*, Fisch., and *Platycodon grandiflorum*, D.C., are also collected. The barks include that of the root of *Dictamnus albus*, formerly used in Europe under the name of Dittany root, and the bark of *Phellodendron amurense*, Rupr., a laminated yellow bark used for dyeing silk. The plant is very similar to that of *Euodia glauca*, and the bark has often been supposed to be derived from the latter species (*Pharm. Journ.* [3], **18**, 785). The leaves of *Clematis heracleifolia*, D.C., the stems of *Ephedra vulgaris*, Rich., and *Equisetum hiemale*, L., are also exported, as well as the fruits of *Arctium Lappa*, L., *Coix lachryma*, L., *Cratægus pinnatifida*, Bunge, *Pinus coraiensis*, Sieb. et Zucc., and *Schizandra chinensis*, Baill., and the seeds of *Cuscuta chinensis*, Lam., *Prunus japonica*, Thunb. and *Plantago major*, L. Jujubes, known as red dates or "Hungtsao," are largely used in making sweetmeats. They are obtained from *Zizyphus vulgaris*, L. The fixed oils produced in Manchuria are as follow:—Fou yu obtained from the soy bean, *Glycine soja*, Sieb. et Zucc., used for cooking, mixing paints, and lighting; Ta ma (or Pi ma) yu from *Ricinus communis*, L., used for lubricating; Hsiang yu from *Sesamum orientale*, L., used for cooking; Su yu from *Perilla ocymoides*, L., boiled and used like linseed oil; Hua tzu (or Hei) yu from *Gossypium herbaceum*, L., used for hair oil and for softening leather and harness and for lighting, and Ma tzu yu from *Cannabis sativa*, L., used for mixing paints. The oils are obtained by crushing, steaming, and pressing the seeds. Those of *Sesamum*, however, are roasted previous to expression.

THE BACTERIAL ORIGIN OF THE VEGETABLE GUMS.*—PART I.

BY R. GREIG SMITH, D.SC.

Concurrent with the formation of gum in solutions of saccharose, there was a production of carbon dioxide, ethyl alcohol, and acids. The carbon dioxide was small in amount, and was detected by aspirating in the air in closed culture flasks through baryta water. The alcohol was also small in amount, and was obtained upon distilling a fluid culture containing chalk, after saponification with barium hydroxide. The acids as formed in fluid cultures containing chalk were found to be *l*-lactic and acetic, with traces of succinic, lauric, oxalic, and formic. The ratio of non-volatile to volatile acids was roughly three to one.

The method which I have found most useful for the detection of the bacterial acids is as follows:—A twenty or thirty days' culture containing chalk is decanted, and the fluid is evaporated down to small volume. Both fluid and residual chalk, etc., are acidified with dilute sulphuric acid, cooled and filtered. The calcium sulphate residues are added together, drained by means of the filter-pump, washed with a small quantity of water, and dried in the air, or in an incubator. The fluid, together with the washings from the residues, are extracted in an ether extraction apparatus such as that of Schoorl (*Journal of the Society of Chemical Industry*, 1900, 567). The dried calcium sulphate is ground to a rough powder and extracted either within a perforated tube in the same apparatus or else in a Soxhlet apparatus. The ethereal solutions are slowly distilled and the ether recovered. The residual solutions are exposed to the air until the odour of ether disappears. Hot water is added, and the insoluble acids that separate are removed by filtration and examined. As a rule, the insoluble acids are chiefly obtained from the calcium sulphate residue. The filtrates from the insoluble acids are added together and distilled in a current of steam until all the volatile acids have passed over, or until the distillate has a constant acidity. The volatile acids are then divided. One portion is neutralised with sodium hydrate, evaporated to small volume, and treated with silver nitrate to precipitate the acetic acid; the filtrate from the silver acetate is placed under observation for the blackening caused by formate. A portion of the second half of the volatile acids is tested for formic acid with mercuric chloride. The remainder is treated with an excess of calcium carbonate, evaporated to dryness, and extracted with strong alcohol. The bulk of the acetate and formate remains undissolved, and much of the butyrate is dissolved and may be recognised by the odour of the ethyl ester. The non-volatile acids are evaporated to small volume and allowed to crystallise overnight. The crystals of succinic acid are filtered off and tested. The filtrate is treated with an excess of calcium acetate and warmed, when the tartrate, citrate, and oxalate that may precipitate are separated by filtration. For their identification, see Schoorl (*loc. cit.*). To the filtrate an excess of milk of lime is added, and the solution is filtered. The residue contains the remainder of the succinic acid. The filtrate is evaporated to dryness and extracted with hot 70 per cent. alcohol. The extract contains calcium lactate, which is allowed to crystallise out.

It is interesting to note that both *Bact. acaciæ* and *Bact. metarabinum* produced the same acids during the fermentation of saccharose. Morphologically, the bacteria are very similar, and had the gums had an equal solubility it is possible that the cultural character of the organisms would have been identical. So much was I impressed with the idea that the one was a modification of the other that I subcultivated both bacteria at 30° and at 17° for four months, to see if an approximation would ensue, but no change was observed. If they had originally been one organism, long cultivation under neutral conditions had so fixed the characters that they had become definite producers of arabin and metarabin respectively.

I had an opportunity of investigating the gum-flux of other trees. The first of these was the gum-flux of the vine. Some vines in certain low-lying portions of a vineyard showed an exudation of gum upon the ends of branches that had been pruned in the previous season. The gum had thus been exposed to the winter's rains, and upon being tested was found to consist of metarabin. From the gum-bearing branches I separated *Bact. acaciæ* and *Bact. metarabinum*. Had freshly exuded gum been obtainable it doubtless would have been found to consist, like the gum of *Acacia penninervis*, of arabin and metarabin, the products of both bacteria.

A sample of plum gum consisted of arabin and metarabin. The soft and fresh gum yielded a culture of *Bact. acaciæ*. *Bact. metarabinum* was not obtained, but as the organism is, on account of the insoluble nature of its gum, easily crowded out of the culture plates by the more diffusible *Bact. acaciæ*, the failure to obtain it does not indicate that the metarabin was the product of the organism that was found.

Bact. acaciæ was also separated from the tissues of gum-bearing red cedar, *Cedrela Australis*, and from the unknown stock of a Japanese date plum.

Two interesting cases that I examined were the fruits of the peach and the almond, both of which were exuding gum from insect punctures and cracks. The fresh gum taken from cavities within the fruits contained a few cells of *Dematium pullulans* and practically no living bacteria, although the microscopical examination of stained films showed that the gum was really a gum matrix in which were imbedded immense numbers of badly staining (*i.e.*, dead) bacteria. The gum had not been formed in the fruit, but had been forced into it by the sap pressure; its place of formation had been the stem and branches where the sap is less acid than in the growing fruit. The acidity kills the bacteria that accompany the gum, but has little effect upon adventitious yeast-like moulds, such as *Dematium*, which thus become the only living inhabitants of the gum. The arabin-former, *Bact. acaciæ*, was found in the branches attached to the fruit, where it had produced the soluble constituent of partially soluble gum.

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* Read before the Sydney, N.S.W., Section of the Society of Chemical Industry on December 15, 1903, and reprinted from the Journal of that Society. Concluded from page 471.

Massee has recorded that *Dematium pullulans* caused a gum-flux of the plum, and as there was the possibility that a similar claim might be made for the races that I found in the peach and almond gums I investigated the slime produced by the peach-race in saccharose media. The slime yielded a gum which, while soluble in the fluid cultures, easily became altered to an insoluble modification, which was soluble in dilute acid and insoluble in dilute alkali. The gum was not hydrolysed by boiling 5 per cent. sulphuric acid, but concentrated acid converted it into a mixture of arabinose and galactose. The gum was therefore a pararabin.

Hot dilute hydrochloric acid was employed to extract the slime from cultures of *Dematium* grown upon solid media, and it dissolved not only the pararabin, but also a carbohydrate from the nucleic acid of the mould. This substance was easily hydrolysed to a mixture of glucose and a galactose. That it was not a constituent of the true slime was shown by its absence in the filtered fluid cultures. As the almond gum did not contain pararabin and as its presence is unknown in peach gum, it is evident that *Dematium pullulans* played no part in the formation of these gums.

In these two fruits, as well as in the red cedar, I found an organism *Bact. persicæ*, which produced a gum. This hydrolysed to a mixture of arabinose and galactose, the latter preponderating. It was rather an insoluble gum, but when dissolved in dilute acid it was not readily precipitated by the addition of alcohol. This suggested a means of determining whether or not the bacterium contributed towards the gum-flux of the trees in which it occurred. Almond gum was treated with water and the arabin removed. The insoluble but swollen residue was dissolved in the autoclave. The solution of the gum was acidified with hydrochloric acid and treated with alcohol. The filtrate from the precipitated metarabic acid was neutralised with sodium hydroxide, when a small quantity of a gum was precipitated. This was dissolved in the autoclave and tested. It gave the same reactions as the gum of *Bact. persicæ*, so that this organism had contributed its quota towards the gum which exuded from the almond and probably also from the peach and cedar.

The acids which the bacterium formed from saccharose consisted of lactic and butyric, with traces of succinic, formic and acetic. Ethyl alcohol and carbon dioxide were also produced. The only positive coagulating agents that could be depended upon in testing the gum were neutral and basic lead acetates, baryta water, milk of lime, and alcohol.

We have already seen that when *Dematium pullulans* produces a ropiness of fluids, the viscosity is due to the presence of pararabin. This member of the arabin group occurs naturally mixed with arabin as an exudate from a species of Sterculia. With the object of discovering a pararabin bacterium, I examined the gummy exudation from *Sterculia diversifolia*, and found therein the arabin bacterium, *Bact. acaciæ*, which explained the presence of arabin in the gum. Associated with it there was another bacterium which produced a gum upon or in media containing saccharose, dextrose, levulose, galactose, mannite, or glycerin. Three races of the bacterium were obtained; these differed slightly in their cultural characters and in their optimum temperatures. The gums produced by them also differed in some of their chemical reactions, but all were constant in giving curdy precipitates with alcohol, baryta water, basic lead acetate, and ferric chloride. Copper sulphate, followed by potassium hydroxide, gave a blue compound which coagulated upon heating, like arabin and many other gums.

The gum had been obtained from slime which had formed upon saccharose-potato-agar as well as in saccharose-asparagine fluid. Upon desiccation, such as by drying at 100°, the gum was converted into an insoluble modification, which swelled with water. Dilute acids dissolved it readily, while the swollen carbohydrate was contracted, but not dissolved, by dilute alkali. The gum was not attacked by boiling 5 per cent. sulphuric acid, but treatment with concentrated and then dilute acid converted it into a mixture of arabinose and galactose. Thus, the bacterial product had the same solubility, the same resistance to hydrolysis, and gave the same products of hydrolysis as pararabin, which it undoubtedly was. The gum of Sterculia is, therefore, the product of *Bact. acaciæ* and an organism which I have named *Bact. pararabinum*. Like the arabin and metarabin bacteria, *Bact. pararabinum* does not secrete invertase, and thus may be distinguished from many other slime-forming bacteria. The acids formed from saccharose consisted of succinic, lauric, butyric, acetic, and formic; the ratio of volatile to non-volatile acids was, roughly, 1 : 10. Ethyl alcohol and carbon dioxide were also produced.

In concluding the first part of this paper, I have shown that bacteria inhabiting the tissues of gum-bearing trees can form arabin, metarabin, pararabin, and other gums; and since we must admit that the natural gums of these trees were produced by the bacteria, we must also admit the probability of all other gums of an arabin nature being produced by bacteria. To put it shortly, the arabin gums are bacterial gums. The tree is, as it were, a laboratory in which certain constituents of the sap are converted by bacteria into gum which either flows out from cracks or wounds or is carried with the sap into the developing fruit. Although I have not examined every kind of tree affected with gum-flux or trees in other climates, yet it will be agreed that enough has been done to show that the vegetable gums are bacterial and not higher plant products, and that the differences in the nature of the gums are due to the fact that they are produced by different bacteria. Differences in the physical nature of the same gums, such as the varieties of gum arabic, soluble wattle gums, etc., are probably due to differences in the (climatic) temperature of formation and the nature of the sap. It is known that the gum of one season differs optically from that of another, and a difference in season would undoubtedly influence the activity of the bacteria in certain directions.

Every susceptible tree does not produce gum, but it could be made to do so by an artificial infection, either with pure bacteria or with the fresh juice from a selected and affected tree. Furthermore all the branches of a tree may not be producing gum, and in such cases an artificial infection would augment the yield. Thus the world's supply of gum might be materially increased if the native gatherers could be instructed in the principles of plant infection, *i.e.*, how to sow bacteria and reap gum.

ON GOING INTO BUSINESS.

BY A WEST-END PHARMACIST.

The following brief outline of the more important points to be observed in opening a shop is offered as a short guide to those who, without previous experience, contemplate founding a pharmacy. It is not proposed to give advice regarding the methods—orthodox or otherwise—of business to be adopted, as the general style and class will be influenced by the needs of the neighbourhood, and will have to be adapted to the requirements of the *clientèle* and the exigencies of the times. Whether it is more advantageous to buy a business or to open a new one is a debatable question; but the opening of a new shop obviously partakes of the nature of a speculation—however, the risks are perhaps less comparatively in that of a chemist than in the majority of others.

Taking a Shop.

A pharmacy, unlike most other businesses, need not necessarily be situated in a main thoroughfare or marketing street, and in country, suburban and residential districts the conversion of a private house into a shop may often be made with convenience and advantage.

It is quite likely that in the locality which appeals to one as being the most suitable for opening a chemist's shop there may be no premises vacant. In this case it may be advisable to induce a tenant to sublet, or it may even be profitable to pay a premium or an enhanced rent in order to secure a prominent pitch.

The Lease or Tack.

The primary points to investigate in considering the suitability of the premises are:—Length of lease, rent, parochial or borough rates (if the rent be not an inclusive one), water rate, and inhabited house duty (if any). These being approved, the prospective lessee may make an offer in writing to take the premises, getting in return an acceptance from the landlord. The former will be wise, however, to add a proviso to the effect that his offer is subject to the terms and covenants of the lease being approved of by his solicitor. A draft lease may then be obtained for perusal. Leases at rack rent direct from the owner are generally for periods of twenty-one years or some period under thirty-five years, and terminable at the end of every seven years, at the lessee's option. Sub-leases, of course, will be for the unexpired term of the original lease.

A lease is an agreement by which the lessor or landlord allows the lessee or tenant to have the use of his (the lessor's) property for a certain period in consideration of a periodical payment called rent, and other stipulations. The most important point in a lease is the reservation of the rent—this gives under all circumstances first claim to the rent and allows the levying of distress.

The simple covenants by the lessee are:—To pay the rent; to pay rates and taxes (except property tax, which is by law payable by the landlord); to repair; to insure.

But the landlord generally adds to these additional clauses—to pay all duties, impositions, assessments, and all outgoings; enlarges on the covenants to repair; inserts clauses not to use the shop except for particular trades; not to create nuisances, a list of which may be given; not to assign or underlet without permission or licence; to deliver up the premises on expiry of the term in good repair; forfeiture of lease for non-payment of rent, bankruptcy, and breach of covenants; not to break or cut main walls or beams, and not to make any structural alterations without consent of landlord.

In the event of a breach of covenant the lessee may find himself served with a writ and injunctions applied for, the costs of which he would have to bear. The non-assigning or non-subletting clause is generally qualified, however, by stating that the licence may not be unreasonably withheld.

The lessee is liable for the sanitary condition of the premises in the absence of a guarantee from the landlord. The drains may be opened by the sanitary authorities, and if not in accordance with existing regulations one of the first unpleasant experiences of the tenant may be a requisition from the public health department of the borough to put in an entire new system of drainage.

In case of fire the rent will still be payable, though the premises be uninhabitable. Six months' rent should, therefore, be insured against.

Where a sub-lease is held it should be borne in mind that, though the rent is paid to the assigner, the owner still retains power to distrain on the premises in case of non-receipt of rent. For example:—"A" grants lease to "B," and "B" in turn gives sub-lease to "C." "C" pays his rent to "B," his immediate landlord. "B" forgets to pay over to "A," and meanwhile files a petition in bankruptcy. "A" can force "C" to pay over the amount due—that is, pay the rent twice over, or in default he can distrain on the premises. "C" would, of course, have a claim on the estate of the bankrupt "B," but that might yield little satisfaction. Therefore, when holding a sub-lease, appropriate precautions should be taken to guard against this.

The only convenant by the lessor is:—To allow the tenant to enjoy peaceable occupation of the premises during the term of the lease, which, if not expressly inserted, is implied.

In Scotland and Ireland the main features are similar to those of an English lease. In Scotch law the more common term is "tack."

A lease is always prepared by the lessor's solicitor, and the costs of this gentleman are paid by the lessee. The fees are according to a scale fixed by the Solicitors' Remuneration Act, and are 7½ per cent. on the rent. This is for lease at rack rent and counterpart, also including agreement for lease, if any. Stamps and plans must also be paid for. The stamp duty is *ad valorem*, 10s. for every £100 rent for leases under 35 years. The lessee should always employ his own solicitor, because if the lessor's solicitor were to act for both parties the lessee would still have to pay in addition one-half of the above fees.

Shop Fitting.

Having secured and entered into possession of the premises the best plan is now to consult two or more of the excellent shopfitters who advertise in the *Pharmaceutical Journal*. They will measure up the space available, and on mentioning approximate money limit and general outlines of style required, will furnish designs and estimates in a few days free of all charge. On comparing estimates, one should pay particular attention to the various items outside the direct fittings, and, above all, insist on having everything specified and written out in full detail.

Suggested General Scheme of Fittings.

The following items will be among the specifications:—

Window Enclosure.—The more modern style encloses the entire window with the carboys inside. The shelves should be plate glass with ground and well polished sides.

Wall Fittings.—On the side behind the counter will be placed the run of drug drawers with lockers underneath and cupboards at each end. Over the whole will be the shelving for shop rounds, and this may be continued on the return behind the dispensing counter. In this fitment behind the counter is a suitable position for two mirror-fronted cupboards, one as poison cupboard—that is, for all the more potent poisons—and the other for the less poisonous substances, after the *Gift Schrank* and *Separanda Schrank* arrangement of the Germans. On the public side of the counter will be the usual upright wall cases, relieved with lift-up piano cases and mirrors at intervals.

Counter.—Glass-fronted cases in front, with drawers behind for labels, corks, wrapping papers, till, etc. Usual counter-top cases. Desk at end nearest window.

Dispensing Screen.—Placed at right angles to counter. Mirror centre, sponge case underneath, and cases on either side opening to the floor; the usual shelving, counter, and drawers behind, and prescription desk.

The following are amongst other items:—

Facia; stall boards; outside lamp; hanging sign; electric light or gas installations, if not already fitted; water and sink; gas fittings for bunsen and sealing jets; linoleum for floor; door mat; stove for heating shop; ladder-steps; chairs; suitable shelving, plain deal for back shop or basement; inside blinds and outside sunblind.

The various and sundry details should be carefully computed and, if possible, all included in the shop-fitting estimate, otherwise the tyro of limited capital may find the "extras" a serious encroachment on his reserve fund.

Shop Rounds.

These should be ordered as early as possible, as the labelling takes usually about a month. Recess phototype or hand-written labels, or vitrified labels present the best appearance. The following is the approximate numbers for an average pharmacy:—

2 doz. 40-oz. N.M. and W.M.
6 doz. 30-oz. N.M. and W.M.
6 doz. 20-oz. N.M. and W.M.
4 doz. 10-oz. N.M. and W.M.
1 doz. 10-oz. green fluted, poisons, N.M. and W.M.
1 doz. 20 oz. green fluted, poisons, N.M. and W.M.
½ doz. 30-oz. green fluted, poisons, N.M. and W.M.
1½ doz. blue syrup bottles, plug stoppers.
¾ doz. capped oil bottles, for oils and glycerins.
½ doz. acid bottles, etched-in labels. Give the shop-fitter list of bottles, and he will arrange the shelving according to the numbers and sizes. The selection of labels is no difficult matter.

2 doz. pink ointment jars, gold lined, recess labels, inner porcelain linings.

These require about six weeks to make. The window carboys must also be obtained early, as the fitter will require to know size of base in order to have brackets made.

Labels.

These should be ordered early, and should consist of the usual slips, dispensing labels, and labels for own specialities. Not too many of the latter in the first instance, as these should have some originality in design, and be ordered to fit specially chosen bottles. This department can be better developed when the pharmacy is in working order. With the order for labels will be a circular announcing the opening and introducing the proprietor to the inhabitants of the district.

Stock.

Most houses give an extra discount for opening orders, as the opening order generally ensures future custom. In making out orders, go through the lists and jot down the article and quantity required, the selection being no difficult matter, as the chemist presumably knows the requirements of the neighbourhood. Drugs and packed goods, bottles, patent medicines and proprietaries, general druggist sundries, soaps, lozenges, compressed tablets, and mineral waters will comprise the general stock.

Books.

Prescription-book, day-book and ledger, invoice and receipt files, bought ledger, poison register; cash, till, and order books.

Shop and Laboratory Utensils.

Mortars, pill machines, ointment slabs, knives, twine, tincture press, percolators, funnels, measures, and other glass ware, counter scales, dispensing scales, weights, suppository moulds, sieves, plaster iron, scoops, cork presser, powder folder, scissors, flasks, saucepans, kettle, brass and rubber stamps, etc.

While the fixtures are being made the basement or back shop should be shelved and fitted up for working purposes. Here the drugs, bottles, and utensils can be delivered immediately, and the making of preparations and putting up of stock proceeded with.

Plate-glass and fire insurances should be effected as early as possible, and patent medicine (5s.) and methylated spirit (10s.) licences taken out; every chemist in business who is not improvidently disposed will also safeguard himself by joining the Chemists' Defence Association (10s. 6d.).

Side-lines bearing on pharmacy can be added as the business develops or as opportunity offers. Analysis, bacteriology, radiography, and general pathological work for medical men are some of the more professional lines in which it may be advantageous to specialise, whilst the supply of materials for use in photography, optics, and electricity, and the manufacture of aërated mineral waters may be mentioned as a few of the more commercial adjuncts.

Approximate Cost of Fitting and Stocking a Pharmacy.

The following would be a fair estimate of the initial outlay necessary to found a pharmacy in the better parts of the larger provincial towns or in the higher-class suburbs of London:—

	1st Class.	2nd Class.
Complete fixtures and fittings	£250	£120
Shop rounds and jars	30	25
Drugs and packed goods	60	40
Proprietary medicines, mineral waters, etc.	70	50
Druggists' sundries and utensils	70	40
Bottles, pots and boxes	10	8
Compressed tablets	4	2
Pills	4	2
Lozenges	5	4
Sponges	10	5
Labels and stationery	25	20
	£538	£316

The above figures can, of course, be readily added to or subtracted from, but to open a pharmacy with any pretension to appearance, except in the poorer districts, where many eventually good-paying businesses have been opened on £200 or less, a capital of at least £400 would be required—say, £300 to fit and stock, and balance of £100 to trade on. Provision must always be made for little profit during the first year of a chemist's business.

It has been asked what capital is necessary to open a pharmacy in one of the fashionable provincial towns or watering-places, or in a fashionable street in the West End of London—say, the Strand or Oxford Street. The following is given us as the approximate initial disbursement:—

New modern front	£200
Inside fittings and utensils	550
Shop rounds, carboys, etc.	45
Electric installation	30
Drugs and packed goods	110
Druggists' sundries	120
Proprietary medicines, etc.	130
Bottles, pots and boxes	20
Surgical goods and appliances	25
Perfumery	60
Tablets	8
Lozenges	8
Medicated wines	6
Own specialties	20
Sponges	20
Labels and stationery	30
	£1,382

If the existing front were suitable a considerable saving would, of course, be effected. The cost of the lease, however, would also have to be reckoned, as good leases in prominent positions in the leading West-End thoroughfares are only procurable on payment of a premium.

GLASGOW AND WEST OF SCOTLAND PHARMACEUTICAL ASSOCIATION.

ORDINARY MEETING.

Thursday, March 31, 1904, at West Regent Street, Glasgow, Mr. W. L. Currie, President, in the chair.

Mr. T. Maben delivered his well-known lecture on

Vaccines and Serums,

the interest in which was greatly enhanced by a series of capital lime-light views. At the outset Mr. Maben said that in a year or two it would be the duty of pharmacists to stock serums, and not leave them to medical men. In that case the more pharmacists knew about serums the better, because it behoved them to know about what they were handling. There were no medical men there that night, but even to them the subject had been found greatly interesting, because they had the duty of using serums on their patients. At some other meetings where he had delivered this lecture he had had as many as one hundred listeners, while eighty and sixty were quite common during the last two or three weeks. Proceeding, Mr. Maben explained that he was not going into any detail as to the effect on the death-rate from the treatment by serums. That had been, however, quite wonderful. Before the production of the serum the death-rate from diphtheria ran to 40, 50, and 60 per cent. ; now it was down to 20, 15, 10, and sometimes even 5 per cent. The lecturer then gave a description of the process of manufacturing serum, excellent views of the laboratories, stables, etc., being shown on the screen. Dealing with vaccines, Mr. Maben remarked that there was a serum for smallpox, but it was not a success. It was to be tried again, however, at Belvidere Hospital, Glasgow, when it was expected to be successful.

The Chairman said that all had listened with great pleasure and interest to what Mr. Maben had said. In the diagrams illustrative of the various death-rates in different countries he should agree with Mr. Maben as the best proof possible that vaccination had minimised the death-rate from smallpox. One of the views shown was the typical vaccination mark in America, and mention was made that in this and other countries two, and sometimes three, were the limit of those pustules. It used to be quite a common thing with the faculty of surgeons in Glasgow that seven pustules were the recognised number. After referring to the possibility of drugs being to a large extent superseded by serums, Mr. Currie referred to Mr. Maben's approaching departure for London, which he characterised as a source of great loss to the Glasgow chemists. It would ill become him if he allowed Mr. Maben to go away to that vast city where his talents would not be hid under a bushel without drawing attention to the fact. In conclusion, Mr. Currie asked the meeting to accord Mr. Maben a hearty vote of thanks for his instructive lecture.

Mr. Gilmour said he would like to supplement what Mr. Currie had sympathetically said about the lecturer's approaching departure from Glasgow. The Association benefited considerably by Mr. Maben, who sought to serve it and promote its usefulness in every way. Their series of lectures on chemists' side-lines was the suggestion of Mr. Maben.

Mr. Maben, in returning thanks for the very kind remarks that had been made about him, said that he had just recalled the remarkable fact that it was exactly twenty-one years that night since his first paper appeared in the *Pharmaceutical Journal*. It was delivered on March 31, 1883, so that he had reached his majority as a pharmaceutical contributor. He had done his duty according to his lights in that Association, and he did not think his influence had been entirely wasted. The Association was a fairly strong body, and he thought that last session had been one of the best they had had for some time.

Mr. Gilmour intimated that the meeting was the closing one of the session. This year, instead of the annual dinner, they proposed to hold an excursion, probably down the Clyde, and he might remark that the Edinburgh chemists thought of joining, which would make the outing a very enjoyable one. The details had not been arranged yet, but they expected to organise a very successful excursion. Proceeding, the Secretary said that, as they were all aware, Mr. Currie had been nominated for a seat on the Council, and he was glad to hear from him that night that he had accepted nomination. Mr. Currie would be certain of the support of the Glasgow chemists on this occasion. He had fully justified his election to the Council.

Mr. Currie remarked that if he had the good fortune to be returned to the Council he would do his level best to further the interests of chemists throughout Great Britain.

HALIFAX AND DISTRICT CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Tuesday, April 5, 1904, at the Old Cock Hotel, Halifax, Mr. Clement Fielding, President, in the chair.

The Pharmacy Bill.

The Secretary (Mr. A. Hebden) drew attention to the importance of individual associations doing all they possibly could to secure the passing of the Pharmacy Act Amendment Bill, which was to come on for discussion in Parliament shortly. As Secretary to the Association, he had written to the members of Parliament for that district asking them to give the Bill their full consideration, and when it comes before the House of Commons to give it their support, not only as a matter of justice to the qualified pharmacist, but also as a matter of protection to the public. Sir Savile Crossley, M.P., Mr. C. P. Trevelyan, M.P., and Mr. J. W. Mellor, M.P., had replied promising to give the Bill their full consideration. Sir S. Crossley also said : "Without pledging myself upon it until I have perused it, I should say at once that the Bill appears to me, on your argument, perfectly sound and right." The reply of their borough member, Mr. J. H. Whitley, M.P., was very satisfactory. He wrote as follows : "I will look carefully into this matter and consider your representations. I shall support anything to prevent unqualified persons dispensing."

The President remarked that Mr. Whitley's reply showed that he knew something about the object of the Bill, and was aware of what chemists were wanting.

Several members suggested that the Secretary should write to the secretaries of the various local trade associations, asking them to take action in support of the Bill.

It was pointed out, however, by Mr. Hebden and others, in regard to this suggestion, that such a course would have some drawbacks, as some branches of trade might not, for obvious reasons, be in favour of the measure ; even some members of the Government having interests in London stores could not be expected—as a writer had already pointed out—to go in strongly for that which touched their own pockets.

The President said that interested parties in the Legislature have no right to use their votes in Parliament for personal purposes.

The Secretary said he had been thinking of approaching the coroner for the district on the subject of unqualified persons being allowed to dispense. It had been clearly shown at many inquests that it was wrong for any but qualified persons being allowed to dispense. If they could get the various local authorities to take an interest in the subject it would be very effective.

Mr. Woodward pointed out that the British Coroners' Committee were supporting them in this matter.

The President said it might be a good thing if they could get the editors of trade journals to summarise facts and occurrences bearing upon the objects which the Pharmacy Bill sought. Eventually the meeting expressed an opinion that the action of the Secretary in drawing the attention of their local members of Parliament to the Bill was a useful move, and they left him to take such further steps in the same direction as he thought desirable.

Other Business.

A letter was read from the Leeds Chemists' Association asking the Halifax Association to receive a deputation from them to place before them the claims of Mr. Pilkington Sargeant's candidature for a seat on the Pharmaceutical Council. Mr. Sargeant would be present with the deputation, and would be glad to explain anything respecting his candidature that might be asked. It was decided to invite the deputation on the evening of April 19.

Mr. Swire, sen., was appointed the Association's representative at the annual dinner of the Bradford Chemists' Association.

The question of subscribing to the Federation of Local Pharmaceutical Associations as well as to the West Riding Federation was left over until the next meeting.

Co-operative Buying and the P.A.T.A.

A letter was read from Mr. Glyn-Jones on the subject of co-operative buying.

The Secretary urged that the P.A.T.A. had the right to insist on the wholesale houses ceasing to allow the co-operative societies to evade the P.A.T.A. regulations by a system of collective buying. These societies, and other large houses having a number of branches, in buying collectively from the wholesalers and then sending to those branches, made resales in precisely the same way. Again, the wholesale houses themselves violated the compact by allowing the co-operative societies to retail their goods at less than the minimum prices. When a purchasing member of a "co-op." bought articles at the minimum price, less the dividend, that constituted a sale at below the minimum price.

Mr. Cobb thought that no doubt the wholesale houses were at the back of this matter, because retailers, in supplying articles to each other, took the wholesalers' profit.

Eventually a resolution was passed directing the Secretary to write to the Secretary of the P.A.T.A. asking him if some measures cannot be taken to prevent the co-operative stores from selling protected articles at under net minimum prices; the stores should either stop giving checks with protected articles or else raise the price to bring it to a level with the P.A.T.A. minimum price.

PUBLIC DISPENSERS' ASSOCIATION.

EXHIBITION.

Wednesday, March 30, 1904, at St. Bride's Institute, London, E.C. A large company had assembled for the purpose of an exhibition of pharmaceutical and chemical apparatus and of trade specialties. The firms exhibiting included, among others, Messrs. Parke, Davis, and Co., Allen and Hanburys, Limited, T. Christy and Co., W. Martindale, George Houghton and Sons, Limited, Robinson and Sons, Lynch and Co., Limited, Burgoyne, Burbidges, and Co., W. Watson and Sons, the York Glass Co., Limited, E. Merck, Hearon, Squire and Francis, Limited, S. Maw, Son, and Sons, Geraut and Co., and Townson and Mercer. Both Messrs. Allen and Hanburys, Limited, and Messrs. Townson and Mercer showed apparatus for the pasteurisation of milk, and much interest was evinced in the "Novum" (Steelyard) dispensing balance exhibited by the former. Messrs. Parke, Davis and Co.'s exhibits included some excellent hypodermic syringes, while Messrs. S. Maw, Son, and Sons showed a diagnosis lamp, and several appliances for the dispensing counter, such as an emulsioner, a rotary sieve, scales, etc. Other interesting exhibits were toothbrushes with aluminium handles, shown by Messrs. Lynch and Co., Limited, radium by Messrs. W. Watson and Sons, Mr. Martindale's "sterules" and urine-testing outfit, and the paper ice and hot-water bags of Messrs. Burgoyne, Burbidges, and Co. Altogether, a very successful and enjoyable evening was spent.

SMOKING CONCERT.

Wednesday, April 6, 1904, at the Albion Hotel, Ludgate Circus, E.C., Mr. W. Watson-Will in the chair. The Chairman, in a short speech, referred to the calamity at Portsmouth. Public dispensers should plead their cause to the Local Government Board, so that in future all such public appointments should be held by qualified dispensers. He also maintained that every qualified chemist should become a member of the Pharmaceutical Society. He had heard a good deal about what the Society had done and had not done, but, in his opinion, the Society could do no more until it received the absolute support of the members of the craft. The Benevolent Fund, he said, should appeal to chemists, and he hoped they would contribute to it. There was a very good programme of vocal and instrumental music, which contributed largely to a pleasant evening.

NEW REMEDIES.

The Notes in this column embody recent suggestions in therapeutics, for the information of dispensers; they deal with novel applications of drugs and preparations in common use, in addition to new remedies strictly so-called.

Caffeine as an Antidote to Nicotine Poisoning.—Zalakas having administered a lethal dose of nicotine by intravenous injection to a rabbit, subsequently injected caffeine, with the result that the animal rapidly recovered. He considers it probable that caffeine would be found to possess a valuable antagonistic action to nicotine in the human subject.—*Nat. Drugg.*, **34**, 40.

Bismone; Colloidal Bismuth Oxide.—Bismone is obtained by the action of bismuth salts and alkaline solutions of sodium lysalbinate or protalbinate. The resulting solution is purified by dialysis and evaporated *in vacuo*. The dry residue is obtained in solution by prolonged treatment with water at 50° or 60° C. It may then be sterilised by boiling. Bismone contains 20 per cent. of metallic bismuth. Two to 25 per cent. aqueous solution has a reddish yellow colour, is slightly opalescent, and is free from taste or odour. Fifty per cent. solutions have a syrupy consistence. These solutions may be kept for three or four weeks, when they begin to throw down a black deposit. Bismone may be administered either in powder or in solution in large doses without giving rise to any inconvenience. But it cannot be injected hypodermically, since it occasions nodosities at the seat of injection, followed by nephritis and peritonitis. It is given by the mouth in all cases where the subnitrate or bismuthose may be employed, and has been successfully employed in acute or chronic inflammation of the digestive organs, and in dyspepsia in young children. It may be prescribed as a 10 per cent. solution, of which a teaspoonful may be given three or four times a day.—*Journ. Pharm. Chim.* [6], **19**, 145.

PHOTOGRAPHIC NOTES.

Development.

At a recent meeting of the Royal Photographic Society, Mr. A. Haddon presiding, Mr. John Sterry gave a lecture of peculiar interest and importance on "The Separation of Development into Primary and Secondary Actions: Consequent Effect upon the Correct Rendering of Light Values and Theory of the Latent Image." Development of the latent image—said the lecturer—had always more or less appeared to consist of two distinct actions—the reduction of the haloid compound which had been acted upon by the light, and a further strengthening or intensification, either—as in the collodion process—as an addition of silver from without, or—as in the gelatin film—from within the film itself. When a sensitive film was soaked, between exposure and development, with a solution antagonistic to the developer, the gradation of the negative obtained was certainly altered. This alteration was largely dependent upon the strength of the solution and the time of immersion. There was, however, a limit to this action, the final results obtained being an entirely new scale giving, under favourable conditions, a closely correct gradation from the first impression made, to a point beyond the period of reversal shown by ordinary development. In respect to practical application, that which was most easy to work would probably be found the most generally useful, viz., the control of gradation in bromide paper printing. Papers of the "Velox" and "Gravura" type required very thin negatives, but the application of one part in 1,000 of potassium bichromate for one or two minutes, between exposure and development, would so alter the gradation that a good print might be obtained from a negative specially developed for carbon printing. Very slow lantern plates in the same way would give soft positives with strong negatives. With regard to negative making, it was evident that the time and strength of the solution might be adjusted to give any desired latitude and yet secure all the density required.

Sepia Prints.

The method recommended by Mr. Holding at a recent meeting of the Royal Photographic Society for making sepia prints was by introducing mercuric chloride into the oxalate bath. By this means a fine range of browns might be obtained, from a dark, rich chocolate to a pleasant golden, warm brown. An excellent formula for sepia or brown tones was as follows:—

A.	Potassium oxalate	1 ounce
	Water	7 ounces
B.	Potassium citrate	75 grains
	Citric acid	120 grains
	Mercuric chloride	45 grains
	Water	7 ounces

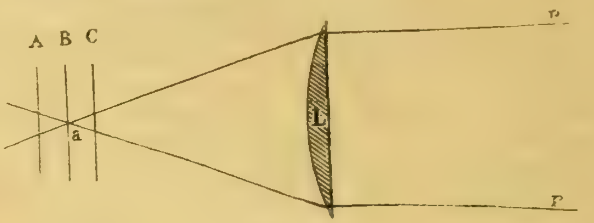
Make up separately, and mix in equal proportion for use.

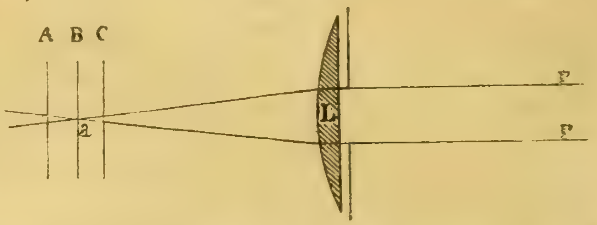
The clearing bath for the above should be rather weak, because the hydrochloric acid tended to reduce the mercuric chloride. The formula recommended for this clearing bath was as follows:—

Hydrochloric acid	½ ounce
Water	60 ounces

Diaphragms and Standard Apertures.

A diaphragm is chiefly necessary in connection with a lens to increase what is called its depth of focus, or to bring objects at differing distances from the lens in approximately sharp focus at the same time. The effect may be shown roughly by the following diagrams (from Woodbury's 'Encyclopædia of Photography').





The rays r r form, after passing through the lens L, an image at or upon the ground glass B. If we move the focussing screen to C or to A, the image would spread out and become indistinct. But in the second illustration we see the rays r r are caused by the stop to be much less convergent when leaving the lens, allowing the focussing screen to be moved to A or C without appreciable loss of sharpness in the image. It may here be pointed out that the words "stop" and "diaphragm," though often used as interchangeable terms, do not quite mean the same thing. The aperture is, properly speaking, a "stop" when used close against the lens, but in its usual position in front of a single lens or between the combinations of a doublet, the more correct term is "diaphragm."

In order to ensure uniformity, the Photographic Society of Great Britain has recommended the adoption of a scale of standard apertures for diaphragms, which are so arranged that each successive smaller stop shall require twice the exposure of its predecessor. These are as follow:—

f4, f5·6, f8, f11·3, f16, f22·6, f32, f45, f64,

without carrying the figures to the exact places of decimals, and this is known as the U.S., or uniform standard system. These figures refer to the diameter of the aperture in relation to the focal length of the lens; thus, f4 aperture has a diameter of one-fourth the focal length of the lens to which it is adjusted; f16, one-sixteenth, and so with the remainder. So that if we have, for example, a lens with the ordinary focal length of five inches for use upon a quarter-plate, the diameter of the aperture marked f4 would be one-fourth of five inches or one and a-quarter inches, while that marked f16 would be one-sixteenth of five inches, or five-sixteenths of an inch. This system is a useful one, for, as above stated, in addition to tending to uniformity, it serves also as a guide to exposure; for example, if we estimate that a certain subject would require an exposure of one second with its largest aperture of f8 (which is the largest aperture most rectilinear doublets are provided with), it is very easy to calculate that it will require two seconds at f11·3, four seconds at f16, eight seconds at f22·6, and so on. This matter of diaphragms and standard apertures is, of course, well understood by every experienced photographer, but that it often seems to be a stumbling-block to the beginner is an excuse for this simple explanation.

LEGAL INTELLIGENCE.

Dentists Act.

An Unregistered Practitioner Fined.

On Thursday, March 31, at Bolton, Richard Willoughby Reynolds, jun., of 18, Knowsley Street, Bolton, was prosecuted by the British Dental Association for taking the description of a dentist when he was not registered.

The evidence went to show that on a door at defendant's residence was the notice, "Reynolds, dentist."

For the defence it was urged that it was no offence to extract teeth or to make a set of teeth, and the only offence could be that he held himself out to be a dentist when he was not. Defendant was only a servant of a limited company, which was registered, and he held ten shares out of 600.

Defendant said he was a servant of "Reynolds and Sons, Dentists, Limited," the shares in which were held by twenty or twenty-five persons.

For the prosecution, Mr. Fielding said he could not conceive a grosser and more impudent case. There was not a single qualified person in the company, and he submitted that no one else practised dentistry but the defendant, who was robbing legitimate dentists of their livelihood.

The Bench imposed a fine of £10 and costs, and refused to state a case for appeal.

POISONING CASES AND INQUESTS.

The number of deaths by poisoning recorded during the eight days ended Wednesday, April 6, 1904, is twenty-one. Thus:—

Poison.	Accident.	Suicide.
Ammonia	1	—
Carbolic Acid	3	3
Carbon Monoxide	1	—
Coal Gas	—	1
Hydrochloric Acid	—	1
Laudanum	1	3
Mercury Nitrate	—	1
Potassium Cyanide	—	1
Ptomaine	2	—
Kind not stated	2	1
Total	10	11

Ammonia.—A Heywood cotton operative drank some ammonia from a jug, which he thought contained tea.

Arsenic.—The verdict at the inquest on the Westmoreland farmer, whose death was mentioned last week, was "Wilful Murder," evidence being given to show that he died from arsenical poisoning. His housekeeper is under arrest in connection with the affair.

Carbolic Acid.—Six deaths from carbolic acid poisoning are reported, the victims being a storekeeper at the Office of Works, Spring Gardens, a single woman at Manchester, and a school girl at St. Anne's-on-Sea, each of whom committed suicide; two boatmen at Selby, who, while at a wedding, drank from a bottle which they thought contained alcoholic drink; and an unknown man at Manchester. In the latter case an open verdict was returned, there being no evidence to show how the poison was administered, and certain circumstances suggested foul play.

Carbon Monoxide.—At Ardsley Ironworks a fitter was accidentally poisoned by carbon monoxide gas.

Coal Gas.—A Jewess committed suicide in Holloway Prison by removing the burner from a gas bracket and stopping up the ventilator in her cell.

Hydrochloric Acid.—A cook, who had been out of work for five months, died at the London Hospital from poisoning by hydrochloric acid, self-administered.

Laudanum.—Four deaths from laudanum poisoning are recorded, three being cases of suicide at Walworth, Windsor, and Nottingham, and the fourth a case of misadventure at Bradford.

Mercury Nitrate.—A saddler, at Kidderminster, drank a mixture of mercury and nitric acid, with suicidal intent.

Potassium Cyanide.—An assistant at a warehouse in the City committed suicide by drinking a solution of potassium cyanide.

Ptomaine.—A three-year-old son of a Stepney carman died from ptomaine poisoning, after eating some ice cream, and an iron-furnace-man, at Stalybridge, died from a similar cause, after partaking of tinned salmon.

Kind Not Stated.—A woman died at Guy's Hospital from the effects of poisoning by some kind of acid. A doctor's infant son, at Bethesda, died from poisoning, after eating some coloured sweets, and a Hull publican is supposed to have died from the effects of a disinfecting fluid.

Non-Fatal Cases.—Three cases of attempted suicide by poisoning are reported, the poisons used being hair-wash, laudanum, and oxalic acid.

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"State's Immoral Profits."—Mr. Troutbeck held an inquest at Wandsworth on March 30, concerning the death of a seven-months-old child, which had occurred during a fit of convulsions brought on by meningitis due to improper feeding, and it was stated that the child had been brought up on "patent" foods. The Coroner said one of the jury had raised a question as to the sale of foods, pointing out that they were advertised as being fit for children. In the present state of the law the sale of these foods by means of enticing advertisements was allowed, and there was not the slightest doubt that this was the cause of a great deal of death and disease. The same remarks applied to patent medicines, but in their case it was worse, because not only were the proprietors making huge profits out of the medicines, but he was sorry to say that the State made a large profit upon this immoral sale of patent medicines. The only thing to be done was to keep calling the attention of the State to these matters, and perhaps, when some of the important subjects which were now occupying the attention of Parliament had been dealt with, a little question such as the health of the nation would receive attention.

BANKRUPTCY INTELLIGENCE.

Re **P. S. Canning**, Chemist and Druggist, Leighton Buzzard.

At the Luton Bankruptcy Court on Thursday of last week this debtor appeared for his public examination. The gross liabilities were placed at £3,594 0s. 5d., and of that £1,213 14s. 1d. was expected to rank. The assets were estimated to produce £190 16s. 11d., leaving a deficiency of £1,022 17s. 2d. Debtor attributed his failure to bad trade and depression in freehold property.

The Official Receiver examined the debtor, who, in the course of his examination, admitted that his knowledge of book-keeping was not so perfect as it might have been. The case was adjourned.

An Unqualified Medicine Dealer's Bankruptcy.

At the Hanley (Staffs) Bankruptcy Court on Wednesday of last week, before Mr. Registrar Tennant, W. Alfred Couch, 12, Hawthorn Road, Tranmere, Chester, lately residing at 58, Regent Road, Fenton, and carrying on business as a homœopathic medicine dealer at 14, Percy Street, Hanley, came up for his public examination on a statement of affairs showing liabilities £249 16s. 4d., due to 27 unsecured creditors, and assets (after deducting preferential creditors) amounting to £39 8s., leaving a deficiency of £210 8s. 4d. The alleged causes of failure were want of capital, and insufficient profits to meet expenses. Debtor was represented by Mr. A. F. Moore, Birkenhead.—Debtor, in examination by Mr. F. P. Lamb, deputy Official Receiver, said that he came from Birkenhead, and was 22 years of age. He had been trading as a homœopathic medicine dealer, but was not qualified, and had never studied chemistry in any shape or form. The reason he came to a strange place and started in a strange business was that he became engaged to the daughter of a friend, Mr. Walklate, homœopathic chemist, of Minshull Street, Mount Pleasant, Fenton, and the latter proposed, at a time when debtor was out of employment, that he should start a shop for the sale of optical goods in Percy Street, but subsequently the shop was stocked with homœopathic medicines instead of optical goods.

A number of questions having been asked, the Registrar, in directing that the examination should be closed, said that the debtor was never fitted for the business into which he entered, and had no more right to adopt it than he (Mr. Tennant) had himself.

TRADE NOTES.

A Warning.—Messrs. Burgoyne, Burbidges and Co., 16, Coleman Street, London, E.C., issue a notice, in the advertisement columns of this issue of the Journal, in connection with a fictitious report which has been circulated.

Cod-liver Oil.—From the advertisement of Messrs. L. E. Thomas and Co., 43, Edge Lane, Liverpool, which appears in this number, our readers will obtain particulars of this firm's Newfoundland non-freezing cod-liver oil. The oil is of very fine quality, and the price is described as "beyond competition." Chemists are invited to write for samples and quotations.

"Betul-Ol" and "Colchi-Sal."—A notice in the advertisement columns this week informs the trade that these two preparations are no longer obtainable from the late City agent of the Anglo-American and Continental Pharmaceutical Co., but must be ordered direct from them. Their address is 3 and 5, Frith Road, Croydon.

£50 in Prizes.—These are the days of hidden treasures and prize competitions of enticing simplicity. By the advertisement of Messrs. Atherton, Rudd and Co., of Norwood Junction, S.E., which is printed in this week's issue, chemists are afforded an opportunity of indulging in a competition for prizes amounting to £50. What will be appreciated in connection with this offer is that every transaction carries with it a contribution to the Benevolent Fund of the Pharmaceutical Society. There are three prizes, which will be awarded to the chemists who have the largest number of transactions with the firm within a certain period. The first prize will be either in cash payment or for tuition at the School of Pharmacy, Bloomsbury Square, and chemists are invited to decide by vote which it is to be. Readers are recommended to study the particulars given in the advertisement, which also contains a list of drugs, chemicals, perfumes, essential oils, and photographic goods that may be ordered from Messrs. Atherton, Rudd and Co. in connection with the competition.

Effervescent Preparations.—The sudden advent of bright weather has doubtless created a demand for spring medicines, and more especially for those of an effervescent character. We have had an opportunity of examining a large selection of this class of goods manufactured by Messrs. Wright, Layman and Umney, Limited, 48 and 50, Southwark Street, London, S.E. These preparations are of excellent quality, and without exception are packed in a very saleable style. Citrate of magnesia is put up in several forms, and in a manner sufficiently good to distinguish it from the products usually sold by grocers. In addition to round and flat bottles, it is also packed in attractively enamelled round tins of a new pattern. Effervescent salt can be had in two different kinds of packed bottles, and can be supplied either in powder or minute granules. Health salt is an article which is becoming more popular each year, and the chemist who can offer it to his customers in an attractive form is likely to be repaid; the small Kali bottles in which Messrs. Wright, Layman and Umney pack this popular spring medicine are perhaps the most suitable for sale by chemists, but the firm also put it up in two different kinds of tins. Effervescent Carlsbad salt is another good selling line; this is sweetened with saccharin and quite free from sugar, and packed in 8-oz. and 6-oz. Cheltenhams. In addition to the above-mentioned preparations, other seasonable articles which should be mentioned here include hand-weighed seidlitz powders, seltzogene charges, concentrated lemon squash, fruit crystals, as well as a very good sulphur and sarsaparilla salt. Fuller particulars will be found on reference to pages 30 to 33 of the firm's price list of packed pharmaceuticals, which readers are strongly advised to consult.

PERSONALITIES, BUSINESS CHANGES, &c.

Mr. Arthur A. White has opened a pharmacy in Windsor Street, Beaconsfield.

Lord Kelvin has been unanimously chosen Lord Chancellor of Glasgow University.

Mr. A. E. Ekins, M.P.S., has been re-elected to the St. Albans Board of Guardians, after a sharp contest.

Mr. Robert Wright, chemist, of Newcastle-on-Tyne, has been appointed an overseer for Byker township in that city.

Alderman Allwood Simpson, J.P., of Stalybridge, has been appointed a Governor of the District Infirmary, Ashton-under-Lyne.

Mr. John W. Miller, of Byres Road, Glasgow, has taken over the business lately carried on by Mr. Alex. Reid at 250, Buchanan Street, Glasgow.

Mr. J. W. Dorran, chemist and druggist, of Stamford Street, Brooks's Bar, Manchester, has been elected a member of the Barton-upon-Irwell Board of Guardians.

Mr. A. E. Breeze, M.P.S., has been returned as a member of the Board of Guardians for the Town Wards of Birkenhead. Mr. E. A. Maylor, chemist (Deputy Chairman), was rejected for the Tranmere Wards.

Mr. Harry Knowles Woodward has purchased the business lately carried on at 7, Bull Green, Halifax, by Mr. C. A. Higgins, and the off-licence attached to the premises has been transferred to Mr. Woodward.

Mr. Charles Robertson, late assistant to Messrs. O. Robertson and Co., Bridge of Allan, is opening a new pharmacy at

Market Street, St. Andrews. He intends carrying a full stock of photographic goods as a side-line.

Mr. N. H. Martin, pharmaceutical chemist, was this week elected a churchwarden for St. Nicholas' Cathedral, Newcastle-on-Tyne, and also an auditor of the Burial Board in connection with St. Nicholas' parish.

The Manchester College of Pharmacy.—Mr. T. Cuthbert, of Lancaster, secured the prize given for the best theoretical work at the Manchester College of Pharmacy, and Mr. J. Beswick was awarded the silver medal which an old student gives for the best analytical work.

Mr. Frederick Soddy, M.A., has been appointed, by the Glasgow University Court, lecturer on physical chemistry for five years, the appointment to date from October 1 next. Mr. Soddy is well known for his work in radio-activity which he conducted in association with Professor Rutherford at McGill College, Montreal. At present he is engaged with Sir William Ramsay at University College, London, in a research on the emanations of radium.

Chemists as Medical Students.—That chemists are not unambitious is shown by the fact that the following (all former students of the West of Scotland College of Pharmacy) have just passed as under-noted for the First Professional Examination for M.B.C.M. at Glasgow University:—J. S. Harbinson, Chemistry, Physics, Botany, Zoology; T. E. Gray, Chemistry, Zoology (other subjects in October last); Watson Noble, Chemistry, Zoology.

Mr. James Jack, M.P.S., of Arbroath, was last week examined by the Parliamentary Commissioners appointed under the Private Legislation Procedure (Scotland) Act, to inquire into the Arbroath Corporation Water Provisional Order. The Town Council originally proposed to impose full rates upon all classes of property, but in the case of mills, factories and shops the rating was subsequently reduced to one-half. Mr. Jack and others, however, considered one-half was too great a tax on manufacturers and business men, and the Commissioners, after hearing what they had to say, lowered the rating on mills, factories, warehouses and shops from a half to a fourth.

MISCELLANEOUS NEWS.

Divisional Secretaries and other Members of the Pharmaceutical Society are requested to assist the Editor by sending local newspapers containing items of interest to chemists and druggists.

Liverpool University.—The first congregation for the conferring of degrees at the New University of Liverpool has just been held. Four medical students were the first to graduate

Americans and the Metric System.—A correspondent of the *Times* states that the Bill to render the metric system compulsory in the United States of America is meeting with organised, intelligent, and influential opposition from those who represent American machinery interests.

The Kinninmont Prize.—The examination in connection with the above prize will take place in June, and intending competitors are reminded that April 30 is the last date upon which names can be received. Particulars from Mr. William L. Currie, 223, Byres Road, Dowanhill, Glasgow.

Royal Institution.—On Tuesday next, April 12, at 5 o'clock, Professor L. C. Miall delivers the first of the three lectures at the Royal Institution on "The Transformations of Animals." On Thursday, April 14, at the same hour, Professor Dewar commences a course of three lectures on "Dissociation."

Science in South Africa.—The second annual meeting of the South African Association for the Advancement of Science was opened at Johannesburg on Monday, April 4, when Sir Charles Metcalfe delivered the inaugural address. Lord Milner occupied the chair. The proceedings, which include the reading of 56 papers, will last for one week. Sir Charles Metcalfe's address was a *résumé* of the most recent progress made in the scientific knowledge of the world.

Milk Manufacture Extraordinary.—Several daily newspapers report a prosecution of a milkman under the Sale of Food and Drugs Acts at Brentford Police Court. The Inspector is reported to have said that the "milk" consisted largely of a powder, stirred up with water, to which a small quantity of "prussic" acid was added to preserve it. The use of the word "boracic" for boric seems to cause continual mistakes of the kind.

North of England Optical Society.—The members of the Manchester and North of England Optical Society met at Messrs. Waller and Riley's Sight-testing Rooms, Bolton, on Wednesday evening, instead of the "Albion" Hotel, Manchester. The subject of the evening was "The New S. M. C. Syllabus and Regulations for Sight-testing Examinations." Mr. Harry Kemp, pharmaceutical chemist, Manchester, occupied the chair in the unavoidable absence of Mr. Bennett, the President.

The Benevolent Fund.—A member of the Pharmaceutical Society in Victoria, N.S.W., writes:—"I am sorry to see that you have to make a special and urgent appeal on behalf of our admirable Benevolent Fund. If the non-subscribing chemist would only reflect that five shillings annually from him—a sum that he wouldn't hesitate to spend many times a year on trifling personal pleasures—would place the Fund on a firm financial basis that would do credit to the whole craft. I am doubling my trifle this year, and I hope your appeal will have the same effect on every subscriber."

Funeral of the late Mr. Russell Bennet.—The interment of Mr. A. Russell Bennet took place on Tuesday, the 29th ult., in the church cemetery, Nottingham, the first part of the service being conducted at the house by the Rev. J. C. Grant, M.A., minister of the Belgrave Square Presbyterian Church, and at the cemetery by the Rev. A. Dewick, vicar of New Basford. The local Chemists' Association was represented by Messrs. T. Wilson (Vice-President), A. Middleton (Treasurer), F. R. Sergeant, H. Brown, W. Brinson, and J. Gill (one of the Secretaries); the cortège being also joined by about twenty of the students from the School of Pharmacy.

Bradford Chemists and the Council Election.—A private meeting of the members of the Pharmaceutical Society in the Bradford District was held on Tuesday night at the Royal Hotel, Bradford, for the purpose of hearing the views of Mr. Pilkington Sargeant, one of the candidates for election to the Pharmaceutical Council, and of a deputation from the Leeds Chemists' Association, who attended in support of that gentleman's position. Mr. Pilkington Sargeant was accompanied by Mr. Worfolk (President of the Leeds Association), Mr. Beacock, and others. After hearing a lengthy exposition of Mr. Pilkington Sargeant's views, the meeting decided to support his candidature and that of Mr. Newsholme.

Royal Institute of Public Health.—The annual Congress of the Royal Institute of Public Health is to be held at Folkestone next July. There will be sections on preventive medicine, municipal and Parliamentary subjects, comparative pathology, bacteriology, and chemistry, engineering and building construction, child study and school health, and a ladies' section. The Committee has also decided, in view of Shorncliffe Camp and Dover Garrison being so near at hand, to have a military section for the discussion of such subjects as early military training and tropical medicine. The trips to other towns will include visits to Canterbury and Boulogne, the Mayors of both cities having promised assistance.

The Abuse of Cocaine.—The following serious statement was made by Mr. R. G. Macpherson, member of the Parliament of Canada for Burrard, British Columbia, in the Canadian House of Commons, on March 23:—"I wish to tell the House that we have on the market a patent nostrum for the cure of catarrh which contains five per cent. of cocaine. The rest of the compound is boracic acid. I have known women and men to become useless, to lose their positions, and to lose their minds as the result of the use of nostrums of this kind. I know of one household that was entirely broken up by these patent nostrums which contain cocaine. . . . I know of one case in which 240 bottles of a preparation of this kind were used in one month by one person. It ruined the man and killed him in the end."

The Poisoning Cases at Portsmouth Asylum.—At a meeting of the Asylum Committee of the Portsmouth Council on March 26 a letter was received from the Lunacy Commissioners in reference to the inquiry held by two of their number. The letter stated that, as the result of that inquiry, the Commissioners had decided to direct the Committee to accept the resignation of Dr. Henderson, acting-superintendent at the time of the fatal cases of poisoning, and of Dr. Watson, the lady doctor. The head attendant, who had been employed at times in dispensing sleeping draughts, was absolved from all blame in the matter. This decision of the Commissioners was received with the greatest indignation by the Committee. It is pointed out that the investigations of the coroner and jury, and of the Asylum Committee, fixed no blame on any person concerned with the mixing of the fatal draughts of chloral.

Thorium in Ceylon.—The Government of Ceylon determined last year to carry out a systematic survey of the economic minerals of Ceylon and to despatch specimens of the minerals found to the Imperial Institute for chemical examination and commercial valuation. Among the specimens thus received were those of a mineral existing in small black cubical crystals, and supposed to be pitchblende. The specific gravity of the mineral was found to be 9·32, and analysis showed that it is clearly not pitchblende, since the percentage of uranium oxide is only about 12 per cent., whilst the principal constituent is thorium oxide (thoria), which is present to the extent of over 75 per cent., an amount far higher than that contained in any mineral hitherto examined. This mineral appears to be new, and the name of thorianite has been suggested for it. Since it is radioactive it may prove an important source of radium or radioactive earths. A second mineral less rich in thorium has also been found, and careful explorations are now being made as to the extent of the occurrence of both in Ceylon. The discovery of two minerals rich in thoria, now so largely employed for the manufacture of incandescent gas mantles, may prove to be of considerable commercial importance.

Agricultural Research in India.—It is officially announced that the Secretary of State for India has sanctioned the decision of the Government of India to establish an agricultural research station, with an experimental farm and an agricultural college, at Pusa, in the Darbhangah district of Bengal, and to devote to the purpose the donation of £30,000 entrusted to the Viceroy by Mr. Henry Phipps for some object of public utility, preferably for scientific research. The farm is to serve as a model for similar institutions under provincial Governments, some of the existing institutions being in need of improvement. Lines of experiment are to be initiated and tested before being recommended for trial under local conditions on the provincial farms; seed of improved varieties will be grown for distribution in the different provinces; results reported from other farms will be tested; scientific research work will be carried on; and practical training will be given to students at the college, which is to be known as the Imperial Agricultural College. The students' course will be one of five years, and it will be open to young men from all parts of India. The Government will look to the institution to provide them with teachers of agricultural subjects, with managers of experimental or demonstration farms, and with officers of the Court of Wards. At the same time the trained staff and laboratories at Pusa will provide facilities for the application of higher science to those agricultural problems the importance of which to the welfare of India and its people can hardly be exaggerated. The college will not be ready to receive students until August or September of next year.

Photography in Colours.—According to a correspondent of the *St. James's Gazette*, a new method of colour photography has been devised, in which a sheet of the colour-sensitive paper, being placed under a suitable transparency, may, under favourable circumstances, within ten minutes be made to yield a coloured photograph reproducing the whole range of primary, secondary, and tertiary colours and their mixtures. The resultant print, moreover, calls for neither development nor toning. Indeed, it might almost do without "fixing," but in order that it may not change when exposed to light it is subjected to some simple chemical operations well within the power of any ordinary amateur. The inventor is a young Galician, one Herr Jan Szczepanick, and the system whereby he obtains these striking colour prints is one that is diametrically opposed to all other photographic experiences of the practical photographer. In ordinary photographic procedure the rule has hitherto been that wherever light acted the sensitised surface darkened. Herr Szczepanick's printing process, however, depends upon the principle where light falls a proportional bleaching action ensues. So far the primuline, and certain other obscure processes, have acted as pioneers. But in the Szczepanick process two other steps forward have been taken. In the first place, the particular dyes are so sensitised that each dye used is respectively protected from decoloration by red, yellow, and blue. The second step is that three collodion (or gelatin) films dyed red, yellow, and blue, and sensitised by a treatment with anithol (?), are successively coated on a sheet of paper. On placing a coloured positive transparency over such a sheet of paper, and allowing sunlight to act, the red is entirely bleached except where protected by any red on the positive used for printing. Similarly the blue and the yellow films are bleached *pro rata* according to the absence of blue or yellow in the transparency. A short treatment designed to dissolve out the anithol (?) and to fix the dyes by means of a "mordant" completes the operations.

MARKET REPORT.

The quotations given below are the lowest prompt cash prices for bulk quantities, to which other charges have to be added. It is important that this should be borne in mind in making any comparison between the prices quoted and those of the wholesale drug trade.

General Markets.

London, Thursday, April 7, 1904.

The market in Drugs and Chemicals has not properly opened since the Easter holidays, and interest has been evinced in but few articles since the last report appeared. The usual Drug Auctions were not held last Thursday, and no Spice Sales were held yesterday. It is expected that the offerings at the auctions which will take place next Thursday will be heavy. The most important change of the week has been the advance in Cocaine. Makers have raised the price of the Hydrochloride about 1s. per ounce. Another article which is being watched with interest is Quinine; fairly large quantities have changed hands during the week ended to-day at advancing rates. When quoted last week the nominal price of the German Sulphate in the second-hand market was 11¾d., while it is reported to-day that a sale has been made at the rate of a penny higher than this. German makers decline to quote, and it is anticipated that their prices will be raised at an early date. The Amsterdam Bark Sales opened at an advance of 10 per cent. on the last sales; the final result was not known at the time of going to press. American Peppermint Oil is firming up, but the price paid for H.G.H. on the spot is still a shilling below the New York quotation. The state of affairs will be seen from the particulars given below, and the chances of higher prices here seem to be by no means remote. Menthol and Camphor still continue very quiet, and the "nominal" quotations for these articles are unaltered. Cod-liver Oil is firm, but very little business has passed during the past week. Opium and its alkaloids are unaltered.

BELLADONNA ROOT.—Some sales of good stuff are reported at unchanged prices.

BISMUTH.—Carbonate, 8s. 1d.; Subnitrate, 7s. 4d.

BORACIC ACID.—Powder, £1 4s. 6d.

BORAX.—In powder, 14s. 6d.; crystals, 13s. 6d.

CAMPHOR—Is quiet. The quotation for Japanese refined tablets on the spot is 3s. 3d. to 3s. 4d. English refined is in the same condition as it has been for several weeks, the nominal quotation for Bells being 4s.

CARBOLIC ACID.—Crystals, 39° to 40°, 7¼d.

CASCARA SAGRADA—Remains quiet, and the price is nominally unchanged.

CHAMOMILES—Are firm.

CINCHONA BARK.—The shipments at Java during last month were 500,000 Amsterdam lb., against 1,040,000 Amsterdam lb. during the same period last year. The shipments for the first three months amounted to 2,395,000 Amsterdam lb., against 2,282,000 Amsterdam lb. last year. At auctions held in Amsterdam to-day the quantity offered was 646,600 kilos, containing 27,256 kilos sulphate of quinine. The manufacturing bark contained an average of 4·58 per cent. against 5·17 per cent. at the March sales.

CITRIC ACID.—1s. per lb.

CLOVES—Are quiet. Some sales of Zanzibar have been made at an advance on last rates.

COCAINE.—Since our last report makers have raised the price 11d. per ounce on 175-oz. lots, so that the price for the Hydrochloride in those quantities is now 12s. 8d. per ounce. For smaller wholesale quantities the price is 13s. 3d.

CODEINE.—The price quoted is 8s. 4d., with further reductions for large quantities.

COD-LIVER OIL—Is still firm. Reports from Norway are no more promising than they were at this time last week. Quotations vary according to brands; for good brands the price is from 285s. to 290s. c.i.f.

CREAM OF TARTAR.—98 per cent. foreign powder, 87s.

ESERINE.—5s. per gramme for the sulphate and salicylate.

HYPOPHOSPHITES.—Lime, 1s. 8d. to 1s. 9d., according to quantity; Soda and Potash, 2d. per lb. extra.

IODIDES.—Sodium Iodide, 11s. 10d. to 12s. 1d.; Potassium Iodide, 10s. 3d. to 10s. 9d.

LINSEED OIL—Is dull. London spot barrels are quoted at fifteen guineas.

MENTHOL—Is still very quiet, and prices are unchanged since last week, the nominal quotation for "Kobayashi" being 18s. 6d.

MERCURIALS.—Calomel, 2s. 8d.; Corrosive Sublimate, 2s. 4d.; Red Precipitate, 2s. 11d.; White Precipitate, 2s. 11½d.; Mercuric Sulphate, 2s. 4d.

MORPHINE.—The acetate, muriate, and sulphate are quoted at 4s. 5d., for the powder.

OPIUM—Is quiet and unchanged. The alkaloids of this drug are unchanged in price.

OXALIC ACID.—2⅝, delivered free, London.

PEPPERMINT OIL.—14s. 6d. has been paid for H.G.H.; the New York equivalent is fully 1s. above this. American oil in tins is much dearer on the other side, the stocks held in all hands being smaller than they have been at this season for many years past. The market is firming up here. Todd's crystal white has been done on the spot at 14s. According to the *Oil, Paint, and Drug Reporter*, the situation has been strengthened by the better demand and the appreciation of the conditions which govern the new crop, as well as the extent of the supplies now held in the producing districts. New interest has been stimulated by the arrival in New York of one of the principal producers of the oil in the country. According to his authority, the severe weather during the winter has damaged the peppermint roots, and in Michigan eighteen inches of ice and water have covered the fields where the plant has been cultivated. The effect would be to restrict the amount of the new crop of oil. He estimated the entire stocks of oil through the West at about 8,000 lb. As the new crop is not due until late in August, most dealers are prepared to exercise economy in their offerings.

QUININE.—The Amsterdam Bark auctions opened at an advance of 10 per cent. on last sales, but at the time of going to press further particulars are not to hand. German makers decline to quote at present, and it is by no means unlikely that they will raise their prices at an early date. In the second-hand market the article is very firm, and it is reported that a sale has been made at 1s. 0¾d. Until the results of the Dutch sales are known, however, prices are uncertain.

SHELLAC—Is higher. Spot sales of T.N. Orange have been made at 220s., and of A.C. Garnet at 194s. for blocky.

STRYCHNINE—Is firm, owing to the scarcity of Nux Vomica.

TURPENTINE.—The market is quiet. American spot 42s.

THE QUANTITY OF OPIUM imported into Tientsin in 1899 was greater than at any time since 1894, owing to a failure of the Shanhsi and Honan crops, and the largely decreased import since then is accounted for by the competition of the native article.

PATENTS AND TRADE MARKS.*

New Patent Applications.

PROCESS FOR THE PRODUCTION OF HIGHLY SULPHURETTED HYDROCARBONS (No. 8,596 of 1903). — J. E. W. Bengough, Hasenauerstrasse 11, Vienna. Consists in producing highly sulphuretted hydrocarbons from unsaturated hydrocarbons obtained by the dry distillation with earthy alkali oxides of the impurities obtained by the treatment of raw mineral oils with sulphuric acid, consisting in treating said hydrocarbons with chloride of sulphur (S_2Cl_2), and further treating the products thus obtained with soda lye to separate the chlorine. Example:—50 kilos of powdered lime are stirred up with the same quantity of moderately heated raw mineral oil impurities, and the residue is pulverised and distilled dry out of the retorts. The oil separated from the water is treated with from 10 to 40 per cent. of chloride of sulphur, being cooled and continuously stirred at the same time, and the chloride of sulphur being used drop by drop. The oil thus obtained is boiled with approximately 10 per cent. of soda lye to separate the chlorine, and washed with boiling water. The product is used for pharmaceutical purposes.

MANUFACTURE OF ESTERS TRIMETHYL-CYCLOHEXENONECARBOXYLIC ACIDS (No. 11,138 of 1905).—O. Imray, of Birkbeck Bank Chambers, Southampton Buildings, London. (Communicated by Fabwerke vorm. Meister, Lucius and Bruning, of Hoechst a/Main, Germany.) The above esters are made by condensing sodium alkyl-acetoacetate with isopropylidene-alkyl-acetoacetate. For example, to a solution of sodium in alcohol ethylacetoacetate is added. When cold the mixture is treated with isopropylidene-ethylacetoacetate, and then allowed to stand for several weeks at a low temperature, whereupon sodium ethyl-carbonate separates as a powder or as crystalline crusts. The alcoholic solution is then neutralised while cooling and the alcohol distilled in a vacuum at a moderate temperature. The ethyl-trimethyl-cyclohexenonecarboxylate remaining in the distillation flask as a layer of oil is extracted with ether, the ethereal solution is dried, and the oil remaining after distilling is purified in a vacuum by distillation.

MANUFACTURE OF METHYLENE-HIPPURIC ACID (No. 10,095 of 1903).—A. Zimmermann, 3, Lloyd's Avenue, London. (Communicated by the Chemische Fabrik auf Actien vorm. E. Schering, 170, Mullerstrasse, Berlin, Germany.) Example of method followed:—100 grammes of hippuric acid is shaken with 75 grammes of paraformaldehyde and 500 grammes of concentrated sulphuric acid until dissolved, and is allowed to stand at the ordinary temperature for four days. The mixture is then poured into ice and the precipitate filtered off. The precipitate is then thoroughly mixed with a cold solution of sodium acetate in excess and filtered after standing for half an hour. The hippuric acid is thereby dissolved, whilst the product of the reaction remains behind.

INJECTION SYRINGE (No. 2,483 of 1904). A. G. Bloxam, of Birkbeck Chambers, Southampton Buildings, London. (Communicated by J. and H. Lieberg, of 15, Schlossplatz, Cassel, Germany).—Consists in making a scale of paper, opal glass, celluloid, or even metal, which is introduced into a transparent hollow piston in the syringe before the piston is sealed, instead of having the scale etched either on the outside of the cylinder or on the piston rod. By this means any indistinctness of the scale due to the corrosive action of the liquids contained in said syringe on the colour of the ordinary etched scale is avoided.

Note.—Opposition to the grant of any of the above-mentioned patent must be filed at the Patent Office on or before May 9, 1904.

New Trade Mark Applications.

"**WYLIENE**," for chemical substances used in manufactures, photography, and philosophical research, and anti-corrosives, by Wylie and Co., Limited, Bridge Works, Brentford. 261,334.

"**PROTOREX**," for a fertiliser, by N. Van Laer, 63, Calais Road, Burton-on-Trent. 261,394.

LABELS containing figures of two flying angels supporting a bottle, each in respect of essence of mint being a medicinal preparation for human use, by De Ricqlès et Cie., 133, Boulevard Victor Hugo, Saint Ouen, Seine, France. 248,673-4.

"**VOLFANGO**," for chemical substances prepared for use in medicine and pharmacy, by British Fango di Battaglia Co., 69-70, Mark Lane, E.C. 260,510.

"**BUDNIP**" and device (device only claimed), for medicines for human use, by J. A. Buckley, 88, High Street, Lees, near Oldham, Lancs. 260,430.

"**VESCETTES**," for chemical substances prepared for use in medicine and pharmacy, by W. H. Martindale, 10, New Cavendish Street, W. 260,597.

PORTRAIT OF APPLICANT, for an ointment for human use, by J. Lewis, Twemlow Green, near Holmes Chapel, viâ Crewe, Cheshire. 260,782.

"**POPPY**" and device (device only claimed), for a medicinal powder for human use, by J. Morris, 33, Wharf Street, Leicester. 260,835.

"**EXOBEZE**," for a medicinal preparation for the reduction of obesity in mankind, by H. S. Kelly, Apsley House, Sandon Street, Liverpool. 260,840.

"**OWL**," for perfumery, etc., by Vinolia Co., Limited, Malden Crescent, N.W. 260,311.

"**ZONGOLA**," for toilet preparations, by G. Horton, 106, Wellingboro' Road, Northampton. 260,872.

Note.—Opposition to the registration of any of the above-mentioned trade marks must be filed at the Patent Office on or before April 30, 1904.

COMPANY INTELLIGENCE.

Meggeson and Co., Limited.—The warrants for the half-yearly interest on debentures and preference shares, and an interim dividend on ordinary shares, in this company were posted to the shareholders on Thursday, March 31.

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* These abridgments of new patent applications and particulars of new applications for trade marks have been specially compiled from official sources, for the *Pharmaceutical Journal*, by Mr. Reginald W. Barker, agent for procuring patents and registering trade marks and designs, 56, Ludgate Hill, London, E.C., from whom any information on the subjects may be obtained. Mr. Barker will also send copies of his 'Trade Mark Notes' and 'Patent Notes for Inventors' free on application.

LETTERS TO THE EDITOR.

All Communications for the *Pharmaceutical Journal* must be addressed to the Editor, 17, Bloomsbury Square, London, W.C., and, if intended for publication in the current week's issue, should reach the Office not later than Wednesday, unless specially arranged for in advance. The matter should be written clearly and concisely on one side of the paper only and must be authenticated by the names and addresses of the writers, as no notice can be taken of anonymous letters. Articles submitted for the Editor's approval should be accompanied by stamped addressed envelopes, otherwise no guarantee can be given that they will be returned if not found suitable. Reprints of articles cannot be supplied unless the authors communicate with the Editor before publication. The right to reproduce all original matter and illustrations published in the Journal is strictly reserved.

The Morphology of the Nasal Bougie.

Carlyle has said that if Cleopatra's nose had been half an inch shorter the history of the world would have been changed, but unless a person had a proboscis like that of Cyrano de Bergerac I fear that he could not accommodate a 2-in. bougie in his upper air passage. Whilst, therefore, expressing my indebtedness to Mr. Alfred Roe for his courtesy in replying, I consider that his statement to the effect that nasal bougies should be about 10 grains in weight and 2 in. long only obfuscates the issue, in view of the fact that text-books state that the weight should be 40 grains, and that 2 in. is surely an impossible length. The definition of a bougie mentioned by Mr. Roe obviously refers to that flexible cylindrical instrument (something like a blind catheter) used to dilate the urethra, and commonly made of rubber. It is unfortunate that the name "bougie" should be applied both to this and the shorter, soluble, unctuous rod now under consideration. One is edified to find a suppository figured in some of the text-books with the information that it is adaptable to the uterus, the urethra, or the nose; but whilst we are charmed with the ingenuity of an article which can contrive a treble debt to pay, I submit that it is scarcely creditable to British pharmacy that there should be no fixed weight or shape for a nasal bougie (where not specially stated), and I even venture to suggest to the Editor the advisability of ascertaining from the leading rhinologists the shape and weight of the article they wish to be supplied when they order a "nasal bougie."

Dublin, April 1, 1904. J. C. McWalter.

Further Opinions on the 'P.J. Formulary.'

Although very late, I should like to add my mite of appreciation of your good work. The fact is, I have been waiting for a favourable opportunity to examine more thoroughly than at first the 'P. J. F.,' and I can truthfully say that the favourable opinion I formed on a hasty glance at the volume has been amply confirmed on a closer acquaintance with same. I have much pleasure, as a small token of appreciation, in enclosing P.O. for 1s. to go towards any deserving object you may think fit.

Paignton, April 5, 1904. A. W. Cornish.

It reflects great credit upon the compilers.

Halifax, March 21, 1904. H. K. Woodward.

It will be a valuable reference-book to the chemist in business.

Liversedge, March 2, 1904. E. Midwood.

It is indispensable to every chemist and druggist as a standard work of reference, and to the business man I feel sure it will be used daily. To-day I have used it, and earned 1s. 6d.

Grimsby, March 1, 1904. Thos. D. Sneath.

You could not improve on it. It is invaluable, as full of information as an egg is full of meat.

Chapel-en-le-Frith, March 22, 1904. J. S. Gray.

The Pharmaceutical Society is to be congratulated on the thoroughness of the work. It certainly will be a standard work, so that 'P.J.F.' and 'B.P.' will be equally necessary.

Bristol, March 22, 1904. W. Pitchford.

It is capital, and will prove very useful to me.

Halifax. H. C. Brierley.

It is a splendid book of reference, and will well repay perusal.

14, Highbury Park, N., March 26, 1904. J. T. De Peare.

'Tis not in mortals to command success, but you've done more—deserved it. It is a valuable asset to any pharmacy.

Chesterfield, March, 1904. James Harry Toplis.

The book will be a very useful one. It is a wonderful compilation, and should serve its purpose admirably. Allow me to add my congratulations on the successful publication.

Oldham, March 26, 1904. C. Gartside.

It is a vital necessity to every chemist, second only to the B.P.

Halifax, March 22, 1904. W. R. Black.

A most valuable work of reference, and, considering the time in which it was produced, a marvel of completeness.

Belgrave Square, S.W., March 25, 1904. E. A. Barton.

PRACTICAL NOTES AND FORMULÆ.

Shampoo Pastes.

(1) Soft soap, 1 oz.; liquor potassæ, 2 fl. oz.; alcohol, 90 per cent., 2 fl. oz.; perfume to suit. (2) Soft soap, ½ oz.; powdered borax, 1 drachm; solution of ammonia, 1 drachm; eau de Cologne, ½ fl. oz. (3) White Castile soap, 4 oz.; powdered curd soap, 2 oz.; potassium carbonate, 1 oz.; honey, 1 oz.; perfume to suit.—*Spatula*, **10**, 35.

Pot Pourri.

Lavender flowers, 16 oz.; rose petals, 16 oz.; orris root, 16 oz.; table salt, 8 oz.; cloves, 4 oz.; cinnamon, 4 oz.; benzoin, 4 oz.; pimentos, 4 oz.; vanilla, 2 oz.; musk pod skins, 1 oz.; English lavender oil, 1 drachm; sandal oil, 1 drachm; rose geranium oil, 1 drachm; bergamot oil, 2 drachms; lemon oil, 2 drachms; essence of ambergris, ½ oz.; otto of rose, 10 minims. Grind all the solids to coarse powder, and mix the liquids with the powder.—*Spatula*, **9**, 673.

Egg Shampoos.

(1) Spirit of soap, 100 Gm.; solution of ammonia, 10 Gm.; lemon oil, 3 Gm.; rose geranium oil, 1 Gm.; water 810 Gm.; yolks of 4 eggs. Mix the yolks of eggs thoroughly with the ammonia, gradually add the water, then the perfumes, shake well, and strain. (2) Three eggs; spirit of soap, 4 fl. drachms; potassium carbonate, 160 grains; solution of ammonia, 160 minims; coumarin, $\frac{1}{10}$ grain; otto of rose, 2 drops; oil of bergamot, 2 drops; oil of geranium, 1 drop; essential oil of almonds, 1 drop; rose water, 27 fl. oz. Beat the eggs thoroughly, mix with the rose water, then add the other ingredients. If desired to have the shampoo in paste form, add only enough rose water to give the desired consistence.—*Spatula*, **10**, 35.

REPLIES TO CORRESPONDENTS.

Information required by readers will be published in this column as early as possible, but the Editor cannot undertake to reply by post, even though stamped addressed envelopes accompany the queries. Replies will, in all cases, be referred to the sender's initials, and the registered number added in each instance should be quoted in any subsequent communication on the same subject. When formulæ are given without definite weights and measures, it should be understood that the solids are to be weighed and liquids measured. Plants for recognition should be addressed to the "Curator, 17, Bloomsbury Square, London, W.C.," accompanied by a stamped, directed envelope for reply. No notice can be taken of anonymous communications.

Corn Silk (W. R. F.—299/45).—The recipe will be included in the 'P.J.F.' supplementary pages.

Essential Oils (W. T. G.—110/5).—Gildemeister and Hoffman's 'The Volatile Oils' is the best work on the subject. It is in the Pharmaceutical Society's library.

Spectacle Makers' Company (G. M. P.—110/6).—Refer to the Photographic and Optical supplement, published with the *P.J.* of March 26 last, for the information you require.

Syrup of Coltsfoot (C. M. S.—299/23).—You will find recipes in the 'P.J.F.' for both syrup of coltsfoot and syrup of horehound. The attention of your wholesale house should be directed to the fact.

Key to 'P. J. F.' (C. P.—299/7).—Many thanks for your kind offer. The idea of publishing such a key has already been under consideration, but the possible disadvantages of so doing appeared to outweigh its advantages.

Labels (L. H. S.—110/7).—With regard to both the effervescing saline and Carlsbad powder, refer to last week's *Inset*, page 19, or to the *P.J.* of February 27 last, page 250, at the end of the paragraph on "Non-Dutiable Articles."

Medicine Stamp Duty (C. H. W.—110/4).—(1) No. (2) No. (3) See the *P.J.* of March 26, page 457; also last week's issue. (4) You should affix a slip round the box. (5) The words "prevents decay" may be held to render the carbolic tooth powder liable. (6) This is a matter for the exercise of your own discretion.

Healing Ointment (E. R. B.—300/5).—The name was inadvertently left in the list of dutiable titles republished last week at page 463. The descriptive title "Healing Ointment" was originally regarded by the Board of Inland Revenue as incurring liability to Medicine Stamp Duty, but the Board has since intimated that the word "healing" will not be regarded as involving liability if used alone to describe a medicine. The present rule is (see *antea*, p. 462) that medicines described by reference in general terms to their operation are not liable.

BIRTHS.

Hurn.—On April 5, at Mundesley House, Palgrave Road, Great Yarmouth, to Mr. and Mrs. W. H. Hurn (of Norwich)—a son.

Skyrme.—On March 23, wife of Harold Edgar Skyrme, 21, Collier Road, West Hill, Hastings, of a daughter.

DEATHS.

Aird.—On April 6, suddenly, at Crewkerne, Richard Aird, who for many years represented the firm of Davy, Hill and Co., of Southwark, in the South of England.

Allison.—On April 2, Edward Allison, Chemist and Druggist, Hull. Aged 79. Mr. Allison had been associated with the trade of Hull for 50 years in connection with the firm of Messrs E. and H. Allison, wholesale chemists and oil merchants. He was born at Horncastle in 1825, and retired from business about six years ago. Mr. Allison took great interest in philanthropic work, and up to the time of his death was a trustee and manager of the Hull Savings Bank. He was also one of the first members of the Management Committee of the Hull Ragged School, and was a founder of the Hull Young People's Institute.

Crick.—On March 30, George Edward Crick, Pharmaceutical Chemist, Maldon. Aged 79. Mr. Crick, who had been a member of the Pharmaceutical Society since 1853, went to Maldon from Thorpe-le-Soken over fifty years ago, and has resided at Old Chantry House for many years.

Pearson.—On March 30, John Pearson, Chemist and Druggist, Leyburn. Aged 90.

Whaley.—On April 2, Edward Whaley, Chemist and Druggist, Kingston-on-Thames. Aged 65.

PUBLICATIONS RECEIVED.

Technological and Scientific Dictionary. Edited by G. F. Goodchild, B.A., and C. F. Tweney. Part I. Pp. 64. Price 1s. net. London: George Newnes, Limited, Southampton Street, Strand, W.C.

The Dentists' Register, 1904. Pp. 247. London: Spottiswoode and Co., Limited, 54, Gracechurch Street, E.C. From the Registrar of the General Medical Council.

The Medical Register, 1904. Pp. 1,727. London: Spottiswoode and Co., Limited, 54, Gracechurch Street, E.C. From the Registrar of the General Medical Council.

A Safe Course in Experimental Chemistry. By W. T. Boone, B.A., B.Sc. Pp. viii. + 180. Price 2s. London: W. B. Clive, University Tutorial Press, Limited, 157, Drury Lane, W.C. 1904. From the Publishers.

Calendar for the Week (April 10—16, 1904).

Days of M	W	Events of the Week.	Sun Rises	Sun Sets
10	S	**First Sunday after Easter.**	5.18	6.45
11	M	Sir Wm. Priestley, M.D., F.R.S., died 1900.	5.15	6.47
12	Tu	Easter Law Sittings Begin.	5.13	6.48
		Bradford and District Chemists' Association, Royal Hotel, Darley Street, at 7.30 p.m.—Annual Dinner.		
13	W	Pharm. Soc. G.B., 17, Bloomsbury Square, London, at 11 a.m.—Meeting of Council.	5.11	6.50
		Bristol Pharmaceutical Association, Royal Hotel, at 7 p.m.—Annual Dinner.		
		Edinburgh Chemists' Assistants' and Apprentices' Association.—Visit to Newcraighall Coal Pit.		
		Newcastle-on-Tyne and District Chemists' Association, at 8.30 p.m.		
		Wolverhampton and District Chemists' Association, Star and Garter, at 8.30 p.m.—"The Modern Chemist." By H. E. Cullwick.		
14	Th	Brighton Association of Pharmacy, 58, King's Road, at 9 p.m.—Ordinary Meeting.	5.9	6.52
		Chemists' Assistants' Association, 73, Newman Street, London, at 8.30 p.m.—Exhibition Evening.		
		Grimsby and District Chemists' Association, Oberon Hotel, at 3 p.m.—Annual Meeting.		
		Leeds and District Chemists' Association.		
		Midland Pharmaceutical Association.—Annual Meeting and Smoker.		
		West Ham and District Chemists' Association, Earlham Hall, at 7 p.m.—Ordinary Meeting.		
15	F	●New Moon, 9.53 p.m.	5.7	6.53
16	S		5.5	6.55

LETTERS, NEWSPAPERS, QUERIES, and other COMMUNICATIONS have been received from Messrs. Andrews, Austen, Barker, Barrie, Beken, Bennett, Betty, Bott, Breeze, Brown, Butterworth, Clark, Coleman, Cornish, Gadd, Gwinn, Haslam, Hayllar, Holding, Jones, Leadbeater, Lewis, Machin, McWalter, Mortimer, Mumford, Noble, Orton, Perry, Pickard, Pinchen, Pitt, Plenderleith, Polgreen, Priestley, Sansom, Sargeant, Selleck, Simpson, Skyrme, Snow, Snowdon, Spence, Stanley, Turner, White, Wilkins.

Telegrams: "Pharmaceutical Journal London"
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Telephones, "Editor," 3620 Gerrard; "Publishers," 379 Holborn.

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The Journal circulates widely in the United Kingdom, France, Germany, Austria, Italy, Russia, Switzerland, Canada, the United States, South America, India, Australasia, South Africa, etc. It is supplied regularly to the majority of the Chemists and Druggists in business in England, Scotland, and Wales, and to the whole of the members of the Pharmaceutical Society of Great Britain. Orders for Advertisements or for Copies of the Journal should be addressed to the Publishers, 8, Serle Street, London, W.C.

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Annual Subscription, 20s. Post Free; Single Copies, 4d. each, by Post, 4½d.

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CHANGES OF ADDRESS.

Instructions from Members of the Pharmaceutical Society, with reference to the transmission of the Journal, should be sent to the SECRETARY, 17, Bloomsbury Square, London, W.C.

The Pharmaceutical Journal Office.

Thursday, April 14, 1904.

The Marking of the Examination-Paper for students which recently appeared in the *Pharmaceutical Journal* is almost completed, and a report on the examination may be expected to appear in next week's issue.

An Import Duty on Chemicals in the manufacture of which alcohol is used is mentioned as a possible source of revenue. To impose this tax would only necessitate the extension of the scope of the Customs Consolidation Act, 1876.

Seventy-three persons have just been elected to membership of the Pharmaceutical Society, and eight have joined as student-associates. Several distinguished men of science have been recommended for election as honorary or corresponding members.

Forty-one Members of the Pharmaceutical Society were nominated for the Council. Of these, twenty have not intimated their willingness to serve; in addition, eight nominations were invalid, as the nominees had not paid their subscriptions for the current year.

The Annual Financial Statement and balance-sheet of the Pharmaceutical Society were presented to the Council and adopted at Wednesday's meeting. On the General Fund the balance, as the result of the year's working, was £355 10s. 2d. The statement is printed in this issue.

A Tax on Mineral Waters is the astounding suggestion made by a correspondent to the penny paper of the largest circulation. The shareholders of Messrs. R. White and Sons, Limited, are probably of the opinion that a tax equivalent to 6 per cent. on the ordinary shares was quite sufficient.

Jacob Bell Scholars will in future forfeit their scholarships if they enter for the Minor Examination within six months of the commencement of the session for which the scholarship is tenable. Further, a competitor who has entered for the "Minor" will not be awarded a Bell scholarship.

Pharmaceutical Dinners have been held under the auspices of the North Staffordshire Chemists' Association, the Bradford and District Chemists' Association, and the Bristol Pharmaceutical Association. At each of these the Council of the Pharmaceutical Society has been represented by one or more of its members.

The Council of the Pharmaceutical Society, at its meeting on Wednesday, decided not to appoint an organising secretary. Three silver medals, awarded to the successful competitors in the prizes examination of the School of Pharmacy, have been won by Mr. F. G. C. Walker, who was a Jacob Bell scholar. The silver medal for practical chemistry was awarded to Mr. Alfred Wade.

Negotiations with the Privy Council on the subject of "poisons" legislation have not yet reached the stage at which it is considered advisable to make public such information as the officers of the Pharmaceutical Society possess. For the present, therefore, members must rest content with the welcome information (given in last week's issue) that the negotiations are in progress.

Sir Michael Hicks-Beach, M.P., has been interviewed by a deputation of Bristol chemists and druggists on the subject of the Pharmacy Bill. Although the ex-Chancellor of the Exchequer does not see any reason why the owner of a chemist's business—whether a limited company or an individual—should be qualified at all, so long as the man in the shop who hands over the poison is a registered person, Sir Michael thinks it wrong that advantage should be taken of the Companies Acts to avoid the restrictions which are enforced on those who trade as individuals.

Among the Articles which have advanced in price since last week are Peppermint Oil and German Sulphate of Quinine. Camphor is unchanged. At the Drug Sales held to-day things were very dull, and there was no particular feature.

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TRADE NAMES AND SUBSTITUTION.

The immorality of unjustifiable "substitution" by retail traders is not a subject on which there is any necessity to dilate. But the law on the whole subject of trade-marks, trade-names, and proprietary rights in manufactured goods is full of interest to pharmacists, and fertile in profit to the legal profession. More than a passing glance is, therefore, claimed by a treatise 'On Passing-Off,' by Mr. John Cutler, K.C. (Gay and Bird. 1s. net.) One of the earliest points which the author makes is that in passing-off actions it is not necessary, in order to obtain an injunction, that the person charged with passing-off should be proved to have done so intentionally. Honesty of purpose is no defence. Again, the owner of proprietary rights who seeks an injunction for passing-off is not obliged to prove that there has been actual deception, if he satisfy the court that what the defendant is doing is calculated to lead to his goods being mistaken for the plaintiff's. Mr. Cutler regrets that at present judges seem disposed, when considering whether or not a label is calculated to deceive, to dissect the two labels for points of difference, rather than to consider the general resemblance or "get-up" of the goods. Thus he says:—"It is quite possible to have a label on which every single element may be common to the trade, and yet the combination of those elements may be so novel and so striking that the whole may be so distinct from any other label in use in the particular trade as to be admirably suited to distinguish

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the owner's goods in the market. Such a label ought to be entitled to protection."

The owner of a registered trade-mark can obtain redress without difficulty—unless, as in the "Tabloid" case, the validity of the trade-mark is questioned—if there be any infringement or colourable imitation. A trader has the exclusive right to the use of his trade-mark. But a trader has no such monopoly in his unregistered trade-name. All he can claim is that no one else shall use that trade-name in a deceptive way, and his only protection must be sought by means of an action for passing-off. The plaintiff, then, has to prove (1) that the trade-name does in fact distinguish his goods on the market, (2) that the methods of the defendant are in fact calculated to deceive purchasers. A trade-name may be given to an article by the public, and not necessarily by the manufacturer. Thus "Bass" is a trade-name given by the purchasing public to ale brewed by Bass, Ratcliff and Gretton, Limited. In any case, and whatever the origin of an unregistered trade-name, the manufacturer who relies upon it to prevent substitution is required to adduce evidence to show that a substantial proportion of the trade, or of the public, or of both—but not all the trade or all the public—in asking for goods under the trade-name, expect and intend to be supplied with his goods sold under that name and nothing else. The greatest weight, according to Mr. Cutler, should be placed on the evidence of the purchasing public, although evidence from traders is not without value.

A difficult point arises when a defendant trades under his own name, which is also part of the trade-name of a well-known proprietary article. Thus, two men named Day and Martin formed a partnership to sell blacking, long after the original Day and Martin's blacking had become a recognised article of commerce. On this subject, Mr. Cutler lays down three general propositions, which seem to be worth quoting somewhat fully:—

> 1. A man will not be restrained from simply carrying on business in his own name, even though confusion may arise.
>
> 2. A man will be restrained from carrying on business in his own name dishonestly—*i.e.*, when he not only uses his own name, but uses it in such a way (that is, in conjunction with other circumstances) as to represent that his business or his goods are the business or goods of another trader.
>
> 3. If a trader has a trade-name for his goods which denotes those goods solely in the market, and distinguishes his goods from similar goods of other traders, so that the trade and the public, when asking for goods under that name, mean and intend to get particular goods emanating from one particular trade source (although they may not know such trader's name), then he is entitled to be protected by the court against other traders using that name in such a way as to be calculated to pass off other goods as his.

Pharmacists generally agree with the statement made in evidence by Mr. C. B. Allen during the hearing of the "Tabloid" action—that in some circumstances a pharmacist has a right to exercise his discretion, and that it is justifiable, if he knows that a prescriber has made a mistake, for the dispenser to supply goods of a make other than that specified. But substitution, properly so-called, is, of course, outside the pale. And although we are not in sympathy with the many lay newspapers which persist in regarding the chemist and druggist as one of the worst offenders, or with the solitary medical journal which repeatedly states that "dispensers cultivate the practice of substitution as a fine art," we have no hesitation in commending 'Passing-Off' as a book well worthy of perusal by any who propose to place on the market a proprietary article with a distinctive name.

TWO NEW ELEMENTS.

Considerable interest has been caused by the announcement that Professor Baskerville, of the University of North Carolina, has been able, by distilling thorium oxide, obtained from monazite sand, in a quartz tube with carbon and chlorine, to obtain two new elements of the radio-active group. One of these, which he calls berzelium, is said to appear as a greenish vapour, which can be condensed and solidified without great difficulty. The other, carolinium, "adheres to the quartz in crystals" of a pink colour. Each of the elements is stated to glow through enclosing tubes of copper, iron, brass, and other substances. It may be mentioned that monazite sand has been discovered in Swaziland, as well as in North Carolina.

JAMES SMITHSON.

The remains of James Smithson, which have lain in the English cemetery on the heights of San Benigno since 1829, have recently been taken to America, where they are to find a final resting-place in the Smithsonian Park, Washington, under the shadow of the Institution which he founded. That Institution, which its founder desired to be an "establishment for the increase and diffusion of knowledge among men," has achieved results that can hardly be measured. Very welcome, therefore, is the biographical sketch of Smithson which Mr. W. B. Marshall contributes to the current number of the *American Journal of Pharmacy.* The subject of the paper was the natural son of the first Duke of Northumberland, and was born in England in 1765. In 1787, he was admitted as a Fellow of the Royal Society, before which he read his first scientific paper, entitled "An Account of Some Chemical Experiments on Tabasheer." From that time to his death in 1829, not much is known of Smithson's career, except that, as shown by the scientific papers which he published, he devoted much of his time to chemical investigations. Mr. Marshall quotes the following remarks by Professor Frank W. Clarke, chief chemist of the United States Geological Survey:—"The most notable feature of Smithson's writings, from the standpoint of the modern analytical chemist, is in the success obtained with the most primitive and unsatisfactory appliances. In Smithson's day, chemical apparatus was undeveloped, and instruments were improvised from such materials as lay readiest to hand. With such instruments, and with crude reagents, Smithson obtained analytical results of the most creditable character, and enlarged our knowledge of many mineral spheres. In his time, the native carbonate and silicate of zinc were confounded as one species under the name 'calamine,' but his researches distinguish between the two minerals, which are now known as Smithsonite and calamine respectively. . . . His work was mostly done before Dalton had announced the atomic theory;

and yet **Smithson** saw clearly that a law of definite proportions must exist, although he did not attempt to account for it."

For the founding of the Institute which bears his name, **Smithson** bequeathed a fortune amounting to about half a million dollars. He had such absolute trust in the American people that he imposed no restrictions, directions, or safeguards as to the manner in which the "establishment for the increase and diffusion of knowledge" was to be carried on. The Institution, in the fifty-eight years which have elapsed since it was founded, has called into being and has under its care the National Museum, the Bureau of American Ethnology, the National Zoological Park, the Bureau of International Exchanges, and the Astrophysical Observatory, and it has mothered various other of the scientific bureaux of the Government's work. Mr. **Marshall** states that "probably no trust has ever been more honourably and successfully administered, and certainly none has had so great effects both at home and to the far corners of the earth."

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ANALYSTS AT FAULT.

The identity of the new mineral recently found in Ceylon, and referred to in last week's issue of the *Pharmaceutical Journal* at page 508, is for the present by no means certain. Sir **William Ramsay**, in a letter to *Nature*, states that the process of working up the mineral has been carried on in the works of Mr. T. Tyrer, at Stratford. The mineral, when heated alone, gives off 3·5 C.c. of helium per Gm., the amount being increased to 9·5 C.c. when fused with potassium hydrogen sulphate. But the nature of the principal constituent is for the present unknown. Adopting Mr. G. S. **Blake**'s analysis, Mr. W. R. **Dunstan** has stated that the mineral contains thorium oxide, in the proportion of 75 per cent. Sir **William Ramsay**, however, states that it has been repeatedly proved in his laboratory that the mineral contains practically no thorium. Again, he denies that there is any appreciable quantity present of cerium, lanthanum, or didymium, the oxides of which elements were "found" in the laboratory of the Imperial Institute. He agrees with Mr. **Dunstan** that the mineral contains between 8 and 12 per cent. of uranium oxide. One analyst has stated that the mineral contains 82 per cent. of zirconia, but the equivalent of the elements of the oxalate group excludes the presence of any large quantity of zirconium, although that element is undoubtedly present. Sir W. **Ramsay** continues as follows:—"Fractionation shows that the oxalate precipitate (the portion soluble in ammonium oxalate) gives equivalents between 25·0 (the most insoluble portion of the double sulphate) and 44·7 (the most soluble portion); by far the major part of the element has the last-mentioned equivalent. The separation of this portion is now being carried out with large quantities of material; several hundredweights are being worked up. Assuming that the element is a tetrad, which is probable from its behaviour, it undoubtedly possesses an equivalent approaching the highest number (44·7), and for this there is a gap in the periodic table between cerium and thorium; one at least of the elements present (supposing that there is more than one present) will probably have an atomic weight of about 177, preceding tantalum (182·5) in the horizontal row of the periodic table. I am at present engaged in mapping the spectrum of this new body or bodies. As for the radio-activity, the mineral was bought in the hope that it would have a high content of radium. There is a trace of radium present, due, no doubt, to the spontaneous change of the uranium which the mineral contains. But the radio-activity due to this source is certainly not 5 per cent. of the total. The period of decay of the emanation appears to point to the presence of a radio-active element closely resembling thorium X. The half value is 50 or 51 seconds, and while this is not quite the time for the decay of thorium emanation, it very nearly approaches it; at present the balance of evidence appears to point to the presence of an element closely resembling thorium, but not identical with it. The total radio-activity, moreover, is much greater than can be accounted for by the supposition that the one consists of pure thoria."

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SOME EXPERIMENTS WITH CHLOROFORM.

The rapid development of operative surgery is, without doubt, one of the most noticeable characteristics of modern progress. In the forefront of the dangers which such a development inevitably entails is the possibility of death during anæsthesia. Nearly every week it becomes necessary to record one or more deaths due to chloroform, administered for the purpose of an operation. Now, at least one part of chloroform in 10,000 parts of blood is required to produce complete anæsthesia, in the human subject. Further, it has been recently proved that one part of chloroform in 100,000 of nutrient solution is in certain cases sufficient to cause a demonstrable alteration of cardiac activity when perfused through the heart. It will thus be seen that a small margin exists in the case of chloroform between the quantity of the drug necessary for anæsthesia and the quantity capable of producing upon the heart a toxic effect adequate to imperil life. It has from time to time been stated that fatal effects are due to impurities, but that view has been strongly combated. The effect of evaporation on the toxicity of the anæsthetic has formed the main subject of an interesting pharmacological research by Dr. F. W. **Tunnicliffe**, who has examined a large number of samples of chloroform used in the South African War, and has published his conclusions in the Journal of the Royal Army Medical Corps. In some cases, where death had occurred, it was suspected that the chloroform used had deteriorated as the result of heat and other conditions incidental to active service. To discover the effect of such conditions, samples of pure chloroform (B.P.) were mechanically shaken for several days, exposed for a considerable period to the direct July sunlight, and finally allowed to evaporate in the laboratory to half their bulk. The residual portion did not differ at all from pure chloroform in its toxic action on cardiac muscle. From that it may be inferred that pure chloroform containing a small percentage of absolute alcohol, as directed by the British Pharmacopœia, will remain free from pharmacological deterioration under the ordinary conditions of military transit. None of the numerous samples of chloroform examined differed materially in its toxic action upon the heart from pure chloroform, with the exception of some "methylated" samples which showed a slightly but appreciably increased toxic action. Such samples are, of course, not prepared for anæsthetic purposes. An observation communicated by one of the large manufacturers of chloroform is of interest in this connection. It was to the effect that headache frequently occurred among the workmen while bottling chloroform made from methylated alcohol, whereas the symptoms were not observed while manipulating chloroform derived from ethylic alcohol. Dr. Tunnicliffe is not at present able to give a definite answer to the important economic question as to whether the toxicity of chloroform varies according to its source. As much chloroform is now prepared from acetone or chloral, as well as from alcohol, further pharmacological experiment might possibly be valuable.

A RUMOURED TAX.

It has long been a grievance among British chemical manufacturers that, while their German competitors have been working with duty-free alcohol costing 2d. per lb., they themselves have had to pay 2s. 3d. per lb. for the same alcohol. But, in view of the fact that the Chancellor of the Exchequer will have to meet a deficit, little or no hope can be held out that the Inland Revenue authorities will—at any rate, for the present—consider a remission of the tax on alcohol used for manufacturing purposes. And, indeed, however desirable and urgent it may be to have duty-free alcohol for such purposes, the present is perhaps hardly a suitable time to press the claim. At the same time, it is possible that chemical manufacturers will shortly benefit in another way, for it is rumoured—and there seems good ground for the rumour—that an import duty is to be levied on certain chemical substances in the manufacture of which alcohol is employed. Should this rumour prove to be correct, the Treasury, in imposing the tax for revenue purposes, will, incidentally, do an excellent turn to British makers of chemicals.

It should be explained at the outset that the articles referred to are not those which contain alcohol in the finished state, but those for which alcohol is necessary in some part of the process of preparation. This tax will not involve the violation of any old principle; it will not even necessitate the sanction of Parliament. It will merely require the enforcement of an Act—or, rather, the extension of the scope of an Act—which is already twenty-eight years old. This is the Customs Consolidation Act, 1876, and the clause under which the new tax could be enforced reads as follows:—"Upon the importation into Great Britain and Ireland of any articles in the manufacture of which spirit has been used there shall be charged in respect of such quantity of spirit as shall appear to the satisfaction of the Treasury to be used in the manufacture of such articles a duty equivalent to that which would be chargeable on the like quantity of spirit on its importation into the United Kingdom." It seems hardly likely that a Chancellor in search of all possible sources of income could possibly overlook this.

At the present time the list of articles taxed under this clause only includes eight chemicals. Of these the most productive is chloral hydrate, which, during the year 1903, yielded £1,204 to the Revenue. The total amount yielded by the whole list during the same period was about £2,600. The sum seems very trivial indeed, but it only represents a fraction of what the yield would be if the law were systematically enforced and the list extended to include all the articles to which it might apply. The number of important chemicals in the preparation of which alcohol is used is very extensive, and the imposition of the tax on those would yield a very substantial sum. It will be observed that this possible tax would in no way be of the nature of a protective tariff; it would merely be a tax for the purposes of revenue, the alcohol required for the manufacture of the article being treated as though it were actually present in the finished article.

DR. MARMOREK'S ANTITUBERCULOUS SERUM.

The inventor of the latest serum for the prevention and cure of tuberculosis, which is now on trial at several institutions in this country, is convinced that Koch's tuberculin is not the substance which causes the symptoms of tuberculosis in man or animals. He has therefore abandoned the use of tuberculin in his efforts to obtain an antitoxin for tuberculosis, though he still uses it as a means of diagnosis, not in the manner hitherto employed, but in a new method which he has found satisfactory. The principle underlying this method is, according to Dr. Marmorek, that tuberculin stimulates tubercle bacilli to produce the real toxin, and he accordingly injects 1/80 minim of tuberculin into the cerebrum of a guinea-pig half-an-hour after the subcutaneous introduction of a little of the suspected material. Should the temperature of this animal rise 2° F. or more above that of a control animal which receives tuberculin only, then, he suggests, the suspected material contains tubercle bacilli. In his attempts to isolate what he considers the true toxin, Dr. Marmorek employed what he calls the application of Darwinian principles—that is to say, he hatched his bacilli under somewhat unfavourable conditions, so that only the strong and "primitive" should survive. By this means he procured in his laboratory a toxin which was not tuberculin, and with that toxin he claims to have immunised animals against tuberculosis. It is the same preparation which it is hoped may ultimately prove to be a useful vaccine for preventing tuberculosis, and it is the blood serum of a horse immunised against tuberculosis in this manner which constitutes the new antituberculous serum. Dr. Marmorek believes that the serum is able to protect animals which have been purposely infected with tuberculosis in a laboratory, and he is confident that some good and no harm resulted from the extension of the experiments to patients suffering from tuberculosis.

THE PHARMACEUTICAL SOCIETY'S ANNUAL DINNER.

We understand that invitations to the annual dinner of the Pharmaceutical Society, which is to be held in the Whitehall Rooms, Hotel Metropole, London, on May 16, have been accepted by several members of Parliament, including Sir Gilbert Parker, Sir Mancherjee Bhownagree, Mr. T. Lough, Mr. E. Marshall Hall, K.C., Mr. J. Reid, and Mr. W. O'Malley. Dr. F. J. Waldo, Coroner for the City of London, and Dr. J. Wilson Swan, F.R.S., as well as the presidents of several learned societies, are also expected to be present.

ABSTRACTS—SCIENTIFIC AND TECHNICAL

A REVIEW OF CURRENT WORK IN PHARMACOPEDICS AND ALLIED SCIENCES

Stains for Tubercle Bacillus in Sputum.

Peltrisot claims that the following method of counter-staining enables the presence of tubercle bacilli to be determined more easily and certainly than the methods generally in use. A portion of the sputum is spread out on a cover-glass and stained with Ziehl's carbol-fuchsine. Fuchsine, 1; phenol, 5; alcohol (90 per cent.), 10; distilled water, 100; being heated to 60-70° C. for one minute, then washed free from excess of stain, drained and plunged for a minute in the following counter-stain. Solution of methylene blue, 10 per cent., 1; pure acetone, 9; solution of caustic soda, 1 : 10,000, 10. The preparation is then washed, dried, and mounted. This method shows the tubercle bacilli stained red, other organisms and the muclei of cells blue, against an almost colourless background. Another method, which is longer, but possibly even more certain, consists in plunging preparations, after staining as above in carbol-fuchsine, in a solution of:—Alcoholic solution of methylene blue, 10 per cent., 10; solution of caustic soda, 1 : 10,000, 30. The cover is kept in this stain until the red of the fuchsine appears entirely replaced by the blue dye, which will require ten to twenty minutes. It is then washed, drained, dried, and mounted.—*Annales de Chim. Analyt.*, **8**, 427.

Anti-Ferments in Parasites.

E. Weinland has been making a series of researches to show why the digestive secretions do not attack the body of different living organisms. The organs which carry on digestion are charged with ferments which are powerful in attacking and dissolving the aliments which are introduced, but nevertheless they have no action upon the surface of these organs or upon the parasites which often lodge there. The reason for this has not been clear. In 1891, J. Frenzel gave the opinion that the parasites were protected by an anti-ferment which they secreted, and this could account for the fact that tape-worms, for instance, could take up their lodging in such organs. Weinland has now made some experiments which are of interest. He took a certain quantity of fibrin and placed it in a pepsin solution in order to dissolve it, at the same time adding a small quantity of liquid obtained from the tape-worm (tænia). He found that in this case no digestion of the fibrin occurred, even though it was left in contact for an indefinite period, but otherwise it would be dissolved in a few hours. He thus considers that it is not the living tissues themselves which resist the action of the digestive liquids, but the secretions with which they are impregnated. The anti-ferment which he succeeds in extracting is very powerful in its action, and it keeps its properties for many months; it loses them by boiling, however. A temperature of 60° C. for ten minutes has but little effect, but at 80° the activity is lessened. The active principle can be precipitated from the juice of the tænia by alcohol. Although it opposes the action of pepsin, a ferment and anti-ferment can be put in presence without destroying each other. The latter seems to exert only an opposing, and not a destructive, action on the ferments, and when removed the ferments commence to act as usual.—*Scient. Amer.*, **90**, 227.

Solid Hydrogen.

Morris W. Travers has published the result of further experiments to determine whether solid hydrogen formed definite crystals or, indeed, whether the glossy substance was a true solid or merely a highly viscous fluid. Though there is no direct evidence of the formation of crystalline hydrogen, the author's experiments lead to the belief that solid hydrogen is a crystalline substance and not a pseudo-solid. The sharpness with which the solid hydrogen is formed, and the constancy of the apparent melting pressure are distinct evidence in favour of this conclusion, though it must be allowed that the rate of change in viscosity, when the temperatures are measured on the Centigrade scale, will probably appear to be more rapid at low temperatures than at high temperatures.—*Nature*, **69**, 477.

Pharmacy of Mesotan.

Mesotan, the methoxymethyl ester of salicylic acid, may be used for applications in rheumatism mixed with an equal volume of olive oil, and perfumed with a few drops of lavender oil. The affected part is painted with 250 to 300 grains of the mixture. Mesotan may also be compounded as follows:—(1) Ichthyol, 10; chloroform, 20; mesotan, 30; olive oil, 40. (2) Mesotan, 20; ichthyol, 20; olive oil, 60. (3) Mesotan, 30; vasogen, 50. According to Ruhemann applications of mesotan give good results in the treatment of erysipelas.—*Pharm. Centralh.*, **44**, 878.

Melting Points of Solid Chloroform, Toluene, and Ether.

E. H. Archibald and D. McIntosh, during an investigation on the properties of liquid gases, found it necessary to construct some low constant temperature baths, and in that connection have determined the melting points of solid chloroform, toluene, and ether by means of the hydrogen thermometer, correcting the observed results according to the methods worked out by Travers. The melting points found were:—Chloroform, — 63·2° C.; ether, — 117·6° C.; toluene, between — 97° C. and — 99° C. The above figures are somewhat different from those found by previous investigators.—*Journ. Amer. Chem. Soc.*, **26**, 306.

Magnetic Properties of Manganese Alloys.

At a recent meeting of the German Physical Society, Berlin, Fr. Hensler read an interesting paper on the magnetical properties of manganese alloys. Whereas both pure manganese and manganese copper are known to be quite non-magnetic, the author has found that certain other manganese alloys are highly magnetisable even if copper or any other non-magnetical metals be added. The following list of metals and metalloids thus yielding more or less strongly magnetisable manganese alloys, free from iron, is given: Tin, aluminium, arsenic, antimonium, bismuth, boron. The most interesting results are derived from an investigation of manganese-aluminium-copper alloys, it being shown that keeping the latter for some time at a temperature of 110° will reduce them to a state of stable equilibrium, corresponding with the maximum susceptibility. It may further be inferred that for equal percentages of manganese the susceptibility will increase, as the percentage of aluminium is increased, until a maximum is reached corresponding with equal atomic percentages of both metals. It is an interesting fact that, according to Wiedemann, Quincke, and Du Bois' researches, aqueous solutions of manganese salts should exhibit magnetical susceptibilities somewhat higher than those of the corresponding ferric salts. As both the salts and certain alloys of manganese, which itself is not at all ferro-magnetic, thus show strongly ferro-magnetic properties, the author compares these alloys with a salt solution where copper would play the part of solvent, the above combination of atomically equal quantities of manganese and aluminium that of the solved salt. The transition points beyond which the alloys become non-magnetical are relatively low; for increasing percentages of manganese and aluminium they are found to rise.—*Scient. Amer.*, **90**, 227.

THE STUDENTS' COLUMNS.

NOMENCLATURE OF CHEMICAL COMPOUNDS. (2).

The simplest compounds are those that consist of two elements only. They are termed "binary" (Lat., *bini*, a pair), and their names are arranged to terminate in the syllable *-ide*.

The Binary Compounds of	Are named	Such as
Oxygen	Oxides	Zinc oxide.
Sulphur	Sulphides	Iron sulphide.
Carbon	Carbides	Calcium carbide.
Chlorine	Chlorides	Sodium chloride.
Bromine	Bromides	Ammonium bromide.
Iodine	Iodides	Potassium iodide.

It often happens that the same pair of elements form more than one compound. Carbon and oxygen combine in two proportions. One compound contains one atom of carbon and one atom of oxygen, and is represented by the formula CO, the other contains one atom of carbon and two atoms of oxygen, formula CO_2. The former is termed carbon mon-oxide, the latter carbon di-oxide. Similarly oxides containing three, four, or five atoms are called tri-oxides, tetr-oxides, and pent-oxides respectively. The prefixes mono-, di-, tri-, tetra-, penta- (Gk., one, two, three, four, five) are also used in conjunction with other elements. CaS is spoken of as calcium mono-sulphide, $MnCl_2$ as manganese di-chloride, PBr_3 as phosphorus tri-bromide, $SnCl_4$ as tin tetra-chloride, PF_5 as phosphorus penta-fluoride. In the case of elements, especially metals, which form two series of compounds, one corresponding to the lower and another to the higher oxide, some chemists adopt another system. They distinguish the salts of the two series by modifying the terminal syllable of the metal into the ending *-ous* or *-ic*. Accordingly, calomel ($HgCl$) is denoted as mercur*ous* chloride, and corrosive sublimate ($HgCl_2$) as mercur*ic* chloride. The advantage of this form of nomenclature is not quite clear, although it is adopted by the B.P. compilers. There can be no question that names such as tin dichloride and tin tetrachloride are more descriptive and express the relationship of the two compounds more intelligibly than the terms stannous chloride and stannic chloride.

The endings -ous and -ic are also employed to indicate the degree of oxidation of acids. Thus sulphur*ous* acid contains less oxygen than sulphur*ic* acid, nitr*ous* acid less than nitr*ic* acid. An acid still less oxidised than the -ous compound is distinguished by the prefix "hypo" (Greek, below, *i.e.*, less) in addition to the suffix -ous, *e.g.*, hyponitrous acid; while a compound still more oxidised than the -ic compound is denoted by the prefix hyper- " (Greek, more), or, more briefly, "per-," *e.g.*, perchloric acid.

In accordance with this scheme the acids of sulphur and their salts have been named as under:—

Formula.	Name of Acid.	Name of Salt.
H_2SO_2	Hyposulphurous acid	Hyposulphite.
H_2SO_3	Sulphurous acid.	Sulphite
H_2SO_4	Sulphuric acid	Sulphate
$H_2S_2O_8$	Persulphuric acid.	Persulphate.

In naming the corresponding phosphorus and arsenic acids the prefixes and suffixes have exactly the same significance, but in naming the acids derived from chlorine, bromine, iodine, and nitrogen the series of terms has been dealt out differently. It happens that there is a hydrogen chlorine oxygen compound $HClO$ corresponding to the unknown H_3PO and H_2SO, and this compound has been, unfortunately, named hypochlorous acid, though, judging from analogy, this name should be applied to the compound $HClO_2$. Each member of the series, therefore, has appropriated the name which should, strictly speaking, belong to the next higher oxidised compound, and a certain amount of confusion arises through this irregularity.

The anomalous nomenclature of the chlorine, bromine, iodine, and nitrogen acids, and the orthodox nomenclature of the sulphur, phosphorus, and arsenic acids are contrasted. Take, for example, the following:—

Formula.	Name of Acid.	Formula.	Name of Acid.
HCl	Hydrochloric	H_2S	Hydrosulphuric
$HClO$	Hypochlorous	H_2SO	(Unknown)
$HClO_2$	Chlorous	H_2SO_2	Hyposulphurous
$HClO_3$	Chloric	H_2SO_3	Sulphurous
$HClO_4$	Perchloric	H_2SO_4	Sulphuric

Occasionally acids have been incorrectly named, owing to a misapprehension of their relation to the other members of a series, and the inaccurate name has been retained after the true nature of the compound has been recognised. Sodium hyposulphite, "hypo," now largely used in photography, is not the compound Na_2SO_2 which its name would indicate, but $Na_2S_2O_3$, sodium thiosulphate. The prefix thio- (Greek, *theion*, sulphur) indicates that a part or the whole of the oxygen in the molecule has been replaced by sulphur. Thus Na_3AsO_4 is tri-sodium arsenate. Na_3AsS_4 is the corresponding thio-arsenate.

There are a few other terms used to denote classes of compounds. All the elements except fluorine and one or two others form compounds with oxygen. Some oxides, like the oxides of phosphorus or sulphur, combine with water, forming intensely sour liquids, which cause blue litmus to become red, and are characterised by the readiness with which they combine with metals, especially when presented in the form of oxides.

The oxides which give rise to these sour-tasting substances form a class known as anhydrides (Gk., "devoid of water"), and their addition compounds with water are termed acids. Thus, SO_3, sulphur trioxide, may be regarded and spoken of as sulphuric anhydride, and its compound with water, H_2SO_4, is sulphuric acid. It was formerly supposed that all acids were derived from oxides, hence the name oxygen (Gk., *oxus*, sour; *gen*, producing); but the discovery of acids like HCl, HBr, HN_3, H_2S indicates that this supposition is incorrect

On the other hand, elements such as sodium, potassium, lithium, calcium, form oxides which combine with water, forming soluble compounds termed "alkalies," which have properties exactly opposite to acids. They have a caustic, soapy taste instead of a sour one, turn reddened litmus back to blue, and combine with acids forming more or less neutral bodies called "salts."

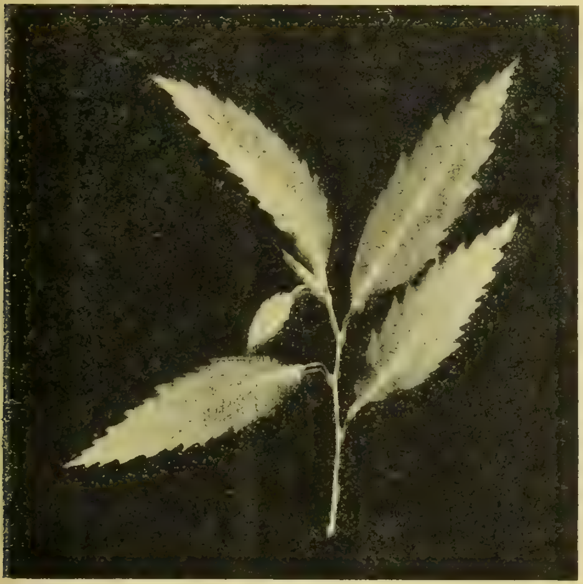
Other elements, as silver, copper, lead, and most heavy metals, form oxides which, although they do not dissolve, nor form alkaline solutions with water, yet possess the power of combining with acids. Oxides of this class are termed "bases," and are intermediate in character between the acid and alkali-forming oxides.

The three groups so gradually merge into each other that it is nearly impossible to decide to which class some substances belong. Zinc oxide and aluminium oxide react as bases when treated with hydrochloric or sulphuric acids, but when treated with sodium hydroxide they act as acids forming sodium zincate $Zn(ONa)_2$ and sodium aluminate $Al_2(ONa)_6$ respectively.

PRINTS FROM LEAVES.

BY BERTRAM COCKBURN, PH.C.

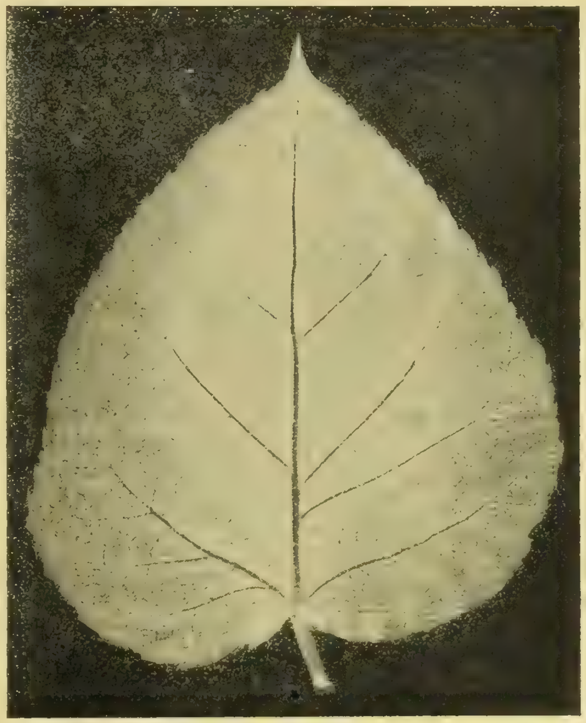
One of the earliest recorded photographic processes consisted in transferring to a prepared surface the outline and veins of a leaf. It was, of course, a primitive process, and the results could only have been striking to those as yet unfamiliar with the wonders of a new art, and because an improvement over anything of the kind yet produced.



Spiræa bumalda.

In 1839, at the exact time when an account of the Daguerreotype process was first published in France, an Englishman named Talbot read a paper on "Photogenic Drawings" before the Royal Society. A description of his method of procedure, with reproductions of a fern-leaf, will be found in Abney's well-known work on photography. An almost identical process of which the illustrations are examples is in fairly common use at the present day. No knowledge of photography is required beyond that of a process of toning necessary in order to render the prints permanent, and a few general directions may be of interest as much to the photographic reader as to the student of botany. It is of the first importance that the leaf should be suitable, but there should be no difficulty in selecting such throughout the summer season. The leaves should be as flat as possible, of medium density, and with veins conspicuous as white lines by transmitted light. Simple leaves, or those not much divided, are usually best. Good results are easily obtained from those of lilac, lily-of-the-valley, sycamore, horse-chestnut, and certain species of *Populus*, *Polygonum*, *Cratægus*, *Spiræa*, *Liriodendron*, *Aristolochia*, *Hydrangea*, *Adiantum*, etc.

The process is one of simple contact printing, and to carry it out the leaf is placed in an ordinary photographic printing-frame, supported on a clean glass plate. The material must be made use of while quite fresh, and it is often an advantage to press between sheets of blotting-paper, so as to flatten out and remove superfluous moisture. After preparing it, if necessary, in this way, the leaf is to be used as a negative, and printed from a few times in the usual way. The sensitive paper—ordinary gelatino-chloride printing-out paper answers well—is laid upon the smooth upper surface of the leaf, and the frame exposed to strong sunlight. When sufficiently exposed—that is, when all available detail has been obtained—the print is toned and mounted in the usual way.



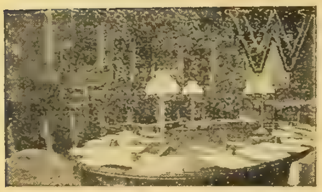
Populus balsamifera.

A collection of such photographs may be utilised for teaching purposes, in order to illustrate the complexity of venation, the variety of general outline, the differences in margin and apex, and other features of the leaf. For example, leaves of, say, *Populus*, *Convallaria*, and *Adiantum* might be shown side by side, to impress upon the student the arrangement of veins characteristic of three different classes of plants. Examples of further applications will suggest themselves to those interested. Lantern-slides can be prepared in the same way, printing, of course, by artificial light. Lastly, a variation—perhaps an improvement—is gained by a double printing, either on plates or paper, so as to reverse the densities of the original print.

It is unfortunate that the application of this process is so limited. Many leaves, such as the evergreen, are inconspicuously veined and of substantial texture, so that with these it is impossible to get good results; while, on the other hand, leaves are often too uniformly transparent, and thus present difficulty from lack of contrast.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN.

MEETING OF COUNCIL.



WEDNESDAY, April 13, 1904, at 17, Bloomsbury Square, London, the PRESIDENT, Mr. S. R. Atkins, in the chair. Others present were Mr. C. B. Allen, Vice-President, Mr. Walter Hills, Treasurer, and Messrs. Campkin, Cooper, Corder, Cross, Currie, Gifford, Glyn-Jones, Harrington, Newsholme, Southall, Storrar, Symes, and Wootton.

Welcome to Mr. Campkin.

The PRESIDENT said he should like, on behalf of the Council, to give a very hearty greeting to the new member of Council, Mr. Campkin. On the previous evening he had expressed his sense of gratitude and pleasure at Mr. Campkin's presence, and he only wished to say now that he was sure Mr. Campkin would bring to the Council not only an intimate acquaintance with the position of pharmacy in the important university town of Cambridge, but also an exceptional acquaintance with public business.

Mr. CAMPKIN wished to express, in the first instance, his regret at the cause which had brought him on the Council at the present time. He also wished to thank the President for the kind way in which he had introduced him to the Council, and for the too flattering terms in which he had spoken of him, both on the present occasion and previously. He would like also to extend his thanks to Mr. Hills for the kind references he made at the March meeting, and to the Council for having so unanimously elected him. He hoped the vote by which he was appointed would never be regretted. His thanks were due, also, to the numerous members of the Society in the country who had supported him on previous occasions—had it not been for that support, he supposed the Council would not have co-opted him. Mr. Campkin then referred in appreciative terms to the attitude of the pharmaceutical Press towards him, and went on to say that if he could bring to the Council any additional information or influence that would be of service to the Society—in which he had taken a warm interest for many years—he should be pleased to do so. A very high ideal had been set by the President and other members of the Council, which it would probably be impossible for him to reach, but he should do his best, and, if his past experience of public work was found to be of benefit, he could only say that it would be at the service of the Society, and he hoped it would also be of service to chemists generally.

Absent Members.

The PRESIDENT said letters had been received from Mr. Harrison, who was unable to be present, on account of an important meeting of the Sunderland Town Council, from Mr. Rymer Young and Mr. Park, who were unable to attend, and from Mr. Robinson, who had an engagement elsewhere in the North of England—an engagement made before he knew of the change in the date of the Council meeting.

Election of Members.

The following persons, having tendered their subscriptions for the current year, were elected members of the Society:—

Anthony, David ; Cardiff
Bacon, Joseph W. ; Sheffield
Baker, Harry E. ; Colchester
Barker, Donald W. E. ; Rugby
Barnett, Alfred H.; Nantwich
Baxter, Percy C. ; Walthamstow
Baynard, Eustace J. ; Walsall
Butcher, Robert J. ; Swinton
Calverley, John ; Leeds
Campion, Sydney H. ; Worthing
Chalmers, Edward ; Willesden
Courtney, George D. ; Southampton
Darney, W. E. ; Newcastle-on-Tyne
Davies, David ; Porth
Davies, Richard L. ; Clydach
Davies, William J.; Brighton
Dewar, Alexander O. C. ; Craigie
Duncan, J. G. ; Newcastle-on-Tyne
Edwards, Thomas ; London
Evans, David A. ; Bath
Fairless, William E. ; Hoylake
Felthouse, Arthur G. ; Highbury
Filtness, Chas. ; Crowborough Cross
Fugler, Augustus ; Brighton
Gemmell, David ; Beith
Gilliatt, Alice ; Brixton
Golland, James H. ; Whitehaven
Gosney, Charles F. ; Seaton
Hadfield, Albert E. ; Cornholme
Handford, Henry ; Thornton Heath
Hanner, Walter J. ; Southwold
Harbin, George A. ; Portsmouth
Hardy, Charles; Herne Hill
Hardy, John ; Bourton-on-the-Water
Harrington, Arthur H. A. ; Highbury
Hawthorne, Charles O. ; London
Heald, Gerard ; Pietermaritzburg
Holmes, Philip ; Croydon
Jenkins, John D. ; Cardiff
Johnstone, Robert R. ; Dornoch
Jones, Jabez A. ; Cardiff
Keay, Richd. C. ; Barrow-in-Furness
Lawrence, Edmund W.; Knaresboro'
Leicester, Thomas ; Burslem
Lewis, William M. ; Kilburn
Lister, Willie ; Leeds
Lloyd, James ; Wandsworth
Lloyd, Rees ; Penygraig
McEwen, William ; London
Mitchell, Harold ; Forest Gate
Mountain, Robert ; Rawtenstall
Nelson, George ; Kilburn
Passmore, Samuel H.; Clapham
Pollard, Albert ; Wingham
Pratt, William ; Shipston-on-Stour
Price, Arthur F. ; Abertillery
Quibell, John W. ; Bayswater
Robertson, William ; Portknockie
Robinson, Frederick ; Manchester
Sawyer, Albert E. ; Sevenoaks
Scott, Charles Edward ; York
Shield, William ; Stanley
Skelton, George A.; Sileby
Smith, Bernard ; Rugby
Smith, Sam ; Swindon
Soper, Henry ; Stratford
Sparkes, William W. P. ; London
Spiers, Chas. S. ; Melton Mowbray
Vibert, Samuel H. ; Plymouth
Walker, Bernard ; Gainsborough
Williams, Gwilym I. ; Maesteg
Withnall, Nahor ; Manchester
Wood, Andrew ; Kilmarnock

Election of Student-Associates.

The following persons, having tendered their subscriptions for the current year, were elected student-associates of the Society:—

Barclay, James G. ; Paisley
Bufton, William R. ; Hereford
Clarke, Herbert R. ; Nottingham
Coates, Robert S. ; London
Hudson, William ; Bedlington
Morris, Ernest M. ; Kidwelly
Stone, Richard E. ; Camberwell
Thomas, Stephen G. ; Narberth

Restorations to the Society.

A large number of persons were restored to the Society upon payment of the current year's subscription.

Restorations to the Register.

The following persons, having made the required declarations, and paid the restoration fee of one guinea, were restored to the Register of Chemists and Druggists :—

Courtenay, Edward ; 9, Quarrendon Street, Parson's Green, S.W.
King, Alfred ; 1, Jackson Road, Holloway, N.
Stuckey, William George ; 85, Haverstock Hill, N.W.
Wrothwell, Frederick James Hartley ; 89, Linthorpe Road, Middlesbro'

Government Visitor's Report on the Examinations in London.

The PRESIDENT said Dr. Stevenson's report to the Privy Council on the examinations of the Society held in London during the year ended March 31, 1904, had been published in the *Pharmaceutical Journal* of March 12 (see *ante*, p. 373), and would be taken as read. The report was a very satisfactory one, Dr. Stevenson expressing his thorough satisfaction with the conduct of the examinations.

It was decided that a copy of the report be forwarded to each of the Boards of Examiners of the Society.

Finance Committee.

The report of this Committee was as follows:—

March 30, 1904.
Mr. ROBINSON in the chair.
Present—Messrs. Atkins, Carteighe, Cooper, and Hills.

(1) The Secretary submitted the following statement of the accounts:—

General Fund:—	£	s.	d.	£	s.	d.
Balance (February 29) ..				2,240	8	4
Receipts:—						
Penalties and costs ..	23	15	9			
Restoration fees ..	1	1	0			
Subscriptions	1,568	14	0			
'P.J. Formulary' ..	167	14	0			
School fees	11	11	0			
Examination fees ..	2,598	15	0	4,371	10	9
				6,611	19	1
Payments authorised by the Council				3,706	14	8
Balance				£2,905	4	5

General Fund:—
Amounts recommended for payment:—

	£	s.	d.
On behalf of the Journal	1,008	19	10
School, etc.	54	12	9
House	31	7	7
Law charges..	47	17	0
Stationery, etc.	38	15	0
Salaries, etc.	202	18	4
Current expenses..	300	0	0
Museum and Library	6	2	1
Compendium	13	16	8
'P. J. Formulary'	18	1	0
Rent	186	4	2
	£1,908	14	5

Benevolent Fund (Current Account):—	£	s.	d.	£	s.	d.
Balance (February 29)				£1,015	6	11
Receipts:—						
Subscriptions	£324	18	11			
Ground rents	11	16	2			
				336	15	1
				1,352	2	0
Payments				507	5	0
Balance..				£844	17	0

Benevolent Fund (Donation Account):—	£	s.	d.
Balance (February 29)	£240	13	6
Donations	5	5	0
Balance..	£245	18	6

Orphan Fund:—	£	s.	d.
Balance (February 29)	£90	0	11
Subscriptions, etc...	5	2	10
Balance	£95	3	9

(2) The Committee examined the accounts and found them to be correct, and in accordance with the foregoing statement.

Recommended.—That the Treasurer be requested to pay the amounts indicated.

(3) The Committee met on March 16, and prepared a statement for the Auditors. The Auditors' Report is annexed (see p. 522).

R. A. Robinson (Chairman).

The President moved, and it was seconded by Mr. Newsholme, and carried, that the report and recommendations of the Finance Committee be received and adopted.

Benevolent Fund Committee.

The report of this Committee included the recommendation of grants to the amount of £84 5s. in the following cases:—

Widow of a chemist and druggist and annuitant who died last month. 61. Mablethorpe.

Registered chemist and druggist. 86. Cambridge. Had previous grants.

Registered chemist and druggist. 59. Richmond, Surrey. Had previous grant.

Widow of a chemist and druggist who had grants previous to his death in 1902. 72. Winchester. Had previous grants.

Widow of a chemist and druggist who had grants before his death in 1891. 68. Edgbaston. Had previous grants.

Widow of a member and subscriber. 74. Thorne Levels. Had previous grants.

Widow of a chemist and druggist. 47. Blackpool.

Two cases were deferred for further consideration.

The Vice-President moved, and it was agreed, that the report and recommendations of the Benevolent Fund Committee be received and adopted.

SPECIAL SUBSCRIPTIONS.

The Secretary stated that the following special amounts had been received on behalf of the Benevolent Fund:—

	£	s.	d.
From Mr. John Hallaway, being one half of the balance from the old Carlisle Chemists' Association..............................	5	9	6
From Mr. Watson-Will (collected at a smoking concert of the Inter-Pharmacy Football League)	5	0	0
Wakefield and District Chemists' Association (collected at the annual dinner)	2	13	6
North Staffordshire Chemists' Association (collected at the annual dinner)	2	2	0
East Aberdeenshire Chemists' Association......	2	0	0
Leeds and District Chemists' Association (collected at a smoking concert)..................	75	2	6

The Secretary said the amount received from Leeds included a generous subscription from Messrs. Goodall, Backhouse and Co. for fifty guineas.

The Vice-President said he thought it was both right and appropriate that, as Chairman of the Benevolent Fund Committee, he should express the thanks of the Council to the persons who had subscribed the amounts mentioned. It was very nice to feel that at social gatherings the needs of the Benevolent Fund were considered.

The President emphasised the remarks of his colleague, and said the Council was very grateful for the £92 7s. 6d. received. It might be regarded as resulting from an "application of tobacco," and it was a very gracious and helpful contribution to the Benevolent Fund.

Library, Museum, School and House Committee.

The report of this Committee was as follows:—

March 9, 1904.

Mr. Atkins (President) in the chair.

Present—Messrs. Allen, Carteighe, Harrington, Hills, Newsholme, and Robinson.

(1) The Committee received the usual monthly statements respecting the Society's Libraries and Museums in London, and particulars of these are published in the *Pharmaceutical Journal* for March 12, 1904.

(2) Messrs. Parkinson and Son's account for £13 4s. 3d., for work done during the month, was submitted, approved, and referred to the Finance Committee.

(3) The Committee considered the question of new accommodation for the Secretary, whose apartments are required in connection with the development of the official Journal. After careful consideration, and having regard to the special circumstances connected with the case, the Committee recommends that a sum of £200, chargeable to the rent and taxes account of the Society, be granted to the Secretary as a rent allowance, in lieu of the apartments on the Society's premises, and the contingent advantages, which he has hitherto enjoyed.

(*Continued at page* 524.)

GENERAL FUND.

REVENUE ACCOUNT, 1903.

EXPENDITURE.	England and Wales. £ s. d.	Scotland. £ s. d.	£ s. d.
To Annuities			800 0 0
Carriage of Books and Parcels			11 13 1
Certificates of Death			22 4 0
Examinations:— Minor and Major:—			
Fees to Examiners and Travelling Expenses	1853 10 1	795 19 6	
Refreshments	97 0 5	52 15 7	
Apparatus, Drugs, Chemicals, Printing, and sundry charges	334 11 9	159 2 1	
	2285 2 3	1007 17 2	
England and Wales		2285 2 3	
			3292 19 5
Gas, Electric Light, Water, Coal, Cleaning Materials, etc.			396 16 10
House Servants—Wages			297 16 2
Journal: Balance of account			2156 10 3
Law Costs			564 13 0
Library:—Librarian's Salary		285 0 0	
Purchase and Binding of Books		96 16 9	
Library Association Meeting		10 10 0	
			392 6 9
Furniture			51 0 0
Museum:—			
Curator's Salary		400 0 0	
Museums Association Meeting		10 0 0	
Assistant's Wages and Sundry Expenses for Bottles, etc.		113 2 9	
			523 2 9
North British Branch:—			
Assistant Secretary and Clerk—Salary		378 13 4	
Taxes and Insurance		71 5 8	
Members of Executive—Travelling Expenses, etc.		62 11 6	
Fuel, Light, Water, Cleaning, Service, and Miscellaneous Expenses		299 17 10	
			812 8 4
Evening and other Meetings			88 11 10
Postage:—General		252 9 1	
Journal		870 1 11	
			1122 11 0
Register—Balance of Account			16 16 1
Rent, Taxes, and Insurance			797 1 9
Premium on Leasehold Redemption Policies			128 2 6
Repairs and Alterations			852 9 6
Electric Service and Fittings			92 17 2
Salaries:—Secretary and Registrar		600 0 0	
Clerks		1115 7 0	
			1715 7 0
School of Pharmacy:—			
Stipends of Professors and Share of Fees		1172 3 0	
Lecturer, Assistant Lecturer, and Demonstrators, and Wages of Porters		549 14 0	
Apparatus, Chemicals, Specimens for Lecture Classes, Prize Medals, Certificates, printing and posting prospectuses, and alterations		619 17 6	
			2341 14 6
Stationery, Engraving, Printing and Office Expenses			354 11 11
Calendar:—Balance of Account			127 10 7
Sundries			9 0 5
Cost of conducting Scholarships Examinations			17 15 9
Medals—Council and Herbarium Prizes			5 9 0
Travelling Expenses—Council and Committees			435 19 7
Refreshments for Council			41 18 3
Local Organisation Expenses:—Meetings, etc.			192 9 9
Telephone Service			26 0 0
Compendium			19 8 6
			17707 5 8
Balance added to Accumulated Funds			355 10 2
			£18,062 15 10

INCOME.	£ s. d.	£ s. d.
By Examination Fees:—		
1728 Minor	9549 10 0	
73 Major	208 0 0	
	9757 10 0	
194 Registration Fees as Apprentices or Students	407 8 0	
Fees for Restoration to Register	50 8 0	
		10,215 6 0
Interest on Investments:—		
Ground Rents	147 5 6	
Net Rent of 15, Bloomsbury Square	184 12 2	
Deposit Account, L. & W. Bank	28 5 8	
		360 3 4
School Fees		1141 13 0
Subscriptions:—		
5499 Members	5773 19 0	
589 Student-Associates	309 4 6	
Life Subscriptions	262 10 0	
		6345 13 6
		£18,062 15 10

BALANCE SHEET, DECEMBER 31, 1903.

LIABILITIES.	£ s. d.	£ s. d.
Sundry Creditors		1548 8 9
Examination Fees in Advance		2328 7 0
School Fees in Advance		737 14 0
Accumulated Fund as on December 31, 1901	36677 1 10	
Add Balance of Revenue Account as above	355 10 2	
		37032 12 0
Due to Treasurer	54 3 11	
Due to Chairman of Executive in Scotland	16 14 6	
		70 18 5
Subscriptions to 'Pharmaceutical Journal Formulary' in Advance		500 0 0
		£42,218 0 2

ASSETS.	£ s. d.	£ s. d.
By Freehold Ground Rents at Paddington Green (cost)	5551 5 6	
Freehold House in Edinburgh	1931 10 0	
" " Additional Building	3111 4 9	
*Leasehold Premises:—		
Galen Place	10606 10 2	
15 and 16, Bloomsbury Square	9527 5 3	
17, Bloomsbury Square and 72 and 73, Great Russell Street, valued at	5000 0 0	
		35727 15 8
Sundry Debtors		3012 9 9
Cash:—		
London and Westminster Bank:—Current Account	1477 14 9	
Deposit Account	2000 0 0	
		3477 14 9
		£42,218 0 2

The above assets are exclusive of a Museum and a Library, as well as Furniture and Fittings, in London and Edinburgh. The copyright of the Pharmaceutical Journal *is also not included.*

*Note.—*The leases of these properties are insured under a Capital Redemption Fund for £25,000.*

BENEVOLENT FUND (Current Account). REVENUE ACCOUNT, 1903.

EXPENDITURE.	£	s.	d.
To Annuities	1897	10	0
Grants	1060	8	0
Interest on Loan:—			
From the Orphan Fund	35	0	0
From London and Westminster Bank	322	1	7
Stationery, Printing, and Postage	43	3	9
Law and Professional Charges	60	14	4
	£3418	**17**	**8**

INCOME.	£	s.	d.
By Subscriptions	1592	10	8
Ground Rents	1340	2	0
Dividends	137	9	1
Rent of "The Elms," Strawberry Hill	121	17	6
	3191	19	3
Balance—being excess of Expenditure over Income	226	18	5
	£3418	**17**	**8**

BENEVOLENT FUND (Donation Account). REVENUE ACCOUNT, 1903.

	£	s.	d.
Added to Accumulated Funds	1100	0	0
	£1100	**0**	**0**

	£	s.	d.
By Donations and Legacies	1100	0	0
	£1100	**0**	**0**

BALANCE SHEET, DECEMBER 31, 1903.

LIABILITIES.	£	s.	d.	£	s.	d.
To Loan:—						
Orphan Fund				1000	0	0
London and Westminster Bank				8000	0	0
				9000	0	0
Current Account—Balance due to London and Westminster Bank				255	9	5
Accumulated Funds as per Balance Sheet, December 31, 1902	34642	2	9			
Add Balance of Revenue (Donation) Account	1100	0	0			
	35742	2	9			
Deduct Balance of Revenue (Current) Account	226	18	5			
				35515	4	4
				£44,770	**13**	**9**

ASSETS.	£	s.	d.	£	s.	d.
By Freehold Ground Rents at:—						
Battersea (cost)	12213	0	0			
Broomwood Park "	7454	7	10			
West Kensington "	5809	2	1			
Shortlands, Kent "	9068	0	6			
				34544	10	
Freehold House at Strawberry Hill "				2323	8	0
Freehold Land at Shortlands "				787	14	6
£5000 2½ per cent. Consols (cost)				5470	3	4
St. Paul, Minneapolis, and Manitoba Railway 4 per Cent. Bond				100	0	0
Camwal, Ltd:—200 Ordinary fully-paid up £1 Shares				200	0	0
50 Preference do.				50	0	0
Sundry Debtors—Rent and Ground Rents				598	3	10
Annuities paid in Advance to Lady-Day, 1904				471	5	0
Cash:—						
London and Westminster Bank—Donation Account	219	13	6			
Treasurer Current Account	5	15	2			
				225	8	8
				£44,770	**13**	**9**

SCHOLARSHIPS AND PRIZE FUNDS ACCOUNT, 1903.

	Balance of Income. January 1, 1903.			Income. 1903.			Expenditure. 1903.			Balance. December 31, 1903.		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
Jacob Bell Memorial Scholarships	7	7	3	53	16	2	60	0	0	1	3	5
Pereira and Hills Prize Funds	17	2	9	14	12	2	14	10	10	17	4	1
The Burroughs Scholarship	100	13	3	27	9	7	25	0	0	103	2	10
Manchester Pharmaceutical Association Scholarship	83	7	0	24	8	7	35	0	0	72	15	7
Redwood Memorial Scholarship	153	8	8	551	17	8	667	11	4	37	15	0
Hanbury Memorial Fund	22	8	2	10	10	0	22	0	0	10	18	2
Martindale Memorial Fund	—			51	15	4	51	15	4	—		
E. Northway Butt Scholarship	—			100	0	0	100	0	0	—		

ORPHAN FUND.

(Founded by Thomas Hyde Hills, 1891.)

	£	s.	d.
To London Orphan Asylum for Edwin Bennett	30	0	0
Balance, December 31, 1903:—London and Westminster Bank	86	13	5
	£116	**13**	**5**

	£	s.	d.
By Balance, Jan. 1, 1903:—London and Westminster Bank	61	4	3
Subscriptions	3	5	6
Interest on Invested Capital	17	3	8
Interest on £1000 lent to the Benevolent Fund	35	0	0
	£116	**13**	**5**

The Capital Account of this Fund consists of:—	£	s.	d.
Two and three-quarters per cent. Consols (Stock)	655	0	0
Amount lent to the Benevolent Fund	1000	0	0

WATERALL LEGACY.

	£	s.	d.
To Annuity	24	0	0
Balance, December 31, 1903:—London and Westminster Bank	18	3	8
	£42	**3**	**8**

	£	s	d.
By Balance, January 1, 1903:—London and Westminster Bank	16	7	10
Dividend on £982 14s. 10d. Consols	25	15	10
	£42	**3**	**8**

AUDITORS' REPORT.

We, the undersigned Auditors, have examined the foregoing accounts of the Pharmaceutical Society of Great Britain, and find them correct. We have inspected the Deeds relating to the House Property and Ground Rents, and also find that there were standing to the account of the Society at the Bank of England, and in the hands of the Society's Bankers, on December 31, 1903, the several securities named in the Balance Sheet of the respective accounts.

In addition to the above, the following Securities were standing to the credit of the Society on December 31, 1903:—

			£ s. d.
Waterall Legacy	Two and a-half per cent. Consols (Stock)		982 14 10
Pereira Memorial Fund			100 0 0
Bell Memorial Fund			2050 0 0
Hanbury Memorial Fund			400 0 0
Martindale Memorial Fund			58 17 0
Redwood Memorial Fund	Great Indian Peninsula Railway Class B (Annuity)		56 0 0
Hills Prize Fund	Russian Bonds (Stock)		316 8 0
Manchester Pharmaceutical Association Scholarship Fund	Manchester Ship Canal Co. 4 per cent. Debentures (Stock)	£700 0 0	
	Two and three-quarters per cent. Consols (Stock)	52 4 6	
			752 4 6
John Cripps Legacy Account	India 3½ per cent. Stock		1702 10 0
The Burroughs Scholarship	4 per cent. New Zealand Consolidated Stock		720 0 0

I. BOURDAS,
CHARLES HODGKINSON,
F. HARWOOD LESCHER,
CHARLES UMNEY,
FRANCIS YATES,
Auditors.

March 24, 1904.

(*Continued from page* 521.)

(4) The Committee had under consideration the adaptation of the rooms in 72, Great Russell Street to the purposes for which they will probably be required. The matter was deferred for further consideration.

(5) Jacob Bell Scholarships.—The following draft addition to the Regulations was submitted, approved, and recommended for adoption by the Council:—

> "A competitor who has entered for the Minor Examination shall not be awarded a Bell Scholarship, and a Bell Scholar entering for the Minor Examinations within six months of the commencement of the Session for which his scholarship is tenable shall forfeit the Scholarship."

(6) School.—(*a*) The Staff reported on the various classes. Professor Green reported that Mr. Chandler, the Demonstrator temporarily engaged last month, had left, and that he had asked Mr. T. G. Hill to carry out the duties for the remainder of the Session. The Committee acquiesced in this arrangement.

(*b*) The consideration of plans and estimates in connection with the proposed Pharmaceutical Laboratory was postponed to allow of a report to be presented by the School Visitor.

(*c*) The Dean was requested to consider and report to the Committee at its next meeting the recently revised rules of the School of Pharmacy Students' Association.

(7) House.—The Vice-President submitted the suggestions which Mr. Parkinson had made to him at his interview in regard to the quarterly cleaning and inspection of the Society's premises. After discussion, and having regard to the risks involved in less frequent cleaning of cisterns, lavatories, sinks, and wastes, the Committee decided not to recommend any departure from the arrangements at present in force.

The Committee recommends that the lower front of the house be washed before the annual meeting.

(8) Research.—On the application of Professor Greenish, the Committee ordered a case to be provided to cover the balances in the balance-room.

(9) It was agreed that the next meeting of the Committee be held on Tuesday, April 19.

The President, in moving that the report and recommendations of the Committee be received and adopted, directed attention to paragraph 3, and explained that the question of new accommodation for the Secretary was rendered necessary by the special arrangements and changes in regard to the publishing of the Journal on the Society's premises, which would shortly come into force. To carry out those changes it had been necessary to "evict" the Secretary, or, rather, with his consent, to make arrangements for him to give up his house in Great Russell Street. After most careful consideration the Committee came to the conclusion that the sum of £200, chargeable to the rent and taxes account of the Society, would be a fair amount for the Secretary as a rent allowance for the new residence he would have to occupy. He had, on other occasions, expressed his regret that the exigencies of the Journal had compelled the Secretary to leave the house, with which he must have very tender associations. But the Secretary had very kindly and honourably said that he would not stand in any way against the interests of the Society if it was desirable that he should leave his present residence. With regard to the allocation of the rooms, the whole question was still under consideration. It might be that the ground floor and basement would be sufficient for the Journal, or it might not be—his own impression was that they would have to go up aloft. When the Secretary had left, the whole question would have to be considered by the Committee.

Dr. Symes asked if it would be opportune to suggest that the basement would be quite a good place for a pharmaceutical laboratory.

The President said the question of a pharmaceutical laboratory was referred to in section (*b*) of paragraph 6 of the report. The School Visitor, however, had not yet presented his report, as the matter was still under consideration.

Dr. Symes: That is satisfactory, and I hope you will consider it was not inopportune my making that remark.

Mr. Newsholme seconded the motion, which was carried unanimously.

Telegram from Mr. Carteighe.

The President said he had just received a wire from Mr. Carteighe, who sent word that he had lost his voice, and was therefore unable to attend that day.

Appointment of a Divisional Secretary.

The President moved that Mr. O. W. Evans be appointed Divisional Secretary for Birmingham South. The Secretary informed him that Mr. Evans had rendered valuable political service for the Society. There had hitherto been no representative of the Society in that district of Birmingham, and he had no doubt Mr. Evans would be a valuable local officer.

Mr. Southall: He will be a very useful man.

The appointment of Mr. Evans was agreed to unanimously.

Nominations for Council and Auditors.

The Secretary reported in accordance with Bye-law, Section 5, that there had been 33 valid nominations for the seven vacant seats on the Council. The following 13 nominees had expressed their willingness to accept office if elected:—

Atkins, Samuel R.	Salisbury.
Betty, Robert B.	London.
Corder, Octavius	Norwich.
Currie, Wm. L.	Glasgow.
Gibson, Wm. H.	Brighton.
Gifford, R. Lord	Blackburn.
Hagon, Albert	Cardiff.
Higgs, Alfred	Kingston-on-Thames.
Newsholme, G. T. W.	Sheffield.
Paterson, Jas.	Aberdeen.
Pickering, Chas. E.	London.
Robinson, Richard A.	London.
Sargeant, F. Pilkington	Leeds.

The following 20 had not expressed their willingness to accept office:—

Allen, Chas. B.	London.
Averill, Jno.	Stafford.
Burton, Percy H.	London.
Cowie, Wm. B.	Edinburgh.
Ewing, James L.	Edinburgh.
Fitzhugh, Richard	Nottingham.
Gerrard, Alfred W.	Wimbledon.
Giles, Wm.	Aberdeen.
Holding, Jno.	London.
Idris, T. H. W.	London.
Kemp, Harry	Manchester.
Lyon, William	Edinburgh.
McLaren, David	Edinburgh.
Peck, Ernest S.	Cambridge.
Pentney, Jas. C.	London.
Pickard, Samuel N.	London.
Stiles, Matthew H.	Doncaster.
Truman, Frank W.	London.
Walshaw, Richard C.	Huddersfield.
Want, Wm. P.	London.

Eight other nominations were invalid on account of the nominees not having paid their subscription for the current year.

AUDITORS.

The following five nominations have been received, and all the nominees had expressed willingness to accept office if elected:—

Bourdas, Isaiah	London.
Hodgkinson, Chas.	London.
Lescher, Frank H.	London.
Umney, Chas.	London.
Yates, Francis	London.

The President said he wished to refer to the first name on the list of those who had not expressed their willingness to accept office—the name of the Vice-President, Mr. C. B. Allen. He was speaking on the spur of the moment, and he did not quite know what to say, except that, from his heart, he sincerely regretted that Mr. Allen had been unable to continue his services as a member of the Council. Mr. Allen had been a most efficient officer as Vice-President, and, personally, he was greatly indebted to him—and the Council was indebted to him—for the services he had rendered. He was so faithful and so exact, and so intimate was his acquaintance with the history of the Society and with its constitution and its laws, that he (the President) felt that the loss of Mr. Allen's services was almost irreparable. That was, perhaps, a strong word to use, but it was the right word. When he first heard that Mr. Allen was not going to seek re-election to the Council he could hardly believe it, and said it was absurd, and he could assure him that his decision was a matter of intense regret and a most serious loss to the Council. He wished most sincerely that Mr. Allen could have seen his way to continue. Mr. Allen had not disclosed to him his reasons for retiring from the Council. He could quite understand that it might be due to the demands of his business, which he had developed so assiduously, and if that were the reason he must reluctantly bow to the decision. He did hope that Mr. Allen's health was not the cause of his retirement, which, he could assure him, was a matter of sincere regret on the part of his colleagues.

Mr. Cross hoped that Mr. Allen's retirement was only a temporary one, and that he would soon be able to rejoin the Council.

The Vice-President thanked the President and Mr. Cross for their remarks, though, he said, he should have ruled them out of order if he had occupied the dictatorial position of President. At the same time he was exceedingly pleased, and it had rewarded him somewhat for the work he had given to the Council. He was sorry that he had to retire, but his retirement from the Council would in no wise affect his interest and love for the Society, and he should always keep in touch with the work of the Council. As Mr. Cross intimated, if the members of the Society were willing, it was not impossible that he might return to the Council. But at present he found the demands upon his time too great to permit him to continue his work on the Council. He had found it necessary to work at odd times and in spare hours, and he had had several warnings that he could not keep it up; it was absolutely necessary at this juncture to have some relief and some rest. He was sorry to leave the Council, the members of which were all friends of his, as he hoped they always would be. He thanked them very much for their kindly remarks.

Dr. Symes remarked that it was almost unique to have forty-one nominations for seven members of Council.

The Burroughs Scholarship.

The President moved, and it was agreed, that the Treasurer be authorised to pay the Burroughs Scholar the sum of £25, being the second moiety of the Scholarship.

General Purposes Committee.

The minutes of a meeting of this committee, held on April 12, 1904, were as follows:—

Mr. S. R. Atkins, President, in the chair.

Present: Messrs. Allen, Campkin, Carteighe, Cooper, Corder, Cross, Currie, Gifford, Glyn-Jones, Hills, Newsholme, Southall, Storrar, Symes, and Wootton.

The minutes of the previous meeting were read and confirmed.

1. The following letter was read from the Dean of the School:—

School of Pharmacy Prizes.

"March 30, 1904.

"To the President and Council of the Pharmaceutical Society.

"Gentlemen,—

I have to report that the advance course of lectures and practical work now terminating has been attended by eight students. The diligence and attention of the class has been satisfactory, work having been well maintained throughout the course. At the termination of the course the usual prize examinations were held, and the staff recommend that the medals and certificates be awarded as follows:—

BOTANY.	
Silver Medal	Fredk. G. C. Walker
CHEMISTRY.	
Silver Medal	Fredk. G. C. Walker
Certificate of Honour	Margaret I. Bedell Hilda B. Caws
PRACTICAL CHEMISTRY.	
Silver Medal	Alfred Wade
Certificate of Honour	Fredk. G. C. Walker Hilda B. Caws
MATERIA MEDICA.	
Silver Medal	Fredk. G. C. Walker
Certificate of Honour	Arthur S. Clarke Margaret I. Bedell

"Yours faithfully,

"Henry G. Greenish."

2. The committee discussed the advisability of appointing an Organising Secretary, which had been remitted from the Council.

After considerable discussion it was agreed that it was not expedient at the present time to recommend the appointment of a special officer for organising work, having regard to the fact that the work is being practically developed under the present scheme of local organisation.

3. The committee also considered the following remit:—

> That this Council, whilst approving of the principle that pharmacists should have statutory representation on future Pharmacopœia Committees, requests the General Purposes Committee to consider the present position and report in due course.

Discussion ensued, and further consideration of the matter was deferred.

4. The following were selected for consideration as Honorary Members at the next meeting:—

Professor E. Emile Bourquelot, Paris.
Sir Hy. Littlejohn, M.D., Edinburgh.
Dr. J. Wilson Swan, F.R.S., London.

The following were also selected for appointment as Corresponding Members:—

Professor E. Perrot, Paris.
Professor Heinrich Beckurts, Brunswick.
Professor Carl Hartwich, Zürich.
S. T. Dunn, Curator, Hong-Kong Botanical Gardens.
Dr. G. W. Parker, British Guiana.

On the motion of the President it was agreed that the recommendation of the General Purposes Committee in regard to the awards in respect of the School of Pharmacy Prizes' Examination be approved, and that the awards be made.

A Question of Publicity.

The President was about to proceed to deal with correspondence, when

Mr. Wootton interposed with the remark: You have passed the report of the Parliamentary Committee, which is referred to on the agenda.

The President said that report would be taken later on in committee.

Mr. Wootton said he wished to suggest that the report be taken in public. Some mention had been made in the *Pharmaceutical Journal* as to cordial negotiations which had taken place between the Society and the Privy Council and—

The Vice-President: And in the *Chemist and Druggist* also.

Mr. Wootton, continuing, said he thought if the simple statement made by the Chairman of the Parliamentary Committee the previous night were made in open Council it would be satisfactory to a good many people.

The advisability of making a public statement was then discussed in committee. From information subsequently conveyed to the Editor, we are able to confirm the statement that negotiations are proceeding between the Council and the Privy Council with regard to the proposed Government Pharmacy Bill.

Correspondence.

The Secretary reported that communications had been received from:—

His Worship the Mayor of Folkestone, inviting the Society to send delegates to take part in the Congress of the Royal Institute of Public Health in July next.

The Joint Matriculation Board of the Victoria University, Manchester, applying for recognition of the certificates in preliminary knowledge granted by the Board under its new powers.

The Public Dispensers' Association, enclosing copy of a letter sent to the President of the Local Government Board urging the necessity for the appointment of registered chemists only as dispensers in public institutions.

The Stockport Chemists' Association, conveying a resolution approving the Pharmacy Acts Amendment Bill, 1904.

Mr. Glyn-Jones, referring to the communication from the Mayor of Folkestone, said he had the honour to represent the Society at the Congress of the Royal Institute of Public Health at Exeter two years ago. He did not know that the meetings of the Congress were meetings with which the Society was very closely connected, though of course it was true that any meetings at which the question of preventive medicine was discussed touched the Society. His experience was that the Congress was comprised very largely of representatives of public bodies interested in the public health. Two years ago the Congress discussed the Pharmacy Acts, and a resolution was passed asking the Council of the Institute to take some action in regard to the Pharmacy Bill, but he had not heard that any decisive action had yet been taken. His feeling was that if there was anyone at Folkestone who would be willing to represent the Society he might be asked to act as a delegate.

Mr. Cross suggested that the matter be referred to the Library Committee, and this was agreed to.

The communication from the Joint Matriculation Board of the Victoria University was referred to the newly-appointed Committee on Education and Examinations.

The other communications received were laid upon the table, and the Council then went into committee, all the public business having been disposed of.

EXAMINATIONS IN EDINBURGH, April 1904.

Major Examination Questions.

BOTANY.

(Time allowed, two hours.)

1. Describe in detail the structure of a typical anther of an Angiosperm, in transverse section, giving drawings of it. Explain the use of the parts which you describe.

2. Discuss the nature and sources of supply of nitrogen for plants, and the various means by which the supply is drafted into the plant.

3. Describe in detail the floral construction of the flower in the Papilionaceæ (Leguminosæ), and explain the way in which the mechanism may work in various types of the family.

PRACTICAL BOTANY.

(Time allowed, one and a-half hours.)

1. Make preparations illustrating fully the structure of specimen A. Leave them for inspection. Make sketches from the preparations themselves, and give explanatory references.

2. Refer the plants B and C to their natural classification, giving reasons for your decisions.

3. Describe in detail specimen D.

MATERIA MEDICA.

(Time allowed, one hour.)

1. How would you determine the pharmaceutical value of Senna Leaves and Belladonna Root, and how isolate the chief active constituents?

2. What is Homatropine, and how is it prepared?

3. How would you ascertain the genuineness of Cod Liver Oil, Balsam of Peru, Yellow Beeswax, and Lupulin?

PRACTICAL MATERIA MEDICA.

(Time allowed, one and a-half hours.)

1. Identify the root submitted to you. Make transverse and longitudinal sections, and draw and describe them.

2. Identify and describe the powder submitted to you and report on its purity.

CHEMISTRY.

(Time allowed, three hours.)

Six questions only to be attempted, two of which must be from Part II.

Express your meaning in words, and use equations when possible.

1. How is Phosphorous Anhydride prepared pure? Why is its formula written P_4O_6 and not P_2O_3?

2. Give two distinct methods for the analytical separation of Nickel from Cobalt. Point out the essential difference in chemical character between these elements upon which the separation depends.

3. Compare and contrast the Chlorides of Carbon and of Silicon with respect to their physical and chemical characters, and the methods for their preparation.

4. How is Hypophosphorous Acid prepared? Give an account of the behaviour of Hypophosphites when heated.

5. State what you know of the behaviour of Cane Sugar, Glucose, Fructose, Lactose, and Maltose, with Fehling's Solution.

Part II.

6. What is the constitution of Citric Acid? Describe briefly the products obtained from it by the action of heat.

7. Give two methods for the preparation of Benzaldehyde. In what respects does its behaviour differ from that of Acetaldehyde?

8. How is Cyanuric Acid obtained from:—(*a*) Urea, (*b*) Tricyanogen Bromide, (*c*) Potassium Isocyanate? What is the action of Phosphorous Pentachloride on it?

9. Give a graphic formula for Napthalene. Compare and contrast its chemical character with that of Benzene.

PHYSICS.

(Time allowed, three hours.)

Five questions only to be attempted.

1. Give an account, accompanied by a sketch, of one of the following:—
    Bunsen's Calorimeter.
    Rhumkorff's Coil.
    Nicol's Prism.

2. How would you determine experimentally:—
    (*a*) The focal length of a double convex lens?
    (*b*) The speed of sound in hydrogen gas?
    (*c*) The compressibility of a liquid?

3. How would you proceed in order to test a chemical balance as to:—
    (*a*) Variation of sensibility with load?
    (*b*) Inequality in the length of the arms?

4. What do you understand by the following expressions:—
    (*a*) Specific resistance?
    (*b*) Capacity of a condenser?
    (*c*) Joule's equivalent?
    (*d*) Double refraction?

5. Give an account, with sketch, of a Polariscope, and explain how it is used.

6. What weight of steam at 100° C. would be required to melt 40 lbs. of ice at 10° C.; the specific heat of ice being 0·5, the latent heat of steam 537, and the latent heat of water 79?

7. State and discuss briefly:—
    (*a*) The law of Dulong and Petit.
    (*b*) Avogadro's Hypothesis.
    (*c*) Ohm's Law.

PHARMACEUTICAL SOCIETY OF IRELAND.

MONTHLY MEETING OF COUNCIL.

Wednesday, April 6, 1904, at the Society's House, 67, Lower Mount Street, Dublin, the President, Mr. Johnston Montgomery, in the chair.

Political Activity.

The Vice-President said that at the last meeting they discussed in an informal way the propriety of approaching the candidates for the representation of the Stephen's Green Division of Dublin. He and Dr. Walsh waited on Mr. Waldron, who received them very courteously, listened to what they had to say, said that he did not know anything about the Pharmaceutical Acts, and, without making any definite promise, said that if elected he would see them again and talk matters over. Mr. Matheson, the other candidate, told them he was very familiar with their Acts of Parliament, and was in full sympathy with the Society; further, that if elected he would do anything he could to further its interests. Mr. Matheson was not returned; but he (the Vice-President) hoped very shortly to see the successful candidate, Mr. Waldron, and from the way he had received them he was sure that he would give full consideration to their views.

The Council placed on record its deep sympathy with Mr. and Mrs. Payne in the loss they had sustained by the death of their only son.

A letter was read from Mr. William Daly Moore, of 13, Annadale Avenue, Fairview, Dublin, asking the Council to reconsider an application which he made in February, 1891, to be admitted to the examination for registered druggists without four years' apprenticeship in Ireland. The applicant stated that he had served his time to his father, who was an apothecary of the City of London. He was now fifty-four years of age and in infirm health, and any additional study would be arduous, if not impossible. The application was not granted.

A donation had been received from the Editor of the *Pharmaceutical Journal* of a copy of the 'P. J. Formulary.' On the motion of the President, seconded by the Vice-President, the donor was thanked.

Mr. A. E. Walsh, of Market Square, Lisburn, was admitted a member.

NORTH STAFFORDSHIRE CHEMISTS' ASSOCIATION.

ANNUAL MEETING AND DINNER.

Thursday, April 7, 1904, at the Grand Hotel, Hanley, Mr. J. Averill, J.P., of Stafford, President, in the chair.

Mr. Weston Poole, Treasurer, submitted his report, which showed a balance in hand. The report was adopted.

Mr. Edmund Jones, Hon. Secretary, then gave a brief *résumé* of the work of the past session.

Election of Officers.

The following were elected:—Council, Messrs. T. Charles, C. A. Morrison, R. G. Emery, D. Melling, W. B. Allison, G. R. Hankinson, J. Averill, Weston Poole, Edmund Jones, T. Bentley, S. C. Cornwell, W. Oldham, W. Marson, and F. Adams; President, Mr. J. Averill, Stafford; Vice-Presidents, Messrs. T. C. Cornwell and W. Marson; Hon. Treasurer, Mr. Weston Poole; Hon. Secretary, Mr. Edmund Jones; Assistant Hon. Secretary, Mr. T. Bentley.

The Dinner.

At the conclusion of the business meeting the members sat down to an excellent repast. The President again occupied the chair.

Letters of apology for non-attendance were announced from Mr. S. R. Atkins (President of the Pharmaceutical Society), Mr. J. Rymer Young, and others.

An entertaining programme of songs and toasts had been arranged by Mr. Edmund Jones.

After the loyal toasts, the President proposed the toast of

The Pharmaceutical Society,

which, he said, was established more than half a century ago, and remained to this day a memorial to those earnest men who were anxious for the advancement of chemistry and pharmacy, and for the better education of those who practised in the profession, so as to ensure greater safety to the public in the distribution of medicines. Referring to the prospects of pharmaceutical legislation, the President hoped that the Government Bill would be in no way hostile to the Bill introduced on behalf of the Pharmaceutical Society. The Pharmaceutical Council had had a most anxious time in preparing their Bill, and also in considering the Medicine Stamp Duty Acts, and he felt sure they would agree with him when he said they owed a deep debt of gratitude to the Secretary and other officers of the Society for the work they had done, and for the concessions which had from time to time been obtained from the Inland Revenue in respect of the Medicine Stamp Acts. There had been a considerable increase in the membership of the Society in recent years, and he hoped that registered chemists and druggists throughout the country would see fit to become members, for he believed that if they only strengthened the hands of the Society the profession would ultimately receive great benefit. Referring to the Benevolent Fund associated with the Society, Mr. Averill appealed for increased support, and mentioned that one member of the North Staffordshire Association, who had unfortunately become reduced in circumstances, had recently received substantial financial assistance from the fund in question.

Mr. W. Gowen Cross, J.P., responded. In the course of his speech he said that the Pharmaceutical Society was stronger now in point of numbers than it had been at any previous time within his recollection, representing as it did nearly one-half of the practising chemists and druggists of the country. Having alluded to the good work done by the Benevolent and Orphan Funds of the Society, Mr. Cross went on to speak of the Pharmacy Bill. He hoped that the Society's wants and the Governmental ones would be harmonised satisfactorily, but he must confess that when he read the majority report of the Commission on Poisons—with which he had a good deal to do—he did hope that if anything like that report was to be made the law of the land, chemists and druggists throughout the land would join hand to hand, and do their best to say "We will have no such thing." Personally, he did not care whether he ever sold another ounce of hydrochloric acid or oxalic acid, or any other things which gave chemists a twinge of conscience when they handed them over the counter, but he did feel that he had a responsibility towards the public. It was in pettifogging transactions, when people went and obtained poisons from unqualified persons, that danger arose. He hoped it would be recognised as a public question, and that it would be taken up by the public in a worthy manner.

Dr. Chas. Symes also responded. He observed that he had always looked upon the North Staffordshire Association as what the Americans would call a "live" body, which was willing and ready to do active work when required. He went on to speak of the Pharmaceutical Society, and of the accusations of lethargy which had sometimes been made against that body on the ground that it did not take steps in the early days to prevent unqualified persons and stores from selling medicines. In refuting this charge, Dr. Symes traced the history of the active legal proceedings instituted against a Bloomsbury grocer several decades ago, when the grocer paid a penalty, but was afterwards enabled to evade the law by registering himself as a company. The Council of the Pharmaceutical Society, said the speaker, was not content with losing the case in one or two courts, but carried it to the House of Lords, and spent between £1,000 and £1,500 in trying to defend the interests of druggists, and they had failed ever since to find a better case to show how the law was being broken. Therefore, if the Council had been charged with lethargy in this work it was because those who made the charge were not acquainted with the full details of the case. Dr. Symes went on to say that if it became necessary to fight the Bill which was to be introduced into the House of Lords the Council would want the North Staffordshire and other local associations to rally round them and help them to do something to prevent them drifting back into a position from which for years they had been endeavouring to eliminate themselves. The Council would also want the support of the local associations for the Pharmacy Bill before the House of Commons, and he did not think any reasonable person could take serious exception to that measure. Exception had been taken to Clause 7, which provided that if a company carried on business as a chemist and druggist, the whole of the directors must be qualified persons. It was not their business to say that the Council was prepared to modify that clause; in fact, the Council had passed a resolution deciding to stand by it to a certain extent, and in small companies this should certainly be the case; but in very large companies one saw the difficulty in requiring that a director who controlled, say, the ironmongery department should be a registered chemist and druggist. He had no doubt, however, that there would be ways and means of meeting this difficulty. What they wanted to ensure now was this: that when the time came for the fight for the crucial point of any one particular clause, the various associations would do their utmost to support the principle of the Bill, and to see that no material alteration was made which would emasculate the measure and render it useless. Concluding, Dr. Symes referred to the question of territorial representation on the Council of the Pharmaceutical Society, and urged that what was wanted was "specific" representation—*i.e.*, they wanted every division and every side of the chemist's business to be properly represented on the Council. They did not want only the West-end of London to be represented, but also the East-end; not only the manufacturing town and city, but also the agricultural business. He hoped the Society would always be able to find men from the different districts representative of all kinds of chemists requirements throughout the country.

The toast of

The Local Governing Bodies

was proposed by Mr. Edmund Jones, who spoke in eulogistic terms of the energy of the Mayor of Hanley and of his brother, Alderman Jesse Shirley, in matters appertaining to the municipal well-being of the borough. He also touched upon the federation question, and enlarged upon the advantages which would accrue to the Potteries district if welded into a united borough, with a population equal to that of Sheffield, and ranking as one of the great industrial cities of the Empire.

The Mayor of Hanley and Councillor Marson, of Stafford, responded.

Other Toasts.

Mr. Weston Poole proposed the health of "The President," and Mr. Averill responded.

Dr. Symes submitted the health of "The Association," and complimented the members on their unity and on the good work accomplished by the Association.

In replying, Mr. Edmund Jones expressed his gratification at having heard from outside sources that the Association had justified its existence, and was doing a good and useful work. There were sufficient chemists in the district to make the Association one of the most powerful throughout the country, and he hoped those who were not already members would recognise that there was an advantage to be gained in meeting locally from time to time, and in supporting the Council in London, which was fighting not for itself, but for the craft in general throughout the country.

Other toasts followed, and in the course of the evening a collection was taken on behalf of the Benevolent Fund of the Pharmaceutical Society, which realised £2 2s.

GREAT YARMOUTH PHARMACEUTICAL ASSOCIATION.

ANNUAL MEETING.

Thursday, April 7, 1904, at 156, King Street, Great Yarmouth, Mr. W. Sheppard Poll in the chair.

The Secretary read his fifth annual report, and was pleased to say the Association was in a most flourishing condition.

The number of members had reached its highest possible point. The nine meetings held during the year had been well attended, and much useful work accomplished. As Treasurer, he was able to announce a most satisfactory balance.

Mr. W. Sheppard Poll, as President, and Mr. Harvey Palmer, Hon. Secretary and Treasurer, were unanimously re elected. Five nominations were put in for the Committee, and a ballot resulted in the re-election of Messrs. T. B. Male, J. F. Roberts, and J. S. Shearman.

EXETER ASSOCIATION OF CHEMISTS AND DRUGGISTS.

ANNUAL MEETING.

Tuesday, April 12, 1904, at the residence of Mr. F. W. Vinden (the President), who presided.

Mr. H. Wippell Gadd read the

Annual Report.

During the year four business meetings of the Association had been held, at which the Medicine Stamp Acts, Pharmacy Bill, P.A.T.A. matters, and other subjects affecting the trade had been discussed. The Secretary had attended the meeting of the Federation of Local Associations, but as the time of that meeting was chiefly taken up by the reading of lengthy papers, which were not allowed to be discussed, the advantage of the gathering was not very obvious. The annual dinner of the Association had been revived. The Association had suffered during the year the loss by death of their late President, Mr. Stocker. The thanks of the Association were due to the President for his conduct of its affairs during the year, and for his kindness in allowing most of the meetings to be held in his house.

Mr. J. W. Lake (Hon. Treasurer) reported a balance in hand of £1 16s. 10d.

On the motion of the President, seconded by Mr. P. F. Rowsell, the report was adopted.

Election of Officers.

The Chairman proposed that Mr. J. W. Lake be elected President for the ensuing year. Mr. E. Lemmon seconded, and the motion was carried unanimously.

Mr. Vinden was elected Vice-President, and a hearty vote of thanks was accorded him for the able manner in which he had carried out the duties of President during the past year.

Mr. J. Harris was elected Hon. Treasurer, and Mr. H. Wippell Gadd was re-elected Honorary Secretary, and thanked for his past services.

The P.A.T.A.

The Association considered the communication from the P.A.T.A. relative to the purchase by chemists of P.A.T.A. articles for resale to other chemists at less than the P.A.T.A. minimum wholesale prices.

Mr. P. F. Rowsell thought the Association should approve of the action of the P.A.T.A. in this matter. He moved a resolution endorsing the action of the P.A.T.A. and pledging the Association to maintain its regulations.

Mr. E. Lemmon seconded the motion, which was carried.

The Pharmacy Bill.

A circular was read from the Federation of Local Pharmaceutical Associations suggesting the desirability of every member writing to his Parliamentary representative, drawing his attention to the importance of the Pharmacy Bill.

Mr. H. Wippell Gadd said he did not think it desirable for every member to write to the Parliamentary representative. On behalf of that Association he had twice written their member, Sir Edgar Vincent; and Mr. Reid, the Divisional Secretary of the Pharmaceutical Society, had also written him.—The Association approved of the action of the Hon. Secretary.

The Shops Bill.

The Federation of Local Pharmaceutical Associations also forwarded a copy of the Shops Bill, introduced by Sir Charles Dilke, for the consideration of the Association.

The meeting questioned whether it was any use taking any action, having regard to the fact that the Bill would have little chance of passing in the present session; but a resolution was unanimously passed approving of the general principle of having an Early Closing Bill.

Other Business.

The arrangements for the reception of the Plymouth Association, on the occasion of their visit in the summer, were further discussed. The members thought that the Exeter chemists should do what they could to make the gathering as pleasant and successful as possible; but it was decided to consider the subject again on receiving more definite information from the Plymouth Association.

Various matters affecting local trade interests were afterwards discussed.

PLYMOUTH, DEVONPORT, STONEHOUSE, AND DISTRICT CHEMISTS' ASSOCIATION.

QUARTERLY MEETING.

Friday, April 8, 1904, at 7, Whimple Street, Plymouth, Mr. J. Barge, President, in the chair.

Pharmacy Legislation.

The Secretary read a letter from Mr. Bremridge suggesting means of bringing before members of Parliament the principles of the Pharmacy Bill, and asking for their support.

The Chairman said he quite agreed with the views set forth by Mr. Bremridge, and considered that letters addressed by members of the Association, couched in their own language, to their Parliamentary representatives would carry far greater weight than one official communication sent on behalf of the Association. He further suggested that a Parliamentary Committee be formed, which would be better in touch with the progress of events and be enabled to judge what pressure should be brought to bear upon members of Parliament, who should thoroughly understand that the Bill was for the protection of the public, and not, as so many of them thought, purely for the advantage of chemists, and, further, that it was to strengthen the principles laid down in the Act of 1868.

Mr. Spear thought the communications from limited companies would tend to mislead their representatives.

Mr. Roper said it ought to be clearly stated that the Pharmaceutical Society in no way wished to affect co-operative societies carrying on business in a proper manner, but its duty was to prevent unqualified men who themselves were unable to carry on the business of a chemist and druggist forming themselves into a company and employing a qualified chemist, thus being enabled to usurp the legitimate titles of chemist and druggist.

Mr. Turney reminded them that the Government were pledged to introduce a measure in which probably would be embodied some of the clauses of their Bill, and they should be prepared to take immediate action if the clauses were to the disadvantage of chemists.

Mr. Roper, however, said the real Bill would be a compromise of the Government Bill and that of the Pharmaceutical Society, but the latter must be pushed forward, and when the Government measure came before them it could be dealt with.

Mr. Turney related that it was a matter of history how Mr. Gladstone had referred to the unanimous way in which chemists worked together to promote legislation, and on his proposition, seconded by Mr. Maitland, the following members were unanimously elected to form the Parliamentary Committee:—Messrs. J. Barge, C. J. Park, R. F. Roper, F. A. Goodwin, for Plymouth; F. Maitland, C. T. Weary, J. A. Lamble, for Devonport and Stonehouse.

The Committee would be informed from headquarters when the Bill would be read a second time, and members should then communicate with their representatives.

Other Matters.

A letter from the Cardiff and District Association, asking for support for their candidate, Mr. Hagon, was read, and after discussion it was decided that members should consider the matter individually.

The time and place of the annual outing was considered, but the meeting felt it was rather early to arrive at a definite decision. It was suggested that a combined gathering of chemists from Exeter, Torquay, and the Three Towns at some intermediate place would result in a very interesting conference in addition to the excursion.

BRADFORD CHEMISTS' ASSOCIATION.

ANNUAL DINNER.

Tuesday, April 12, 1904, at the Royal Hotel, Bradford, the President (Alderman Dunn) in the chair. An illustrated menu card of quite exceptional interest had been devised for the occasion by Mr. Fred Reynolds, of Leeds, and was greatly admired.

The loyal toasts were honoured on the proposition of the Chairman.

Alderman R. A. Robinson then proposed the toast of

The Houses of Parliament.

Addressing himself particularly to Sir Ernest Flower, M.P., he briefly reviewed the developments which had led to the present position of pharmaceutical politics. He said that all that was proposed in the short Bill of the Pharmaceutical Society was that the company should have the same restrictions and be subject to the same law as the individual. Surely such a proposition would commend itself to all fair-minded men. They did not go the length of asking that no company should carry on business, but they did say that it was only right and fair that if they carried on business as chemists, and sold poisons, the directors should also be qualified people. He wished to commend that view to the attention of Sir Ernest, who would no doubt be interested to know that no fewer than 198 members of the House of Commons had informed the Pharmaceutical Society that they would give their very closest and most favourable consideration to an amendment of the law in that particular direction. These members had not actually pledged themselves to support the appeal of the Pharmaceutical Society—and that, of course, could hardly be expected—but they had gone as far as could reasonably be expected, and in their name he asked Sir Ernest to take a similar view, and assured him that he would be serving the interests of the community which he represented by doing so, and help to secure that the sale of poisons was safeguarded in the way that was intended by the Act of 1868. They must, of course, be careful not to approach this question from a selfish point of view. It must be entirely a matter for the protection of the public. If the Pharmacy Act was still to be driven through with a coach-and-four, as it had been, it was evident that it was no use relying upon an Act of Parliament at all. He wished to mention one other point also, and that was in relation to the suggestion that the Government intended to introduce pharmaceutical legislation of its own. The Government approached the question from the point of view that they could not see why certain poisons used in agriculture and horticulture could not be sold by other persons than registered chemists, and they appeared to think that there was a necessity for it in some parts of the country. His answer was emphatically that there was no part of the country where the agriculturist or the horticulturist could not get quite easily the preparations which he wanted for his business. There was no reason why the salutary principles of the Act of 1868—that none but chemists should sell poisons—should be broken down, and he did not think that the present Government would lend itself to such an unjust proceeding. They must not have the Pharmacy Act weakened in any such way, not only because, as they knew, country businesses were often left in the hands of women and children, but also because if they once let the principle go they could not tell how far the mischief would extend. He sincerely hoped that, in the public interest, Sir Ernest Flower would be disposed to join with the other members of Parliament who had entered into the undertaking to which he had referred.

The toast having been honoured, Sir Ernest Flower responded. After thanking them for the invitation, he said that he would advise the Pharmaceutical Society to be very careful in the matter of these two Bills. Members of Parliament were only human, and he feared that if about 200 of them were pledged to support the action of the Society in both directions there was some danger of their good intentions becoming mixed. He thought that the case which had been made out in regard to the danger of the wholesale dissemination of poisons throughout the length and breadth of the country was such that such a measure could not seriously be contemplated for a moment. He did not believe himself that the Board of Agriculture would seriously persevere with the proposal, but unfortunately a departmental committee had sat upon the matter, and it appeared to him, upon a very slight and cursory examination, that the case had not been as fairly and fully put before that committee as it might have been. He thought, however, that they might trust the common sense of Parliament, which was greatly concerned for the protection of public health, to prevent any such reckless and dangerous dissemination as had been suggested. With regard to the Pharmacy Bill, there could be no doubt whatever as to what the intention of Parliament was, and it could only be a matter of time and opportunity before what was applicable to individuals was also made applicable to associations of individuals. That was the common sense of the matter, and they knew that common sense in the main did prevail in the Houses of Parliament, as well as in other distinguished assemblies. He assured them that he looked with a most benevolent eye upon the efforts of the Pharmaceutical Society to promote the interests of the public health, and he wished every success to the Society.

The President then proposed the toast of "The City and Trade of Bradford." The Mayor of Bradford responded, and in the course of his speech he invited the President of the Bradford Association to lunch with Lord Masham on the following day on the occasion of the opening of the new Cartwright Memorial Hall.

Mr. J. T. Metcalfe proposed the toast of

The Pharmaceutical Society,

and spoke in very eulogistic terms of the work of the Society. He thought that it spoke very well for the Society that during last year, according to the annual report, it had carried out 400 investigations. He regarded that statement as a very valuable addition to the report, and he believed that it was due to a suggestion of Mr. Waddington that that addition had been made. He spoke of the 'P.J. Formulary' as a very great improvement by the *Pharmaceutical Journal*, and alluded to the patient and self-sacrificing efforts of the members of the Council in reference to the Pharmacy Bill. He suggested that the grumblers outside the Society should not be satisfied with taking all and giving nothing, but should come inside the Society and help it in its work. He claimed, however, that the organisation of the Society had never been better than it was at present.

Alderman Robinson said that he had some confidence in responding to the toast, because he felt that the Society had done a great deal towards serving the three purposes which were defined. He was glad that several speakers that night had referred to the improvement in the official Journal, for he felt that their appreciation was thoroughly well merited. He thought that the Associations might very well consider the suggestion made by "An Ordinary Pharmacist" in the columns of the Journal, with reference to the affiliation of the local Associations with the Pharmaceutical Society, just as local medical societies were affiliated with the British Medical Association. Proceeding to refer to the proposed legislation, he emphasised in the strongest possible way the necessity of resistance to the proposed break into the principle of the Act of 1868. In regard to their own Pharmacy Bill, he felt that they had to look at the matter very carefully. A friend of his in the Commons told him that in such a case as theirs it was quite a usual thing to send two Bills together to a Committee, and that was a position which the Pharmaceutical Society might have to face. He had had something to do with Parliamentary Committees, and he told them quite frankly that he had never known of anyone going into a Committee Room of the House of Commons in connection with a couple of Bills in that manner and coming out of it without having to accept some sort of compromise. He did not know how far the Government might adopt the view of the Pharmaceutical Society, or the Society adopt the views of the Government, but they had to remember that the Government had a right to say to them in regard to Clause 7 that there was a strong difference of opinion. It was true that there was such a difference of opinion; but he held emphatically that their position was entirely sound. If they were going to say that it did not matter about the seven directors not being qualified so long as one employed man was qualified, what was to become of the position of the doctors, lawyers, and dentists? Would the lawyers agree that seven unqualified persons forming a company might carry on legal practice if they employed a qualified man. Of course they would not. The Incorporated Law Society would settle the matter by striking that man off the rolls, and they were in so strong a position that no man would be found who would be willing to take the risk. He believed that within the next month they would have to give an answer to the question whether they would accept the Bill, the whole Bill, and nothing but the Bill, or whether they had not better accept what they could get, even if it were at the cost of the loss of some part of that which they cherished. This was a matter which they would all have to consider carefully, and he hoped that the Council, in dealing with it would have the advantage of enjoying their confidence.

The toast of

The Bradford Chemists' Association

was proposed by Mr. W. Pollard (Wakefield), and Mr. D. S. Priestley (Secretary) responded. Mr. Priestley stated that the number at the dinner was sixty-five, as against fifty-five last year. Out of seventy chemists in the Bradford district only forty-four were members of the Pharmaceutical Society, and only thirty-three were subscribers to the Benevolent Fund. He hoped that that position would be improved.

Other Toasts.

Mr. Arthur Hanson proposed "Kindred Associations," and Mr. Beacock (Leeds) and Mr. Battle (Ripon) responded.

Mr. R. W. Silson having proposed "The Visitors," Mr. F. Pilkington Sargeant responded. Mr. Pilkington Sargeant said that he hoped that Alderman Robinson would understand that the view of the West Riding chemists on the Pharmacy Bill was that they must stick to Clause 7 at all costs, and would view with alarm and distrust any compromise which gave away that clause. The great need of the craft now was that the Pharmaceutical Society should have penal powers, so that it could strike a man off the register for unprofessional conduct. That would give them the surest means of doing away with most of their present grievances.

Mr. Preston (Leeds) also spoke, and the proceedings terminated with the drinking of the health of the Chairman, on the proposition of Mr. Mitchell.

During the evening music was rendered by Mr. Arthur Hanson, Mr. A. T. Bailes, Mr. H. R. Jackson, Mr. Charles Mackay, and Mr. W. Brinson, with Mr. Hanson and Mr. J. A. Mitchell as accompanists.

STOCKPORT CHEMISTS' ASSOCIATION.

MONTHLY MEETING.

Wednesday, April 6, 1904, at the Albert Hall, Stockport, Mr. William Dodge in the chair. The minutes of last meeting were duly read and confirmed. There being no special business to bring before the meeting, the time was utilised for the discussion of business subjects.

MANCHESTER PHARMACEUTICAL ASSOCIATION.

ANNUAL MEETING.

Wednesday, April 13, 1904, at the Victoria Hotel, Manchester, Mr. G. S. Woolley, the President, in the chair.

Annual Report.

The annual report detailed the several meetings which had been held during the session, which was the thirty-seventh in the history of the Association. Death had robbed them during the year of Mr. John Taylor, of Bolton, and Mr. J. T. Smith, of Radcliffe. There had been an increase of three members on the number in the previous year; total, 105 members on the roll.

The Treasurer's statement of accounts showed a balance in hand at the commencement of the session of £17 17s., and a balance now in hand of £21 4s. 11d.

The Chairman, in moving the adoption of the report and balance-sheet, alluded to the loss the Association had sustained by the death of Mr. Taylor and Mr. Smith, and suggested that a letter of condolence with the family of the late Mr. Smith be sent by the Secretary on behalf of the Association. The year had been a gratifying and successful one. They had expected to be left with a deficit on the year's working, but instead of that they had an increased balance in hand. Out of their 105 members 86 had paid their subscriptions. It would be of great assistance to the Council if the obligations of all were punctually carried out. There were three times 105 chemists in Manchester, and the membership of the Association ought to be increased. It was expected that the British Pharmaceutical Conference would hold its annual meeting in Manchester in 1906 or 1907. If held in 1907, it would be exactly twenty years since the last Conference meeting was held in Manchester. Special subscriptions would be needed, but he did not anticipate much difficulty on that point. He should like the chemists of the city to come forward when the Conference did hold its sittings in the city. Eighteen years ago the Conference was very successful, but they were in the fortunate position of having the Jubilee Exhibition in Manchester at that time, and it was hardly likely they would have such a help again.

Mr. **Kirkby** seconded the motion, which was carried unanimously.

Election of Officers.

Mr. George S. Woolley was unanimously re-elected President of the Association.

Mr. W. Kirkby and Mr. Harry Kemp were re-elected Vice-Presidents.

Mr. A. J. Pidd was re-elected Treasurer and Mr. J. C. Kidd Secretary.

The Auditor, Mr. A. L. Blain, was also re-elected.

Several delegates were appointed to attend the meeting of the British Pharmaceutical Conference at Sheffield.

After the ordinary business had been concluded, a discussion took place on

Pharmacy Legislation.

Mr. **Woolley** called attention to an article in the last issue of the *Pharmaceutical Journal*, and said there seemed some hope of legislation. Reference was made to the Bill, which was published *in extenso* in the issue of February 27, and the Chairman called attention to Clauses 2, 4, 6, 10, and 11, and read the Editor's comments thereon. Mr. Woolley went on to say that he had gone carefully through the Bill, and it seemed to him to be a fair one, although he could not say that he had thoroughly mastered it. It seemed to be too liberal to company traders. If there was any erring, it was on the side of liberality. He did not see why such a Bill should not become law.

BRISTOL PHARMACEUTICAL ASSOCIATION.

ANNUAL DINNER.

Wednesday, April 13, 1904, at the Royal Hotel, Bristol, Mr. G. T. **Turner** in the chair.

After the loyal toasts had been duly honoured, the **Chairman** read letters of regret at their inability to be present from Messrs. S. R. Atkins (Salisbury), President of the Pharmaceutical Society of Great Britain; J. W. White, President of the Bristol Pharmaceutical Association, who is in Italy; and others. Mr. Turner said that on each occasion when he had had the honour of presiding at previous gatherings of a like nature he had always had the pleasure of Mr. Atkins's company at his right hand, and he was much missed by them all that night. He was glad to find Cardiff and Bath so well represented.

Mr. W. A. **Shenstone**, F.R.S., proposed the toast of

The Pharmaceutical Society of Great Britain.

He said he was an old "Square" man, and not an old student only, but demonstrator at the School as well. He had special reason to feel gratified at being asked to propose that toast. In 1841 there was a pharmaceutical tea-party in Oxford Street, and the formation of the Society arose from that social gathering. One of its chief objects was to improve the usefulness and trustworthiness of the pharmacist, and to make him a better worker for the public weal. In the main the Society had, in spite of great difficulties, carried through its programme to success. Bristol had done, in its early days, and still was doing, a good deal to support the Pharmaceutical Society, and he especially felt he should recall work done by such men as Mr. Giles and Mr. Schacht. In connection with this toast he wished to couple the names of Mr. Glyn-Jones and Mr. Currie.

Mr. **Glyn-Jones** responded, being received with continued and loud applause, the **Chairman** having previously announced the legal distinction to which he has just attained. He wished to acknowledge the appreciatory remarks of the Chairman regarding the P.A.T.A. and its work, and to acknowledge the kindly feeling which prompted the announcement of his own legal success. He did not know of anything of which a chemist and druggist could be more proud than of responding to the toast of the Pharmaceutical Society. He heard people complain of the Pharmaceutical Society of times past, and also of the Society of the present day, but he thought that the chemist and druggist was misguided if he did not recognise its claims. No one who thought of the men who founded that Society—men who since had worked for the Society, men of eminence in science, of leisure, of means, who, so far as he could see, had no great personal motive to serve, but who had chiefly at heart the good of the common calling of pharmacy—failed to recognise the good work it was doing. If the Council of the Society was not doing its duty it was absolutely and entirely the fault of the registered chemists of the country, and this could not be too strongly emphasised. In three years the whole of the present Council could be turned out of office and supplanted by others, and he had no sympathy whatever with critics who stood outside the Society. He had much sympathy with the men inside the Society who criticised it, and at the same time endeavoured to improve it. They must remember that the Pharmaceutical Society was the only body which, in negotiations with Government, could represent the chemists and druggists of the country. The Pharmaceutical Society did work which no other Society could do. At present they were in somewhat of a pharmaceutical turmoil; there were three very important questions now on the pharmaceutical horizon. One was their own Pharmacy Bill, another was the Government Pharmacy Bill proposed to be introduced in the House of Lords very shortly, and the third matter was the production of the next British Pharmacopœia. He was glad, as representing the Council, to thank the Bristol Association for the endeavour that day made, more successfully perhaps than some members of the deputation thought, to educate one of their well-known and respected members of Parliament for Bristol. He was pleased to learn that Sir Michael Hicks-Beach recognised the position which was so clearly put before him by Mr. Matthews. If they could get the Legislature to recognise that there was at present an evil affecting the public and the rights of qualified chemists, they were bound to look at the remedy suggested by the evil. The Pharmacy Act of 1868 was clear, and what was the remedy of members of Parliament for the evil which they said existed? And it was for companies, if they went in for the retail business, to bring themselves into line with the Act of 1868. If they did not like what the Pharmaceutical Society suggested, let them bring in some project for coming into line with the Act.

Mr. W. L. **Currie** also replied. He thought the time was not far distant when the question of education would require to be looked into very seriously. He thought there should be a recognised curriculum of education for chemists. He emphasised the necessity of unity amongst chemists and druggists, particularly when they had, as now, a long and strenuous fight in front of them. He thought they would have to put their best foot forward to maintain their position.

Mr. H. E. **Matthews** proposed the toast of

The Medical Professions,

and he referred to the cordial relations existing in Bristol between medicine and pharmacy. The annual dinners of their Association helped to promote and perpetuate the good understanding between the two.

Dr. **Clements Hailes** and Dr. **Bertram Rogers** responded to the toast.

Other Toasts.

The other toasts were those of "The Bristol and other Pharmaceutical Local Associations," proposed by Professor **Morris Travers**, F.R.S., and replied to by Mr. **Taylor** and Mr. **Hagon**, and "The Visitors," proposed by Mr. **Pitchford**, and replied to by Mr. **John**, Mr. **Wippell Gadd**, and Mr. **R. Drane**.

Deputation to Sir Michael Hicks-Beach.

Wednesday, April 13, 1904. A deputation of local chemists waited upon Sir Michael Hicks-Beach at the office of the Bristol Chamber of Commerce to discuss the provisions of the Pharmacy Bill. The deputation consisted of Messrs. G. W. Isaac, H. E. Matthews, G. T. Turner, and A. J. Trebilco.

Mr. **Matthews** lucidly explained the provisions of the Pharmacy Acts for safeguarding the public interests, and providing that those who kept open shop should be qualified by examination. Until 1880 everything went on well, and then a legal decision, which was upheld by the House of Lords, discovered that companies of persons did not come within the scope of the Pharmacy Acts. That, it was contended, had led to many abuses, and consequent public danger. They aimed by their Bill at securing for the public a guarantee that branch establishments should be conducted by qualified persons, and the only clause in that Bill open to opposition was that which provided that companies carrying on pharmaceutical business should have qualified directors, the object being to put them on all fours with individuals who must be qualified before they can carry on the business of pharmacy. They wanted by that Bill to ensure having qualified managers.

Sir **Michael Hicks-Beach**: Can anyone be the owner of a chemist's business without being a qualified pharmacist?

Mr. **Matthews**: No.

Sir **Michael Hicks-Beach**: Although he conducts that business through a qualified manager?

Mr. **Matthews**: That is the case; an individual man cannot do so.

Sir **Michael Hicks-Beach** said he failed to see the reason of that. He sympathised with the view that anybody who sold over the counter or managed the shop, whether he represented a company or not, should be a qualified person. Why they should go further and say the owner—whether an individual or a director of a company—should be qualified as a pharmacist he did not see. He was a railway director, but he should be sorry to run an engine, or do a great deal of the technical work which those who actually managed it really did.

Mr. **Matthews** submitted that the two illustrations were not on an equality. The man who had a pharmacy was responsible in law for carrying it on properly.

Sir **Michael Hicks-Beach**: Why more so than the director of a company carrying on any other business? Surely a man can be a good director of a pharmacy company without being qualified?

Mr. **Matthews** replied that they were anxious that the public safety should be provided for. Frequently now a man who was unable to pass the qualifying examination of the Pharmaceutical Society converted himself into a company, and carried on the business of a pharmacist.

Sir **Michael Hicks-Beach**: I am with you there. He has no right to do that, and the law ought to prevent him.

Mr. **Matthews**: That is what we are aiming at.

Sir **Michael Hicks-Beach** thought they would have to modify the clause providing for the owners to be qualified. He could not see why a board of directors should not carry on a pharmacy business if they employed properly qualified persons.

After thanking Sir Michael Hicks-Beach, the deputation withdrew.

POISONING CASES AND INQUESTS.

The deaths by poisoning reported during the seven days ended Wednesday, April 13, 1904, numbered ten :—

Poison.	Accident.	Suicide.
Carbolic Acid	—	1
Carbolic and Hydrochloric Acids	—	1
Carbon Monoxide	1	—
Chlorodyne	1	—
Chloroform	2	—
Opium	—	1
Phosphorus Paste	—	1
Potassium Cyanide	—	1
Vermin-Killer	—	1
Total	4	6

Carbolic Acid.—An elderly woman at York committed suicide by drinking three pennyworth of liquefied carbolic acid.

Carbolic and Hydrochloric Acids.—A woman at Paddington, who had purchased quantities of carbolic acid and spirit of salt, died from the effect of taking those poisons.

Carbon Monoxide.—Another death has occurred at the works of an iron and coal company, at East Ardsley, Yorks, from carbon monoxide poisoning.

Chlorodyne.—A man at Godalming died from an accidental overdose of chlorodyne. The coroner commented on the facility with which chlorodyne can be bought.

Chloroform.—Two accidental deaths are reported as having occurred under chloroform, a labourer of Exeter and a child at Chelsea having succumbed to the anæsthetic during surgical operations.

Opium.—An unknown man at Brighton committed suicide by taking opium.

Phosphorus Paste.—A man at Chichester committed suicide by taking a quantity of phosphorus paste.

Potassium Cyanide.—A Beckenham watchmaker committed suicide by taking a solution of potassium cyanide.

Vermin-Killer.—A woman at Staple Hill, Glos., committed suicide by taking vermin-killer. The chemist who supplied the poison had warned the woman to be careful in using it.

Attempts at Suicide.—Several cases of attempted suicide are reported. Most of the poisons used were of the usual kind, such as carbolic acid and laudanum; but creosote and benzoline were used in two instances.—At Wolverhampton on Tuesday, a man was charged with attempting to commit suicide.—A man named Walton was called as a witness, and stated that defendant went to his shop and said he was suffering from indigestion and hiccough. Witness gave the defendant a draught, and then Davey said he wanted something to destroy a dog, and witness gave him a mixture with a little strychnine in it. He admitted that he was not a qualified chemist, and explained that the mixture he gave to the defendant would not kill him. In July, 1902, a woman committed suicide with poison which he had given as a present to her. The mixture was kept for killing mice.—The Chief Constable: A chemist knows what he is doing; an ignorant man does not. He produced a wrapper bearing a label, "Poison. Walton, Patent Pure Drug Stores, Bilston Street."—Witness admitted that he made up the poison.—The Chief Constable: Does it contain strychnine? I judge it so.—Alderman Williams: Judge, be hanged! You know what it was. Give a straightforward answer.—Witness said he attended a drug sale, and bought a bottle containing a small quantity of what he judged to be strychnine. He mixed it with bisulphate of lime for the purpose of destroying rats and mice on his premises.—The Chief Constable said he would have the substance analysed and see if proceedings could be taken. (As it does not appear that the poison was *sold*, it is probable that no proceedings can be taken.—Ed., *P.J.*)

LEGAL INTELLIGENCE.

Sale of Food and Drugs Acts.

Spirit of Nitrous Ether.

On Thursday, April 7, 1904, at the Sheffield Police Court, one Betsy Foster, 133, Carlisle Street, Sheffield, was charged with selling sweet spirit of nitre. It was stated that the object of such prosecutions was primarily to prevent people in an extremely small way of business, who did not understand drugs, selling them. When Inspector Unwin visited defendant's premises and asked for four ounces of sweet nitre the good lady had not that amount in her possession; she had only three ounces. A sample of this was found to be very deficient in quality.

Defendant pleaded entire ignorance. She had never had more than half a pound in her possession.

She was fined 10s.

Supreme Court of Judicature: Court of Appeal.

The Sale of a Chemist's Business.

On Wednesday, April 13, 1904, before Lords Justices Vaughan Williams, Stirling, and Cozens-Hardy, there was down for hearing the plaintiff's appeal from a verdict and judgment at a trial, before Mr. Justice Kennedy and a special jury, on the ground of misdirection and that the verdict was against the weight of the evidence. The action in the Court below was brought to set aside the sale to the plaintiff, H. W. Scobell, of the business of a chemist and druggist at Ramsgate and the returning of the purchase money and damages for misrepresentation as to the net profits of the business, which were stated to the plaintiff to amount to £340 per year. The learned judge and the jury having decided in favour of Mr. W. F. Gadd, the defendant, the plaintiff now appealed. The case was reported in the *Pharmaceutical Journal* of November 7, 1903 (p. 685).

Mr. Shearman, K.C., and Mr. Hills appeared for the appellant, and Mr. Eldon Bankes, K.C., and Mr. Norman Craig for the respondent.

Mr. Shearman, in opening the appellant's case, said the notice of motion claimed a new trial on behalf of the plaintiff on the ground of misdirection of the judge and on the further ground that the verdict was against the weight of evidence. The real point in the case was a simple one, and it was, whether the jury were entitled upon the direction of the learned judge to consider that the words "net profits" were ambiguous words, and to put their own interpretation upon them. The case he (Mr. Shearman) put before the jury in the Court below was that the words "net profit" were unambiguous words, whether applied to a chemist's or any other business, and the learned judge said that the jury were entitled to put upon them a special meaning, and this, he submitted, led to a miscarriage of justice. The parties to the actual agreement had decided as to what was the meaning of the word "profit." Only two directions were put to the jury. If their lordships looked at the pleadings and the statement of claim they would see that Mr. Scobell bought a chemist's business at Ramsgate from Mr. Gadd. Mr. Scobell was a surveyor, and he desired to buy the business for his son, and he entered into negotiations with Mr. Gadd, who wanted to sell his business, and who had put the matter into the hands of agents called Orridge and Co. The negotiations eventually resulted in a sale. Mr. Shearman's contention, on behalf of the plaintiff, in the Court below was that in order to get at the net profits of any business during any year they must get at what was sold in that year and what was the cost of what was sold in that year. His learned friend, Mr. Bankes, contended, on the other hand, that they could get at the net profit by showing the receipts for the year and the expenditure for that year. If his learned friend's construction was correct, a man could, supposing he had £1,000 worth of goods in hand during any particular year, sell off that stock and produce £600 by doing so, and say, "These are my gross takings, and I can get at the profit by deducting my expenses from that amount for the year." It appeared that no record whatever was kept of the stock in this particular case, and evidence was called in the Court below to show that with a turnover of £900 a year it was quite impossible to make a profit of £340 per year. He complained that the learned judge left it to the jury to say that in the chemist's business "profits" meant simply takings, less expenditure. This, he submitted, misled the jury, and it was on that and other grounds that he asked the Court to reverse the decision which had been arrived at in the Court below, or to grant a new trial. He submitted that the construction of the words "net profit" ought to have been left to the Court instead of to the jury.—The man who sold the business ought not to enter into a guarantee that there were certain profits unless he could prove it. It was no answer to his client to say that it was impossible to say what were the net profits.

Mr. Hills, following on the same side, said the defendant was contending for a special trade meaning of "net profit," but even supposing he succeeded in establishing that, he must go a step further, and prove that Mr. Scobell had knowledge of that trade meaning, and no attempt had been made to do so, and the plaintiff was therefore not bound by it.

Mr. Bankes, on behalf of the respondent, submitted that the judgment of the Court below was right, and that there was no ground for disturbing it.

The hearing had not concluded when the Court rose.

On Thursday, April 14, judgment was delivered. Lord Justice Vaughan Williams did not think that from any point of view the judgment in the lower Court could be regarded as a right one.

Lords Justices Stirling and Cozens Hardy concurred, and judgment was accordingly entered for the plaintiff, the question of the amount of the damages being left to the official referee to ascertain. Their Lordships hoped that the parties would agree on damages, and the reference would then be unnecessary.

AMERICAN NOTES.

(By Our Special Correspondent.)

A Handsome Donation to the N.A.R.D.

One of the interesting features of the recent meeting of the Executive Committee of the National Association of Retail Druggists, held in Chicago, was the contribution of a cheque for five thousand dollars by a prominent proprietary medicine manufacturer—Mr. H. L. Kramer, of "Cascaret" fame. At the Washington meeting of the N.A.R.D. last October Mr. Kramer offered to refund one dollar from every ten dollar order for "Cascarets" which should be received within a specified time, the entire contribution not to exceed five thousand dollars. This gratifying amount was received before the expiration of the stated date. Mr. Kramer gave the Executive Committee and other prominent representatives of the drug trade a banquet at the Chicago Club, and handed over the large cheque amid rather dramatic circumstances.

Unfair Trade-Mark Law.

The National Association of Retail Druggists has not confined itself by any means to reforming the cut-rate situation. One of the reforms which it wishes most devoutly is an improvement in the patent and trade-mark laws of the country. It has always angered the N.A.R.D. that the German manufacturers of synthetics are able to charge four or five times as much for their products in this country as they can possibly secure in their own land. They are given a protection under our patent laws which Germany does not afford them. The N.A.R.D. has had a measure introduced into Congress at Washington providing that hereafter no patent shall be granted to a citizen of any foreign country which does not grant a corresponding patent to a citizen of the United States. The Bill goes further in restricting patents on medicinal chemicals to processes of manufacture and denying them to the products themselves. It also provides that a patent shall lapse if it is not utilised within two years. Joseph W. Errant, the general attorney for the N.A.R.D., drafted the Bill, and it was introduced into Congress by a Representative from Chicago. The N.A.R.D. is heartily interested in the movement, and determined to push it to the uttermost.

Legislation Affecting Pharmacists.

The drug trade of America has been very much concerned during the last month or two in a Pure Food and Drug Bill now pending in Congress at Washington. A measure of this sort has been before every Congress for the past fifteen or twenty years, but has uniformly failed of success. This year it looked as if a Pure Food Bill would finally be made into law. Two measures which were practically identical were introduced respectively into the House and the Senate, and the drug trade, as well as the manufacturing food interests, had expressed their approval of them. The House Bill passed with a large majority, but a halt was experienced when the Senate was reached. An amendment had been tacked on to the Senate measure by the patent-medicine interests. Previously the Act had been limited in its provisions to pharmacopœial substances, but it was now thrown open to "any article used in the cure, mitigation, or prevention of disease." The purpose of the patent-medicine people was to make it possible to punish substitutors of their products, but the drug trade as a whole was against the amendment, inasmuch as its practical effect would be to bring everything within the scope of the measure, regardless of whether there were standards of quality or not. It was feared that confusion, chaos, and injustice would inevitably result. The amendment remains, however, despite the vigorous protests of the drug trade, although it begins to look as if so much opposition would be made against the Bill in its present form that its defeat would be compassed entirely.

Just at this season of the year the Legislatures of all the States are in session, as well as the Federal Congress in Washington. Many measures of interest to pharmacists are pending here and there, and among them are three or four Anti-Narcotic or Anti-Cocaine Bills. There is one before Congress; there is another before the Legislature of New York State; and there is a third in Maryland. Others will doubtless appear ere many weeks. The narcotic evil has become a considerable one in many sections of this country, and the best element in the drug trade has exhibited a determination to correct it so far as possible by rigid legislation.

Is it Legal to Protect the Price of an Article?

A decision has recently been handed down from the Court of Appeals of New York State which will doubtless prove of interest to English chemists. It does not refer to the drug trade, but it involves a principle with which druggists are vitally concerned. A year or two ago R. H. Macy and Co., proprietors of a large department store in New York, brought a suit against the American Publishers' Association for refusing to supply them with books unless they adhered to the printed retail price in selling them. The Publishers' Association, it may be noted, was endeavouring to prevent cut prices in books by means of the very methods used by the N.A.R.D. in endeavouring to prevent cut prices on proprietary medicines. The features of the well-known "tripartite" plan of the N.A.R.D. were embodied in the plan of the publishers. Well, the Macy case has been carried through two or three courts with varying success, and now the Court of Appeals upholds the claim of the complainants, and declares that the publishers had no legal right to combine and regulate prices. What makes the case particularly interesting is that the same Court, in the very same State, decided a year or two ago, in the famous Park case, that patent-medicine proprietors had a right to insist that dealers who handled their medicines should sell them at certain stipulated prices. The two cases seem practically identical. In the one case copyrighted books were involved; in the other trade-marked or copyrighted medicines were under consideration.

Assistants Up in Arms.

The drug clerks of this country are pretty well organised. Associations abound in most of the leading cities. In at least two places—Chicago and Detroit—these associations have recently been making their existence apparent. The Detroit clerks think that unregistered men are employed illegally in many of the drug stores of the city, and, inasmuch as this causes a good deal of unfair and unskilled competition, they are very anxious to bring it to a stop. Indeed, they have put on war paint, and declared that they mean to correct things with a vengeance. A barrister has been employed, and it is reported that suits will be brought against fifteen or twenty druggists at an early date. The trouble in Chicago is much of the same character. The clerks have felt the competition of many men who get their training in a hot-house fashion in the drug departments of the large department stores, and they say now that these fellows ought not to be permitted an examination by the State Board of Pharmacy. Their view is that the State law exacts four years of experience in pharmaceutical practice, and that the character of the practice which they get in the department stores is not of the quality which the law contemplates; hence their demand. Notices embodying their protest have been given wide notoriety, and they propose to have the State Board of Pharmacy comply with their wishes.

MISCELLANEOUS NEWS.

Divisional Secretaries and other Members of the Pharmaceutical Society are requested to assist the Editor by sending local newspapers containing items of interest to chemists and druggists.

Midland Pharmaceutical Association.—We are requested by the Secretary to state that the annual meeting and smoker of the Association has been postponed from April 14 to Thursday, April 28, at 8.30 p.m., at the Great Western Hotel, Birmingham.

Memorial to a Salford Chemist.—On April 9, at the Royal Technical Institute, Peel Park, Salford, a bust in memory of the late Alderman Benjamin Robinson, chemist, of Salford, was unveiled by the Mayor. Sir Richard Mottram, chairman of the Memorial Committee, presided, and there was a large gathering.

Institute of Chemistry.—Notice is given that the next examinations of the Institute of Chemistry, for persons desirous of qualifying themselves to be public and technical analysts, will be held in July, 1904. Applications for admission to the July examinations should be forwarded to the Registrar not later than Tuesday, June 7, 1904.

Portsmouth Asylum Doctors.—At a meeting of the Asylum Committee of the Portsmouth Corporation on the 12th inst. it was decided that the committee could not see its way to carry out the recommendations of the Lunacy Commissioners, that Dr. Henderson and Dr. Watson, two of the staff of the Asylum at the time of the recent fatal cases of poisoning, should be called upon to resign. The committee felt that the punishment was unmerited.

Opposition to the Pharmacy Bill.—The announcement that the directors of the Scottish Chamber of Agriculture have unanimously decided to oppose the Pharmacy Bill will not be viewed with surprise when the past actions of that body with regard to the agitation for free trade in agricultural poisons are considered, and when it is learnt that the Bill was described as one which gave extended powers to the Pharmaceutical Society in connection with the sale of poisonous compounds useful in agriculture.

Society of Chemical Industry, Manchester Section.—The annual meeting was held on Friday, April 8, 1904, at the Municipal School of Technology, Manchester, Mr. J. Carter Bell in the chair. It was decided that future meetings of the section should be held in some place other than the School of Technology. Dr. Fowler submitted specimens of the action of metalline blue as a rapid test for the amount of dissolved oxygen in effluents. Mr. J. Allen gave some details of his experiments in soap analysis, and the Chairman gave a brief explanation of his method of analysing water.

A Possible Antidote to Carbolic Acid.—At the annual general meeting of the Irish Veterinary Association, recently held in Dublin, "turpentine" was mentioned as a possible new antidote to carbolic acid poisoning. Mr. Allen, a veterinary surgeon, on one occasion had administered turpentine with eminently satisfactory results to two horses which had swallowed some carbolic acid. The treatment was equally successful in the case of a blacksmith who had taken carbolic acid in mistake for something else. This is the first time, as far as can be ascertained, that turpentine has been suggested for such a purpose. Alcohol has hitherto been considered the best antidote to carbolic acid, but this is by no means satisfactory.

Hiring Out Radium.—The advice of Mr. F. H. Glew, chemist and radiographer, of Clapham Road, that chemists should hire out radium at 2s. 6d. an hour to medical men has aroused great attention in the lay Press throughout the country. Sir William Ramsay, interviewed by a representative of the *Daily Express*, expressed his approval of the plan. "There is so little radium," he said, "that it appears a good way of extending its use. I do not think there is much danger of misuse in unskilled hands. If applied to the skin for too long burns, or dermatitis, might result, but if used discreetly there is little danger. There is not enough of it to allow of ill results generally."

Theft of Elliman's Embrocation.—At Slough, on April 6, Arthur Samuel Gallop was charged with stealing, between August and April last, twenty-four bottles of Elliman's Embrocation, value £3 6s., the property of Mr. James Elliman; and Mark Stevens was charged with receiving the embrocation, knowing it to have been stolen. Gallop had been employed at Messrs. Elliman and Co.'s works for about ten years, and left in January last. It had been ascertained that unlabelled bottles of the embrocation had been disposed of in the town, and in consequence the police were informed. As a result it was found that the stolen embrocation had been sold at from 8d. to 1s. per bottle, the retail price being 2s. 9d. Gallop was sentenced to one month's hard labour and Stevens to three months' hard labour.

Federation of Sub-Postmasters.—The annual conference of the National Federation of Sub-Postmasters was held at Bradford on Easter Monday, when Mr. R. W. Silson, Chemist, of that city, was in the chair, and Mr. W. K. Inglis, Chemist, of Delph, Oldham, was again elected President for the next year. A large number of delegates from all parts of the country were present, and addresses were given by the President and others on means for the betterment of their conditions of service, including one by Mr. Herbert Knott, Chemist, of Bolton, who is Secretary of the Sub-Postmasters' Mutual Guarantee Co., Limited. Chemists who are sub-postmasters are invited to join the Federation, of which Mr. Edwin Allen, P.O., Commercial Road, Liverpool, is Secretary. The subscription is the modest sum of 5s. per annum.

University Methods in America.—The Rev. T. A. Finlay, a member of the Mosely Educational Commission, comments as follows on the practical character of the American university teaching:—"In the sphere of specialised studies the universities keep themselves in touch with the industries of the country. In addition to the usual faculties of arts, medicine, and law, they maintain schools of the practical arts, such as pedagogy, pharmacy, engineering, architecture, the mechanicals arts, agriculture, and forestry. Besides furnishing trained teachers in these branches, they prosecute research work, and thus put the best thought of the country at the service of its industries. In this respect they resemble the universities of Germany, and furnish a model which our new university institutions might copy with advantage."

Robbery from Messrs. Dinneford and Co.—John Sheehan, a waiter, was charged before Mr. Kennedy, at Marlborough Street Police Court, on April 8, with stealing by false messages several bottles of scent and other articles worth £6 8s. 9d., the property of Messrs. Dinneford and Co., chemists, New Bond Street. Mr. J. W. Castle, manager to the firm, said that the prisoner used to be in the service of an old customer, and called for goods in that capacity. That was about two years ago, and he did not call for some time.

In January he began calling again for goods, stating that the German governess wanted articles for the young ladies. They were supplied from time to time, and an account sent. The customer was offended, and had apparently closed the account with the firm.—Defendant was sentenced to one month's hard labour.

The Claim for Repayment of a Penalty.—Messrs. Cummings Bros.' claim for repayment, by the Inland Revenue, of a penalty paid under the Medicine Stamp Duty Acts, previous to the decision in Farmer *v.* Glyn-Jones, in respect of what is now claimed to be a "known, admitted, and approved remedy," is the basis of a question of which Mr. Edmund Robertson, K.C., M.P., has given notice in the House of Commons. Mr. Robertson will ask the Chancellor of the Exchequer "whether his attention has been called to cases in which the Inland Revenue has obtained, under threat of legal process, payment of claims which have been afterwards judicially declared to be legally untenable; whether, notwithstanding such decisions, the Inland Revenue retains the money so illegally demanded and paid; and, if so, whether he will cause this practice to be discontinued."

To Check the Extravagant Advertisements of Quacks.—The appended regulations are to be enforced in Lübeck (Germany) from May 1. The punishment for infringement is by fine (not exceeding 150 marks) or by imprisonment:—"Persons wishing to practise medicine professionally without being approved by the State must notify their intention to the Medical Bureau. They must immediately report, with the name, age, and residence of the patient, if they advise or treat a person suffering from fevers and diseases of an inflammatory nature." The rules regarding advertisements are very stringent, reading as follows: "Public advertisements by non-approved persons are forbidden, in so far as they are calculated to mislead concerning the training, capacity, or success of such persons, or contain boastful promises. Public advertisement of the objects, apparatus, methods, or means which are applied for the prevention, alleviation, or cure of illness is forbidden, when (*a*) superior power over and above their true worth is attributed to such objects, apparatus, methods, or means, or the public is misled by the manner in which they are described; or when (*b*) the objects, apparatus, methods, or means, by the nature of their construction or quality, are calculated to bring about injuries to health."

American "Remedies."—According to *American Medicine*, the Utah State Board of Health has caused samples of various "patent" medicines to be bought from the shelves of druggists and submitted to the State chemist for examination. One alleged remedy, widely advertised as "Hyomei," a liquid preparation for catarrhal troubles, was found to be crude oil of eucalyptus diluted with oil of vaseline. The retail price printed on the label was 1 dollar. "Kauffman's Sulphur Bitters" was another "remedy" for about fifty different internal ailments. On the label was printed "No alcohol," but the State chemist found 23·4 per cent. of alcohol in the pint bottle, which sold for 1 dollar. Moreover, there was not even a trace of sulphur, and the alleged restorative had no curative properties that could be discovered. "Swamp Root" was a third "remedy" for all the ills the flesh is heir to—particularly in the line of renal troubles. The chemist found 9·6 per cent. of alcohol in the pint bottle, with a large percentage of sugar and juniper berry. "Paine's Celery Compound" was a fourth 1 dollar per pint "remedy." The analysis showed 20·9 per cent. of alcohol and a large amount of fusel oil, so that our contemporary considers it worse than "straight" whisky, which is a variety perhaps akin to that which has been called "twenty rod." But the gem of the collection were some catarrhal powders. In this the chemist found 2 per cent. of cocaine, with 90 per cent. of sugar preparations, and inert substances to hold the drug. The preparation is sold in small vials, each containing 1·5 gr. of cocaine.—*British Medical Journal.*

PERSONALITIES, BUSINESS CHANGES, &c.

Mr. C. H. Bradshaw has been appointed churchwarden of the Parish Church, Tickhill.

Mr. Clement W. Ridyard has purchased the business carried on for forty years at Codnor, Derby, by Mr. T. Farnsworth.

Mr. W. M. Freeman, chemist and druggist, Birmingham, has passed the final examination of the Council of Legal Education.

Mr. J. R. Philpotts, chemist, of Newnham-on-Severn, after being a member for no less than twenty-seven consecutive years, has again been elected a member of the Urban District Council.

Mr. H. Edward Ellis, Divisional Secretary of the Pharmaceutical Society for Montgomeryshire, has been co-opted a Governor of the Llanfair Intermediate School for a period of five years.

Messrs. Cheers and Hopley announce that they have arranged to take into partnership, as from March 31, 1904, Mr. D. T. Williams, who has been with them for many years. The style of the firm will remain as heretofore.

Mr. John Gibson, F.C.S., Hexham, who delivered an interesting and instructive course of lectures on photography some two years ago at Hexham, under the auspices of the local Technical Education Committee, is the judge of the photographic section at the forthcoming Arts and Crafts Exhibition at Haltwhistle.

Mr. J. Timpson (of the firm of Messrs. Johnson and Johnson) returned to England on Easter Monday by the Kaiser Wilhelm der Grosse, after a visit to the United States. Mr. Timpson's many friends will learn with regret that he is rather unwell, and his medical advisers at Plymouth fear he may have to undergo a slight operation.

Mr. Councillor Agar, chemist, Mansfield, has, we regret to hear, for the last three months been in a critical state owing to a severe attack of pleurisy and pneumonia, followed by an operation for empyema. We are pleased to announce, however, that he has sufficiently recovered to remove to Paignton, where he hopes to recover strength.

Mr. R. B. Smale, chemist and druggist, of Oswestry, has undertaken to bear the cost of building a laboratory at Oswestry Grammar School, at which he and his father were educated. The school was founded in the first decade of the 15th century, and it is claimed that it is one of the six oldest scholastic foundations in the kingdom. The value of the gift is at least £600.

Mr. James Crosby Robson, chemist, of Middlesbrough, who has for a number of years been prominently associated with the public life of Redcar and Coatham, has during the week been made a Justice of the Peace for the North Riding. For eleven years Mr. Robson has sat as one of the representatives of Coatham on the Guisborough Board of Guardians, and was also connected with the old Kirkleatham Urban Council. When this authority amalgamated with the Redcar Council, Mr. Robson was made the first Chairman of the Board, and has been a member ever since.

Mr. W. S. Glyn-Jones, member of the Council of the Pharmaceutical Society, has passed the final examination of the Council of Legal Education, being one of the two candidates who were placed in Class I. and awarded certificates of honour. Mr. Glyn-Jones, in virtue of that award, receives a prize of £50 from the Middle Temple, the Inn of which he is a member. The formality of "call" alone stands between Mr. Glyn-Jones and the full privileges of a barrister-at-law. We understand, however, that he will not be called to the bar until June next. Mr. Glyn-Jones' friends in pharmacy will join in congratulating him on an exceptionally fine achievement, it being most unusual for a "first-class" in the final to be obtained by a student who has throughout his "terms" been engaged in other work.

TRADE NOTES.

Fly Cemeteries.—The fly season will soon be on us, and among the best devices for getting rid of these plagues is undoubtedly the "Fly Cemetery" supplied by Messrs. Tunbridge and Wright, Reading. This article, the wholesale price of which has been reduced, bears a very good profit.

Numbers in 'P.J.F.'—All the formulæ of Messrs. Robert Gibson and Sons, Limited, medicated lozenge manufactures, Manchester, are published in the 'Pharmaceutical Journal Formulary,' and the firm will be pleased to give the numbers to any customers who have a supply of their goods not bearing this reference.

"Fallowfield's Courier" is the title of the latest publication issued for perusal by the photographic dealer. No. 1 is dated April, 1904, and comprises eight pages. Mr. Jonathan Fallowfield, 146, Charing Cross Road, London, is the publisher, and his object is to supply dealers each month with a free copy of a bright, chatty, and instructive photographic journal.

The Medicine Stamp Acts.—Messrs. Evans, Gadd and Co., Limited, Bristol and Exeter, announce that, in order to meet the new requirements of the Board of Inland Revenue, they have revised the labels of their packed goods, and that all their articles can be sold by chemists without stamps. The firm will also be pleased to quote for the manufacture and preparing for sale of proprietaries, either from private formulæ or from those published in the standard books of reference.

The Ensign Film Competition, for photos taken in any camera with the "Ensign" or "Ensign Vidil" daylight loading roll film, Messrs. Houghtons, Limited, 88 and 89, High Holborn, W.C., intimate, closes on May 30 next. One hundred pounds, divided into ninety-two prizes of from 10s. to £5 each, will be distributed among the various classes, and Messrs. Houghtons, Limited, will be glad to send full particulars and entry forms to any of the Journal readers who send a postcard to them.

A Photographic Competition.—Messrs. Elliott and Sons, Limited, manufacturers of the well-known "Barnet" plates, films, and papers, are offering £500 in cash prizes to users of their products. The highest prize offered is £20 and the lowest 10s. 6d. There are nineteen classes, nineteen prizes being offered in each of seventeen of the classes and eighteen prizes in two other classes. Messrs. Elliott and Sons have introduced two new products this season, to which we have already directed attention—the "Barnet" orthochromatic plate and the "Barnet" lustra-matt bromide paper. We have since used the new orthochromatic plates for various kinds of work with excellent results; the lustra-matt paper has also been used, good prints being obtained on it from negatives which hitherto were not suitable for the ordinary bromide paper.

Prize-Winners.—Appended is the list of the names of the chemists entitled to prizes in connection with the "Wright's Coal Tar Soap" competition, which was announced last Christmas. Nearly 2,000 children entered for the competition:—Mr. P. H. Davies, chemist, High Street, March, £25; Messrs. Hodder and Co., 9, 10, and 11, Broad Street, Bristol, £10; Mr. Bateman, chemist, Finchley Road, N.W., £5; Mr. Harper, chemist, Bromsgrove, £1; Mr. J. H. Weston, chemist, Runcorn, £1; Mr. Davy, chemist, 3, Central Exchange, Beckenham Road, Penge, £1; Mr. J. Holmes, 2, Duckworth Lane, Manningham Lane, Bradford, £1; Mr. Stow Morris, chemist, Bushey Green, Catford, £1; Messrs. Phillips and Co., 215, Lewisham High Road, S.E., £1; Messrs. Wride and Co., chemists, Strand, East Street, Southampton, £1; Mr. Freeman, chemist, Broadway, Newbury, £1; Mr. Black, chemist, Crouch End, N., £1; Mr. J. A. White, Montague Terrace, Inverleith Row, Edinburgh, N.B., £1.

COMPANY INTELLIGENCE.

Games Evans, Cash Chemists, Limited.—Capital, £300 in £1 shares. To carry on the business of wholesale and retail manufacturing chemists and druggists, manufacturers of, dealers in, and vendors of the specialties of W. G. Evans, 54, Clare Road, Cardiff.

Penn Perfumery Company, Limited.—Capital, £5,000 in £1 shares. Object: To carry on the business of perfumers, chemists, druggists, drysalters, oil and colour men, dealers in fancy goods, soap, and toilet preparations, etc. Registered office, 345, City Road, E.C.

Archie E. Slack Company, Limited.—Registered March 30. Capital, £1,500 in £1 shares. Object: To acquire (1) the business carried on by A. Slack at 43, High Street, Rotherham, and (2) the business carried on by the late T. Slack at Wellgate, Rotherham, and to carry on the business of dentists, manufacturing and general chemists and druggists, etc.

Dennis and Roberts, Limited.—Capital, £10,000 in £1 shares. Object: To adopt an agreement with T. Roberts for the acquisition of the business carried on by him at 14, Clumber Street, Nottingham, as Dennis and Roberts, and to carry on the business of chemists, druggists, oil, paint, varnish, and colour merchants, drysalters, etc. Registered office, 14, Clumber Street, Nottingham.

Schweppes, Limited.—The net profits for the year ended December 31, including £5,028 brought forward, amount to £59,439. The directors placed £6,000 to reserve, and paid a final dividend on the ordinary shares at 3½ per cent., being balance of 7 per cent. per annum, and make a distribution on the deferred shares of 3 per cent., leaving £8,246 to be carried forward.

Cryptose, Limited.—Capital, £500 in £1 shares. Object: To acquire any information relating to the manufacture or treatment of foodstuffs, drugs, chemicals, and other articles of consumption, and to carry on the business of manufacturers of foodstuffs, drugs, chemicals, and other articles, chemists, druggists, drysalters, oil and colour men, etc. Registered office, Selborne House, 11, Ironmonger Lane, E.C.

Butcher, Curnow, and Company, Limited.—Registered with a capital of £6,000 in £1 shares. Object: To acquire the business of wholesale and retail chemists, retail dealers in photographic apparatus, etc., carried on at 33 and 35, Tranquil Vale, Blackheath, as W. Butcher and Son and F. E. Butcher of the first part, W. A. Curnow of the second part, J. L. Savage of the third part, and the company of the fourth part, and to carry on the said business and any other incidental thereto.

Mineral Waters and the Sugar Tax.—Mr. R. J. White (the chairman), presiding at the ordinary general meeting of R. White and Sons, Limited, held on April 12, observed that the season of 1903 was one of the most unfavourable they could possibly have had for the trade. They had hoped for a better year, following, as it did, on two bad seasons. But apart from the weather and the sugar tax, the report was in some points satisfactory. The turnover was slightly in advance of the previous year, and Manchester and Birmingham showed increases in trade. During 1903 the sugar tax cost them £29,000 on their consumption, equal to 6 per cent. on the ordinary shares. The report was adopted, and subsequently Mr. Lea Smith and other shareholders held a consultation with the view of bringing about a working arrangement with Messrs. Batey and Co., which he had suggested.

BANKRUPTCY INTELLIGENCE.

Re **J. T. Beynon** (trading as Beynon and Co.), chemist and druggist, Church Street, Monmouth.

The Official Receiver for the Newport (Mon.) Bankruptcy Court reports that the realisation of this debtor's estate has been completed. As a result, the creditors will receive a first and final dividend of 3s. 11½d. in the pound.

Re **Henry Baldwin**, 6, Vernon Street, Cheetham.

A receiving order has been made in the Manchester County Court, on the debtor's own petition, against Henry Baldwin, of 6, Vernon Street, Cheetham, who carries on business as a medicated lozenge and chlorodyne manufacturer, under the style of "Henry Baldwin and Son," at 96a, Bury New Road, Manchester. He has been adjudicated bankrupt.

NEW REMEDIES.

The Notes in this column embody recent suggestions in therapeutics, for the information of dispensers; they deal with novel applications of drugs and preparations in common use, in addition to new remedies strictly so-called.

Anti-Hæmorrhoidal Drops.—Tincture of *Hydrastis canadensis*, 2 drachms; tincture of *Viburnum prunifolium*, 2 drachms; tincture of hamamelis, 5 drachms; tincture of horse-chestnuts, 5 drachms. Fifteen to 20 drops to be taken, before meals, in a little sweetened water.—*Nouv. Remèdes Formulary.*

Arhovin.—This name is applied to an additive product of diphenylamine and esterified thymylbenzoic acid. It is a fluid, having the sp. g. 1·055; the odour is aromatic, and the taste at first cool then burning. It is insoluble in water, and is given for gonorrhœa, vesical catarrh, and other urinogenital affections in gelatin capsules each containing 3½ grains, of which three are taken the first day, four the second, and five the third. It is claimed that treatment may be continued for five or six weeks without producing any ill effects on the kidneys. Ferric chloride gives a dark green colour reaction with the urine fifteen minutes after taking a dose of arhovin, but the form in which it is excreted has not been determined. It is claimed to be a powerful disinfectant and bactericide, at the same time increasing the acidity of the urine, and thereby removing any ammoniacal fermentation.—*Pharm. Centralh.*, **44**, 869.

Acetyl Chloride as a Digestive Stimulant.—G. D. Spineanu finds that acetyl chloride given internally acts as a powerful eupeptic in cases of deficiency of hydrochloric acid in the gastric juice. On contact with water acetyl chloride forms hydrochloric and acetic acids, which, in the nascent state, are powerful digestive stimulants. The dose is not given.—*Annales de Pharm.*, **9**, 297, after *Merck's Report.*

Cinchonine Sulphate as a Sedative for the Mucous Membrane.—J. E. Tolley has found cinchonine sulphate to be a most active sedative on the secretion of nasal and pharyngeal mucus, and an excellent remedy in the treatment of coryza and other inflammatory affections of the nasal mucous membrane, when given in doses of 4 to 6 grains, three times a day, preferably in the form of a cachet.—*Annales de Pharm.*, **9**, 301.

Methyl-Aspirine.—Methyl-aspirine is the methylic ester of acetyl-salicylic acid; it occurs in crystals melting at about 48° C., which are soluble in water. Boiling decomposes it into methyl salicylate and acetic acid. It is given in rheumatism in doses of 75 to 95 grains in twenty-four hours.—*Annales de Pharm.*, **9**, 301.

Xeroform in Burns.—Xeroform is stated (*Deutsch. Med. Zeit.*) to be extremely efficacious as an application to burns, acting simultaneously as an antiphlogistic and an antiseptic. In the form of an ointment it promotes granulation and rapid healing. A dusting powder of equal parts of xeroform and French chalk has proved equally useful in intertrigo.—*Nat. Drugg.*, **34**, 40.

Helmitol as a Urinary Disinfectant.—E. Heuss reports favourably on the treatment of chronic cystitis and other affections of the bladder in which it has proved an effectual disinfectant. It was given internally in doses not exceeding 45 to 60 grains in twenty-four hours in water at regular intervals. In certain cases the bladder was also washed out with a 1 to 2 per cent. warm aqueous solution of helmitol.—*Therap. Monats.*, **17**, 372.

MARKET REPORT.

The Drug Sales.

London, Thursday, April 14, 1904.

A month having elapsed since the last Drug Auctions, the offerings at to-day's sales were somewhat large. The catalogues numbered sixteen, and comprised old and new goods. In spite of the time which has intervened since the last sales, the demand was limited, and the majority of the offerings were bought in. Generally speaking, the sale might be described as "dragging," and was without any feature of special interest. Among the large number of items catalogued for which buyers were not forthcoming the chief were, perhaps, Ipecacuanha, Cascara Sagrada, and Menthol. Ipecacuanha was in good supply, but was not wanted. Cascara was bought in at about late rates, and a low bid made for Menthol was referred to holder for confirmation, and declined. A bid of 6s. was refused for Japan Dementholised Peppermint Oil, Yazawa brand. As evidence of the arrival of the new crop, a much larger quantity of Honey was catalogued than for some time back. The demand was fair, but the prices expected were rather too high for buyers. Notwithstanding this, however, a fair quantity was disposed of, the highest price paid for good Jamaica being 24s., and for Honolulu 25s. 6d. Buchu Leaves were in moderate supply; fair green rounds sold at 8d. and 8¼d., and yellowish at 7½d.; long leaf was taken out at 2s. Gamboge sold well, the offerings consisting of good stuff; £16 2s. 6d. was paid for good bright pipe and £15 for good pickings. Curacoa Aloes realised 25s. for dark liver, 18s. 6d. for black, and 15s. for common; East Indian sold at 40s., and Socotrine 67s. 6d. to 70s. Cape was not represented. Good green Ceylon Coca Leaves fetched 1s. 3d., fair green 1s., and brownish green 11½d. Jamaica Sarsaparilla was in fair supply, and a fair quantity was disposed of; the highest price paid was 1s. 1d. for good fair, poorer qualities selling at irregular rates; Lima realised 7d. (subject) for coarse. A few cases of Gum Kino were disposed of without reserve at 3½d. for dull grain. A case of Citronella Oil, also offered without reserve, was knocked down at 1s. Lime Juice realised late prices—namely, 1s. 2d.—and Lime Oil 1s. 6d. Russian Ergot sold without reserve at 1s. 3d., but Spanish was held. A case of Clove Oil (case stained) sold at 1s. 3d. Wax sold as follows: Zanzibar, £6 5s. to £6 15s.; Jamaica, £7 7s. 6d.; Madagascar, £6 7s. 6d. to £7 2s. 6d. A few cases of Gum Benjamin were disposed of at £6 2s. 6d. for Sumatra fair seconds. Several cases of Shenshi Rhubarb sold before the sale, but the price was not mentioned; the rest of the offerings were held. Four cases of Guaza found a buyer at 4s. 3d. for good green tips without stalk. For pale slightly blocky Gum Ammoniacum 55s. was paid. A number of cases of Balsam Tolu found buyers at prices varying from 7d. and 7½d. for drossy to 10d. for middling fair. For round tins 1s. 3d. is asked. Twenty pockets of Nux Vomica sold at 7s. 6d. for common Calcutta Seed. Madras Scablac sold at varying prices up to £7 15s. Argol (69-70 per cent. of Crystallised Acid) sold at 49s. and 50s. per cwt. Fifteen cases of Formosa Camphor catalogued without reserve were, after some little competition, knocked down at 290s. per cwt. Fifteen bags of Cashew Nuts were sold at 40s. 6d. to 41s. Two cases of China Star Aniseeds were sold without reserve at 50s., and forty bags of Levant Aniseeds at 18s. Twenty-seven bags of Annatto Seeds sold at 2½d. to 3¼d., according to quality. Twenty-four serons Grey Bark were catalogued and all sold, 22 at 1s. 2d. for bright Huanoco and 2 first-class damaged at 11½d. Nine cases of Senega Root sold without reserve at 2s. 8d. A few barrels of Barbados Tamarinds sold at 12s. 6d. Nineteen bags Croton Seed were disposed of at 20s. The fair supply of Cardamoms was disposed of at somewhat irregular prices. The Senna offerings were scanty, and the quality poor. These fetched 1½d. to 2d. for Tinnevelly.

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General Markets.

The Drug and Chemical market is exceedingly quiet. German makers have raised the price of Quinine Sulphate ½d. per oz since our last report. Peppermint Oil is gradually creeping up. Aniseed and Cassia Oil are rather cheaper, in consequence of the fall in the exchange. These are the principal changes of the week.

ARROWROOT.—At the sales on Wednesday St. Vincent was disposed of at 1¾d. to 2⅜d. for fair manufacturing.

BORACIC ACID.—Powder, £1 4s. 6d.

BORAX.—In powder, 14s. 6d.; crystals, 13s. 6d.

CAMPHOR—Is unchanged and very quiet.

CARBOLIC ACID—Is easier; Crystals, 39-40°, 7d.

CINCHONA BARK.—At last Thursday's auctions in Amsterdam 7,096 packages were offered. The result was equivalent to 1⅜d., London parity, against 1 3/16d. at the March sale.

CLOVES.—At the Spice Sales a few cases Penang sold without reserve at easier rates. In the private market sales of Zanzibar have been made at 7¾d. for June-August delivery.

COCAINE.—For 175-oz. lots, the price for the Hydrochloride is 12s. 8d. per ounce. For smaller wholesale quantities the price is 13s. 3d.

CODEINE.—The price quoted is 8s. 4d., with further reductions for large quantities.

COD-LIVER OIL—Is practically unchanged from last week.

CREAM OF TARTAR.—98 per cent. foreign powder, 87s.

ESERINE.—5s. per gramme for the sulphate and salicylate.

GINGER.—At the Spice Sales on Wednesday there was little demand for Cochin, and only a few packages sold at rather easier rates. Jamaica was in better demand; fair to good bright sold at 43s. 6d. to 50s.

HYPOPHOSPHITES.—Lime, 1s. 8d. to 1s. 9d., according to quantity; Soda and Potash, 2d. per lb. extra.

IODIDES.—Sodium Iodide, 11s. 10d. to 12s. 1d.; Potassium Iodide, 10s. 3d. to 10s. 9d.

MENTHOL—Is nominally 16s. 6d., but nothing is doing. The low price offered in the sale was subsequently declined.

MERCURIALS.—Calomel, 2s. 8d.; Corrosive Sublimate, 2s. 4d.; Red Precipitate, 2s. 11d.; White Precipitate, 2s. 11½d.; Mercuric Sulphate, 2s. 4d.

MORPHINE.—The acetate, muriate, and sulphate are quoted at 4s. 5d., for the powder.

PEPPERMINT OIL.—Prices are gradually creeping up to the New York parity. Good business has been done in H.G.H. at 15s., and the price is now 15s. 3d. American Oil, in tins, is quoted at 13s. 6d. to 14s. 6d., but in second hands there is a little offered below this. For Japan (Kobayashi) 6s. 6d. has been paid.

QUICKSILVER.—According to the monthly statement issued by Mr. Alexander S. Pickering, the imports of quicksilver into the United Kingdom during the month of March, 1904, amounted to 15,234 bottles, against 10,196 bottles in March, 1903. The exports for last month were 1,647 bottles, against 1,098 bottles in March, 1903.

QUININE.—German makers have raised the price of the Sulphate to 1s. 1½d. per oz. for 1,000 oz. lots in 100 oz. tins. In second hands there are sellers at 1s. 0⅝d., and buyers at 1s. 0½d.

SHELLAC.—The spot demand is quiet; the quotation is about 220s. for fair TN.

BRITISH TRADE IN MARCH, 1904.

The total value of goods imported into the United Kingdom during the month of March, 1904, was £48,692,275, an increase of £1,775,751 on March, 1903. The total value of our exports (including re-exports) during the same period was £30,198,445, a decrease of £368,102 on March, 1903. The total value of "Chemicals, Drugs, Dyes, and Colours" imported into the United Kingdom during the period under consideration was £887,206, being an increase of £56,910 on March, 1903. The exports of goods included under this heading are valued at £1,458,042 (an increase of £78,108), and the re-exports at £154,390 (a decrease of £4,893).

The following table shows the increase or decrease of the imports and exports of articles of interest to chemists during last month, compared with the corresponding month of the preceding year:—

IMPORTS.

Article.	Quantities.		Value.	
	Increase.	Decrease.	Increase.	Decrease.
Mineral Water	8,311 doz. bots.	—	£1,974	—
Ginger	6,582 cwts.	—	£6,853	—
Coco-Nut Oil	—	7,422 cwts.	—	£13,678
Olive Oil	—	221 tons	—	£6,352
Turpentine	—	3,565 cwts	—	£8,666
Gum Arabic	—	4,469 cwts.	—	£10,271
Caoutchouc	4,258 cwts.	—	£119,521	—
Gutta Percha	—	1,223 cwts.	—	£32,163
Quicksilver	—	377,862	—	£37,927
Soda Compounds	890 cwts.	—	£1,124	—
Borax	7,160 cwts.	—	£5,216	—
Glycerin	8,762 cwts.	—	£17,025	—
Peruvian Bark	7,005 cwts.	—	£19,441	—
Quinine and Quinine Salts	18,212 ozs.	—	£632	—
Unenumerated Drugs and Medicines	—	—	£32,897	—
Soap and Soap Powder	—	4,540 cwts.	£4,103	—

EXPORTS.

Article.	Quantities.		Value.	
	Increase.	Decrease.	Increase.	Decrease.
Aerated Waters	—	11,318 doz. bots.	—	£659
Scientific Instruments and Apparatus (other than electrical)	—	—	—	£7,095
Glycerin	—	13,580 cwts.	—	£23,439
Medicine (comprising drugs and medical preparations)	—	—	£9,950	—
Soda Compounds	62,667 cwts.	—	£26,829	—
Soap	4,354 cwts.	—	£11,940	—

PATENTS AND TRADE MARKS.*

New Patent Applications.

IMPROVED UNGUENT FOR THE TREATMENT OF BURNS, SCALDS, AND OTHER LIKE SORES (No. 10,474 of 1903).—J. Lewis, Twemlow Green, near Holmes Chapel, Chester. The manufacture of the above unguent is carried out in the following manner:—To about one pound of lard is added about five ounces of beeswax, and when these are melted by the application of heat, and are well stirred and mixed together, the mixture is allowed to cool down, but before complete solidification has taken place about one ounce of either white precipitate (mercuric ammonium chloride) or red precipitate (mercuric oxide) is added thereto by degrees, stirring and mixing the same well together. When cold, the unguent is ready for use.

APPLIANCE FOR MEDICAL, SURGICAL, AND CURATIVE PURPOSES (No. 11,620 of 1903).—G. Harrison, of Greenbank Road, Liverpool. Relates to an appliance which is intended to abstract and conduct heat from various parts of the body. To this end it consists of two bars of wood, of special shape, arranged horizontally and connected by means of cylindrical pieces of cork, or other light material. Cords are passed through such connecting pieces and over the ends of the abovementioned bars, thereby forming a rigid framework. The lower of the two bars has a number of grooves or recesses, into which is tightly pressed a medicated composition, consisting of plaster of Paris, 20 parts; asbestos, 2 parts; and gold dust, 2 parts; all of which have been intimately mixed together with water to form a paste. When this medicated substance is thoroughly set, the whole of the framework is soaked in a solution composed of 1 drachm of thymol, 20 minims of oil of neroli, and 1 ounce of rectified spirits of wine, mixed together. The appliance is fixed in position by means of straps and a waist-belt, said straps being fastened at the back to the top of the framework, then crossed, brought over the shoulders, crossed in front, and fastened to the waist-belt. The latter is fastened to the bottom of the framework.

IMPROVED GALVANIC CURATIVE APPLIANCE FOR HUMAN USE (No. 3,276 of 1904).—F. Tomlinson, 13, Newhampton Road West, Wolverhampton. According to this invention, two discs of dissimilar metals, as, for instance, copper and zinc, are applied to the soles of the feet—that is to say, a copper disc is applied to the sole of the right foot, whilst a zinc disc is applied to the sole of the left foot, or *vice-versâ*. The effect of these dissimilar metals, when applied to the flesh and acted upon by the acids which are exuded from the pores of the skin, is to set up a galvanic action and a transmission of a current of electricity from one metal disc to the other, and, as a consequence, the limbs of the wearer are subjected to such electric current. Said discs are preferably of about 1½ inches in diameter by about 1/16th of an inch in thickness, or thereabouts, and are provided with perforations by which they may be stitched or laced to the inside of the stockings or socks. The discs should be frequently cleaned and denuded of any deposit or corrosion upon their surfaces.

Note.—Opposition to the grant of any of the above-mentioned applications for patent should be filed at the Patent Office on or before May 16, 1904.

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New Trade Mark Applications.

"**CARBOLYPTI**" ("Carbol" disclaimed), for a disinfectant, by A. F. Collins, 31-3, Newington Causeway, S.E. 253,894.

"**SLAVAK**" ("Slav" disclaimed), for photographic printing paper, by E. J. V. Earle, 139, Queen Victoria Street, E.C. 261,607.

OBLONG LABEL, containing three wreaths, for perfumed soap, by L. Allègre and Co., 59a, New Oxford Street, W.C. 259,401.

Note.—Opposition to the registration of any of the above-mentioned trade marks must be filed at the Patent Office on or before May 13, 1904.

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* These abridgments of new patent applications and particulars of new applications for trade marks have been specially compiled from official sources, for the *Pharmaceutical Journal*, by Mr. Reginald W. Barker, agent for procuring patents and registering trade marks and designs, 56, Ludgate Hill, London, E.C., from whom any information on the subjects may be obtained. Mr. Barker will also send copies of his 'Trade Mark Notes' and 'Patent Notes for Inventors' free on application.

LETTERS TO THE EDITOR.

All Communications for the *Pharmaceutical Journal* must be addressed to the Editor, 17, Bloomsbury Square, London, W.C., and, if intended for publication in the current week's issue, should reach the Office not later than Wednesday, unless specially arranged for in advance. The matter should be written clearly and concisely on one side of the paper only and must be authenticated by the names and addresses of the writers, as no notice can be taken of anonymous letters. Articles submitted for the Editor's approval should be accompanied by stamped addressed envelopes, otherwise no guarantee can be given that they will be returned if not found suitable. Reprints of articles cannot be supplied unless the authors communicate with the Editor before publication. The right to reproduce all original matter and illustrations published in the Journal is strictly reserved.

The Council Election.

At the unanimous request of the members of the Brighton Association of Pharmacy, I have decided to offer myself as a candidate for the Council. I am at present, and have been for the last thirty-two years, engaged in the business of a retail and dispensing chemist, and therefore can claim to be fully alive to the legislative requirements of chemists and druggists. I shall, if elected, most strenuously urge that the Pharmacy Bill now before Parliament should become law. I am of opinion that all registered chemists in business should be urgently invited to contribute towards the expenses of the Society in protecting their own rights. As I reside within easy distance of London, I could promise to put in most of the attendances at Council and Committee meetings. I have had considerable experience of committees, and if the members of the Pharmaceutical Society do me the honour to elect me, I shall feel it my duty to further their interests to the utmost of my power.

Brighton, April 9, 1904. W. H. Gibson.

The Pharmacy Bill.

I have followed with keen interest the progress of the Pharmacy Bill, which proposes to legalise company trading, and, whatever may be its merits, absolutely ignores the spirit of the charter. If the privileges which examination and qualification now confer on individuals are to be conferred on unqualified corporate bodies, of whom possibly not one may be a member of the Society, and thus not contribute a farthing to the working of the machinery in Bloomsbury Square—to the burden of conducting prosecutions and examinations—why not throw this on the shoulders of the Government, or insert a clause by which each of these legally constituted company "chemists" shall bear its full share of the working expenses in the form of an annual registration fee for each establishment? Why should men who have gone through the necessary course of training and examination contribute to maintaining an Executive, a prosecuting and examining body, for the very people who take the bread out of their mouths? I think the suggestion is worthy of the immediate attention of each member of the Council and of the Society.

San Remo, April 11, 1904. Hugh Lloyd.

A Grave Problem.

There are indications that the Government may do something for pharmacy "for a consideration." That "consideration" is liberty to unqualified men to deal in certain poisons. Now, although Mr. Cross and his followers have constantly urged that we are opposed to this on purely financial grounds, the reverse is the case, and were no other point involved we might at once agree to treat with the Government on its own lines. But there is another point. We have a duty to the public which we cannot conscientiously neglect. I know that Mr. Cross and his sympathisers would say this is "bunkum," but it is hard fact. It is part of our duty, as chemists, to save the people from getting poisoned, and we are not free to hand them over to the tender mercies of seedsmen and ironmongers. I have no doubt the Duke of Devonshire and others are quite sincere in their opinion that there is no danger, but that opinion is based on pure ignorance. We, backed by the coroners of England, are quite sincere in our opinion that there is danger, and our opinion is based on knowledge. The monetary consideration does not weigh with us so much as it does with Mr. Cross and his followers. He has not been able to show that we derive much profit from the sale of agricultural and horticultural poisons; but we have been able to show the kind of profit he expects from them by exposing the profit he has on his Arsenical Ant Destroyer. So far as profit goes, we would certainly be better if trade in these poisons were set free. The first result would be a tremendous increase in the output of them, and chemists would handle probably at least fifty per cent. of this increase, simply because they have learned in the school of adversity to push business harder, and take a smaller profit than seedsmen and ironmongers do. Of course, it is this increased output that manufacturers are working for, but before every consideration of whatever kind comes this question: Would an increased output mean increased danger to the people? Most certainly it would. The danger would be increased in a higher proportion than the output. In every case of accident with these poisons which has come to my notice there has been some violation of the laws and nothing can be clearer than this—that the present restrictions are proving effective where they are faithfully carried out. At present accidents are mostly due to careless handling by manufacturers and unqualified dealers. They are generally connected with defective packing and careless despatch. Were these poisons sold generally by unqualified dealers, however, the people themselves would become careless, and bring about endless dangers and accidents. I can give a case by way of illustration. A clergyman asked me for a two-gallon drum of weed-killer, and when I produced my poisons book he was startled, and asked if it was so very dangerous. When I explained its real nature he said he had got it for years from an unqualified dealer, and he trembled to think what might have happened, as he never got any caution, and never took any special precautions. He said he would not care to have the stuff about his place at all, and I made no sale. "Just so," says the manufacturer; "that is why we wish to take it out of your hands." But even the manufacturer will own that I placed my duty before my interest in this case, and he may be certain that every well-trained chemist does the same. If the faithful discharge of our duty prevents an increase in the sale of these poisons that is no reason why we should be unfaithful to our trust. A great increase in the sale of poisons is not desirable in the interests of the people, and the prevention of such increase is one of the objects and duties of the Pharmacy Acts. Were this trade made free to anybody, poisons would be pushed with as much shamelessness as yellow pills, kidney pods, or bile spuds are pushed now. The tremendous pushing of quack medicines is bad enough, but a similar state of matters in connection with deadly poisons would be disastrous, and no man's life would be safe. These are points which we must well consider before we make up our minds to barter away the safety of the people for a Government "consideration." Even if that consideration were larger than it is likely to be, our consciences are too large a price to pay for it. If we do not actually oppose these poisons suggestions in the House of Commons we must at least state the case in plain language to the Government, so that if they are resolved to bring this great evil on the country they may do so with their eyes open.

Dumfries, April 11, 1904. James Reid.

BIRTH.

Toplis.—On April 10, the wife of James Harry Toplis, chemist, Chesterfield, of a daughter.

MARRIAGES.

Lenton—Lenton.—On April 2, 1904, Walter H. Lenton, pharmaceutical chemist, Liverpool, to Mary Lenton.

Nimmo—Dale.—On April 6, at St. Mark's Church, by the Rev. A. R. Stogdon, Vicar of Norham-on-Tweed, William Nimmo, M.P.S., to Lillian, third daughter of the late W. R. and Mrs. Dale.

Parson—Berry.—On April 12, at Hobson Street Chapel, Cambridge, by the Revs. W. Bradfield and F. H. Benson, Sydney James Parson, chemist, eldest son of the late Mr. H. J. Parson, pharmaceutical chemist, Peas Hill, to Bertha, third daughter of Aaron Berry, Hartingdon Grove, Cambridge.

Roberts—Marsh.—On April 12, at St. Paul's, Weymouth, by the Rev. Sydney Lambert, M.A. (Vicar), Arthur Harry Roberts, the Westham Pharmacy, Weymouth, son of the late Thomas Roberts, of Barrow-in-Furness, to Harriet Lucy (Lutie), fourth surviving daughter of the late Jasper Marsh, of Fleet, Dorset.

Sayers—Forsdyke.—On April 7, at St. Mary Abbott's, Kensington, by the Rev. H. Van Cooten, Stephen Percy Sayers, chemist, son of Albert Sayers, of Ardingly, to Ethel, daughter of John Forsdyke, of Kensington.

Trew—Waite.—On April 6, at St. Mary, Redcliffe, Bristol, by the Right Rev. W. J. F. Robberds, D.D., Lord Bishop of Brechin, Henry Edward Trew, M.P.S., Bristol General Hospital, to Priscilla Waite, formerly "Sister Colston" at that institution.

Walden—Edwards.—On April 12, at the Church of St. Mary Abbott, Kensington, Robert Woolley Walden, F.R.G.S., City of Westminster, chemist and druggist, to Jessie May Edwards, youngest daughter of the late Samuel Edwards, of Stafford.

DEATHS.

Bottomley.—On April 5, Lawrence Whinray Bottomley, Chemist and Druggist, South Shields. Aged 61. Mr. Bottomley had been connected with the Pharmaceutical Society as an associate, and latterly as a member, since 1884.

Francis.—On April 7, at "Edgehill," Cromwell Avenue, Highgate, Elizabeth, wife of T. Harper Francis.

Irving.—On April 11, Thomas Little Irving, Chemist and Druggist, Skipton. Aged 78.

Keith.—On April 10, John Keith, Chemist and Druggist, Newbiggin-by-the-Sea. Aged 49. Mr. Keith, who was a member of the Pharmaceutical Society, died suddenly from cerebral hæmorrhage. He had been in business at Newbiggin about twelve months, having removed from Blyth, where he had carried on business as a chemist for some years. Mr. Keith was formerly in business at Newton Stewart (Wigton), and for a short period he had a branch pharmacy in Dumfries. A correspondent, referring to the death of Mr. Keith, remarks: "I have frequently heard it stated that a more honest and straightforward man than Mr. Keith could not be found in the whole of Northumberland."

Schumann.—On March 22, Carl Schumann, Professor of Botany, Berlin. He was an authority on cactaceous plants, and for the last ten years was President of the Deutsche Kakteengesellschaft, in which he took great interest, editing the *Monatschrift für Kakteenkunde*, and the *Bluhende Kakteen*, an illustrated periodical published by the same Society. He was born on June 17, 1850, at Görlitz, in Silesia, and was for some years assistant to Prof. Göppert, at Breslau. Twenty years ago he became Curator of the Botanic Museum at Berlin. Two years since he borrowed from the Hanbury Herbarium, in the possession of the Pharmaceutical Society, several rare species of *Amomum* whilst monographing that genus, and returned them, with the names given to them, only a few months ago. Last year he visited the Museum and Herbarium of the Pharmaceutical Society, and seemed then in good health, although overworked. Many medicinal and economic plants bear his initials after them. One of the most recent, *Corynanthe yohimbi* (K. Schum.) was presented by him last year to the Society's Herbarium. His name had already been selected as an addition to the list of corresponding members of the Society, but, unfortunately, his death took place before he could be elected.

Smith.—On April 4, at Clevelands, Whitefield, John Thomas Smith, Chemist and Druggist, Radcliffe, Bury. Aged 60. Mr. Smith served his apprenticeship to Mr. Pennington, chemist and druggist, of Bolton Street, Bury, and in 1865 he commenced business on his own account at Radcliffe, his son, Mr. T. A. Smith, joining in partnership the same year. Mr. Smith was a member of the old Local Board for ten years.

REPLIES TO CORRESPONDENTS.

Information required by readers will be published in this column as early as possible, but the Editor cannot undertake to reply by post, even though stamped addressed envelopes accompany the queries. Replies will, in all cases, be referred to the sender's initials, and the registered number added in each instance should be quoted in any subsequent communication on the same subject. When formulæ are given without definite weights and measures, it should be understood that the solids are to be weighed and liquids measured. Plants for recognition should be addressed to the "Curator, 17, Bloomsbury Square, London, W.C.," accompanied by a stamped, directed envelope for reply. No notice can be taken of anonymous communications.

Pyrozone (J. C.—110/26).—It is anhydrous hydrogen peroxide.

Notice to Leave (T. F. C.—110/13).—On the corresponding day of the following month.

Dry Cells (J. W. H.—110/14).—A mixture of manganese dioxide and broken gas carbon is commonly used.

California (B. H.—110/16).—Write to the Secretary of the State Board of Pharmacy, San Francisco, California, U.S.A.

Analyst (F. G.—110/20).—(1) Certainly, he is entitled to charge for work done. (2) There is no restriction on the use of the title "analyst."

Medical (J. P. W.—110/11).—(1) The qualifications are of equal value. (2) Lectures for medical students are not, as a rule, suitable for pharmaceutical students.

Plant (A. N.—110/25).—In the absence of flowers it is impossible to identify definitely. Possibly it is a *Barbarea;* unquestionably it is one of the Cruciferæ.

Label on Pill-box (L. M.—110/37).—Where the label is too small to admit of a statement of the ingredients of the medicine, a slip label pasted round the box may be used.

Corn Plaster (H. T.—110/23).—Yes, the handbill renders the plaster liable. Why not send your formula for inclusion in the supplementary pages of the 'P. J. F.'?

Curing Skins (S. G. C.—110/9).—Try the effect of steaming them and then rubbing in some soft soap. You should have added some soft soap to the other ingredients.

Recipes (C. W. R.—300/32).—If they differ markedly from those in the book, we may be able to include them in the supplementary pages if you send them up at once.

Nursing Notes (J. W. S.—108/13).—Wallbridge's 'Nursing Notes' is published gratis by Mr. J. W. Wallbridge, 52, Liverpool Road, St. Helens. Perhaps that is the publication you require.

Sale of Pills (J. N.—110/22).—If your customer is not a duly qualified chemist and druggist, he is not entitled to sell the articles unstamped. Note that we cannot undertake to reply by post.

Baking Powder Mixer (E. R. S.—110/18).—Messrs. William Gardner and Sons, engineers, Gloucester, supply a mixing and sifting machine which would meet your requirements, at the price of £12.

Electrical Cement (H. H. B.—110/24).—There are numerous recipes in the second series of Spon's 'Workshop Receipts,' but without fuller information we are unable to say whether any of the cements will serve your purpose.

Sale of Medicines Unstamped (F. E.—110/36).—Quinine and iron tonic or chlorodyne cough mixture may be sold unstamped by a qualified chemist and druggist if the formula is disclosed on the label, or if the names of the active ingredients appear in the titles.

Liability to Duty (A. B.—110/35).—The label alone may not involve liability, but if the preparation is recommended on any card, handbill, or other advertisement, for the relief or cure of any ailment incident to the human body, the article must be duly stamped.

Orange Lacquer (H.R.B.—110/19).—Dissolve pale shellac, half a pound, in methylated spirit, one gallon, and colour with turmeric or gamboge. Solution should be effected by continuous agitation, and the lacquer should be filtered until perfectly clear and bright.

Mercuric Oleate (T. W. T.—110/12).—As the percentage is usually based upon the strength of the oleate expressed as oxide, the preparation official in the 1885 B.P. appears to be indicated in this case. The preparation now official contains the equivalent of 24·35 per cent. of mercuric oxide.

Aq. Anethi Conc. (A. W. P.—110/21).—You will probably find one fluid ounce of the oil sufficient. Dissolve it in the alcohol, add the water hot, shake well, and set aside for a day or two. Then decant, filter through calcium phosphate or kaolin, and make up to the required volume with alcohol.

Liquid Soap (J. H. B. W.—110/8).—Try the following :—The fatty acids obtained by decomposing hard soap with diluted sulphuric acid are well washed with distilled water, and then saponified with caustic potash, so that a neutral soap results. Finally, add sufficient glycerin to prevent thickening.

American Publications (W. N.—110/17).—The *American Journal of Pharmacy* is published by F. Yapk, 145, North Tenth Street, Philadelphia, Pa., U.S.A.; the *Pharmaceutical Archives* and Gildemeister and Hoffmann's 'The Volatile Oils' by the Pharmaceutical Review Publishing Company, Milwaukee, Wis., U.S.A.

Wax in Ears (E. C.—110/40).—Before syringing with warm water, use a little glycerin or solution of sodium carbonate to soften the wax. For habitual use, however, almond oil is said to be preferable, the ears being syringed gently with the oil twice a week at bedtime, and the smallest-sized urethral syringe employed for the purpose.

Breaking Bulk (J. H.—110/38).—The Board of Inland Revenue does not object—as a concession—to a licensed vendor breaking open duly stamped packets of a dutiable preparation and retailing the contents without additional duty, provided they are sold merely wrapped up in paper which is not sealed up, gummed, or tied with string, or fastened in any other way, and provided the retailer is not the manufacturer of the article.

Aspirin with Urotropin (E. H.—110/10).—Urotropin, as you say, renders aspirin readily soluble in water, but there is no reason to believe that phenol is formed, and the test you mention is far from conclusive. The reaction is probably one of simple salt-formation. In the absence of any research on the subject, it is impossible to say whether aspirin and urotropin should be considered therapeutically incompatible, but they may prove to be so.

Calendar for the Week (April 17—23, 1904).

Days of M	Days of W	Events of the Week.	Sun Rises	Sun Sets
17	**S**	**Second Sunday after Easter.**	5.3	6.57
18	M	Dewsbury and District Chemists' Association, Church House, at 8.45 p.m.—Ordinary Meeting.	5.0	6.58
19	Tu	Bradford and District Chemists' Association, Royal Hotel, at 9 p.m.—Address by W. S. Glyn-Jones.	4.58	7.0
20	W	Hartlepool and District Chemists' Association, Grand Hotel, at 7 p.m.—General Meeting and Supper.	4.56	7.2
		London Chemists' Association, Holborn Viaduct Hotel, at 3.30 p.m.—General Purposes Committee.		
		Newcastle-on-Tyne and District Chemists' Association, Hotel Metropole, at 8.30 p.m.—Ordinary Meeting.		
		North Kent and District Chemists' Association, Royal Clarendon Hotel, Gravesend, at 4 p.m.—First Annual Meeting and Dinner.		
		Sheffield Pharmaceutical and Chemical Society.—"The Advantages of Amber Glass." By F. A. Upsher-Smith.		
		Western Chemists' Association (of London), Norfolk Square Hotel, London Street, Paddington, at 9 p.m.—Smoking Concert.		
21	Th	Barnsley and District Chemists' Association, Royal Hotel, at 7 p.m.—Ordinary Meeting.	4.54	7.4
		Bournemouth Pharmaceutical Association, Albert Restaurant, at 8.30 p.m.—Ordinary Meeting.		
		Chemists' Assistants' Association, 73, Newman Street, London, at 8.30 p.m.—"Some Practical Notes." By H. Finnemore.		
		Lincoln and District Chemists' Association, Coffee Palace, at 8 p.m.—Ordinary Meeting.		
		Linnean Society, Burlington House, Piccadilly, W., at 8 p.m.—Ordinary Meeting.		
22	F	Pharm. Soc. G.B., 36, York Place, Edinburgh, at 11.30.—Scientific Meeting, followed by a Private Conference.	4.52	7.6
		Blackpool and Fylde Chemists' Association, Palatine Hotel, at 9 p.m.—Address by F. Pilkington Sargeant.		
		Royal Institution, Albemarle Street, London, at 9 p.m.—"Sleeping Sickness in Uganda." By Colonel David Bruce.		
23	S	☽First Quarter, 4.55 a.m.	4.50	7.7

LETTERS, NEWSPAPERS, QUERIES, and other COMMUNICATIONS have been received from Messrs. Antcliffe, Austen, Beckett, Biggleston, Blamey, Buse, Cavey, Cheers, Clarke, Colley, Cox, Fairley, Ferrall, Fielding, Fletcher, Gadd, Gill, Glew, Harrison, Harvey, Higgs, Hill, Hobbs, Ireland, Jackson, Jesson, Kemp, Knott, Mason, Morgan, Mumbray, Nicholls, Nock, Orton, Palmer, Partington, Pescod, Philp, Philpotts, Poole, Priestley, Radford, Raffan, Ridyard, Rigby, Roberts, Rose, Sankey, Shacklady, Swift, Theakston, Timmins, Toplis, Town, Walker, White, Whittle, Wigginton, Williams.

Telegrams: "PHARMACEUTICAL JOURNAL LONDON"
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CHANGES OF ADDRESS.

Instructions from Members of the Pharmaceutical Society, with reference to the transmission of the Journal, should be sent to the SECRETARY, 17, Bloomsbury Square, London, W.C.

The Pharmaceutical Journal Office.

Thursday, April 21, 1904.

In Connection with the Coming Council Election portraits and brief biographical notes of the thirteen candidates are given in this issue.

"Radium Testing" is the subject of an article by the London chemist to whom occurred the original notion of hiring out this precious substance to medical men.

The Budget discloses no new taxation directly affecting the business of the pharmacist. As smoker, tea drinker, and income-tax payer, however, he does not escape.

The Number of Deaths Due to Poisoning was unusually large during the seven days ended Wednesday. Eighteen suicides and eight cases in which the poison was accidentally administered are recorded.

This has been a Week of Unusual Activity as far as local associations are concerned, and a number of important meetings have been held in different parts of the country. The present session is drawing to a close, and it is satisfactory to note that no time is being wasted.

A Lady Takes the First Prize in the Students' Competition. Of the thirty-two candidates who entered for the examination none obtained less than 50 per cent. of the maximum number of marks, while the first on the list obtained 91 per cent. and the second followed very close with 90 per cent.

The Making of a Set of False Teeth cannot legally be considered a dental operation, and therefore a limited company can recover charges for such work, whereas it cannot for dental attendance and advice. This decision has been given by judges sitting in the Divisional Court of the King's Bench.

The Cash-on-Delivery Postal System is not to be introduced. Mr. Henniker Heaton has announced to the Canterbury Chamber of Commerce that, in view of the strong opposition offered by provincial traders, he has abandoned his advocacy of the scheme, and that, for the same reason, the Postmaster-General has decided not to introduce the proposal.

The Pharmacy Bill was down for second reading on Tuesday, but the introduction of the Budget and the discussion thereon prevented its being reached, and the second reading was therefore postponed till June 1. The number of members whose names are given as "blocking" the measure is now six instead of seven, the name of Sir Dixon Hartland no longer appearing on the Parliamentary papers.

The Results of the Minor and Major Examinations held in Edinburgh and of the Major Examination held in London, together with the London Major questions, appear in this issue. In London there was an unusually large number of Major candidates, fourteen out of thirty-three being successful; in Edinburgh three candidates entered for the Major, and one passed. The examination of the Minor candidates in London will not be concluded before the end of this week.

Prosecutions under the Sale of Food and Drugs Acts have been rather numerous during the week. A summons against a London chemist who had sold cream of tartar containing 2·03 grains of lead per lb. was dismissed; the Lord Mayor, before whom the summons was heard, recommended all chemists to inquire which quality was required when supplying articles of this kind. The summons against a general shopkeeper for selling "magnesia" which consisted of 100 per cent. of magnesium carbonate was also dismissed, it being understood that further proceedings would be instituted. Camphorated oil and lime water are among the other articles which have been called in question.

The Markets in Drugs and Chemicals continue very quiet. Chloral Hydrate is dearer, Quicksilver is cheaper, Peppermint Oil is very firm, Camphor is weaker, and Cod-liver Oil is lower.

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THE PHARMACY BILL—A POSSIBLE DANGER.

In view of the importance of the subject, a fuller report is published this week of the proceedings at Bristol on April 13, when a deputation from the Bristol Pharmaceutical Association waited upon Sir Michael Hicks Beach and endeavoured to enlist his sympathies in favour of the Pharmacy Bill now down for second reading in the House of Commons. The case for the Bill was very clearly put by Mr. H. E. Matthews, but he and his friends failed entirely to convince Sir Michael of the necessity of Clause 7, which requires that companies keeping open shops for the sale of poisons shall be managed by duly qualified chemists as directors. Not only so, but Sir Michael went so far as to inform the members of the deputation that he failed to see any reason for preventing individuals other than duly qualified chemists and druggists from owning pharmacies. As will be seen, on reading the report, the right honourable gentleman was very insistent on this point. He expressed the opinion that the person on the premises acting as manager of the business should, beyond question, be legally qualified, but added that he saw no reason for insisting upon the similar qualification of owners, whether individual owners or the directors of companies.

Judging from the ready manner in which Sir Michael met all the arguments advanced by members of the deputation it is not unreasonable to suppose that he may previously have been listening to arguments on the other

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side. But such a supposition does not account for the drastic nature of his proposed remedy for the present anomalous state of affairs, under which a company of seven unqualified persons is free to ignore the chief provisions of an Act of Parliament, which make it illegal for those persons to do separately what they do with impunity as a corporate body. Without attempting seriously to show that Sir **Michael's** logic has led him far astray, it may be pointed out that the argument employed by advocates of amendment of Section 15 of the Pharmacy Act—on the lines that it is immaterial to whom belongs the capital invested in a chemist's business, provided the concern is actually managed by a chemist and druggist—ought logically to lead them to accept Clause 7, seeing that the clause recognises that all the shareholders in a company need not be qualified under the Pharmacy Acts.

SIR HENRY THOMPSON.

By the death of Sir **Henry Thompson**, which occurred on Monday, April 18, the medical profession loses one of its most distinguished and versatile members. Born in 1820, he was not allowed to begin his medical studies until twenty-seven years of age, when he entered as a student at University College Hospital. He took several prizes, and was awarded the London University Gold Medal in Surgery when he graduated in 1851. His chief successes as a surgeon were in connection with the operation of crushing a stone within the human bladder. This subject **Henry Thompson** made his own, among the patients on whom he operated being the late King of the Belgians and the Emperor **Napoleon**. He received the honour of knighthood in 1867 and a baronetcy in 1899. Sir **Henry Thompson's** activities were by no means confined to surgery. Several of his pictures were hung at the Royal Academy and the Paris Salon; one of his two completed novels ran through fifteen editions; and his "Octave" dinners were attended during a period of thirty years by nearly every person of eminence in science, art, or public life. He was one of the first advocates of cremation as a proper method for the disposal of the dead, and was a recognised authority on Food and Diet. Art-collecting, automobilism, social reform, astronomy, horticulture and poultry-breeding were among the subjects in which at various times he took interest. His death occurred after only a few days' illness, and was due practically to old age.

THE PHARMACEUTICAL SOCIETY'S "MAY MEETING."

The success of the evening meeting of the Pharmaceutical Society in London on Wednesday, May 18, is now assured. We are pleased to announce that Professor **Morris W. Travers**, F.R.S., of University College, Bristol, has consented to give a lecture on "Solidification." Professor **Travers** has made an especial study of low temperatures, and his lecture to the Pharmaceutical Society will be looked forward to with great interest. In addition to the lecture, there will be an exhibition of scientific apparatus and pharmaceutical appliances, several good exhibits having already been promised.

THE NEW RADIO-ACTIVE ELEMENTS.

Professor Brauner, of the University of Prague, is reported to have stated that at the meeting of the British Association at Toronto in 1897 he announced that he had succeeded in resolving thorium into two or more constituents. Professor **Baskerville**, of the North Carolina University, who, as stated in last week's issue, has announced his discovery that thorium was composed of two elements, which he has called carolinium and berzelium, was at Toronto at the time. Dr. **Brauner** declares also that at a meeting of the London Chemical Society in 1901 he stated that thorium was composed of at least two elements. The official records of the British Association do not contain a report of the paper read by Professor **Brauner** at Toronto in 1897. Only the title of the paper, "Contributions to the Chemistry of the Rare Earth Metals," is given. In the paper Professor **Brauner** read before the Chemical Society in London three years ago, although he did not state specifically that thorium was composed of two elements, he claimed to prove that thorium was of a complex nature. The mystery underlying the identity of the new mineral from Ceylon (see page 515) has not yet been definitely cleared up, but in a further letter published in *Nature*, Sir **William Ramsay** modifies his previous statement that the mineral contains little or no thorium. The equivalent of the crude oxalate, after separation of the yttrium metals, came out higher than Sir **William Ramsay** expected, and this, with other circumstances, points, he thinks, to the possibility of the presence of the two elements obtained from thorium residues by Professor **Baskerville**.

PROFITS.

The difficulty of calculating the net profits of a business without taking stock should be fairly apparent to everyone. The decision given in the Court of Appeal in the case of **Scobell** *v.* **Gadd** on Thursday of last week was the final stage of the somewhat elaborate and costly method of driving home this simple truth. Of course, it is possible to guess, and it may be possible approximately to determine the profits for a year without knowing what the stock was at the beginning of the year, and what it was at the end. But to make a definite statement without these data savours of the impossible. One would have thought that even the guileless and unbusinesslike spouse of **David Copperfield** would have been able to realise this without the assistance of three learned judges. The action in question, it will be remembered, was brought by a Mr. **Scobell**, who claimed the return of the money he had paid for a business sold to him by a Mr. **Gadd** on the ground that the net profits of the business were not what the vendor had represented them to be. In the Court below the judge seems to have left it to the jury to say that in the chemist's business "profits" meant simply takings less expenditure. And it was, perhaps, mainly on the ground of misdirection of the judge that the plaintiff, who lost his case when the action was tried by a jury, appealed to a higher tribunal. On the matter of chemists' profits the public has ever had extravagant notions, and it was not surprising to learn that even one of His Majesty's judges was a trifle hazy on the point. Some time in the forgotten years of long ago it was said, either in jest or in earnest, and may be at that time truthfully, that the chemist made a profit of 11½d. in the shilling. The public mind has become saturated with this notion, handed down through generations. And it is high time such an absurd fiction was knocked on the head. Statements like these are nothing short of libel, and are likely to do the craft very serious injury in more ways than one.

MAKING TEETH NOT A DENTAL OPERATION.

One of the few disabilities under which limited companies of unqualified persons, formed for the practice of a profession, labour is the difficulty which sometimes arises in recovering fees. Thus, a limited company carrying on the practice of dentistry cannot recover at law fees or charges for the performance of a dental operation or for dental attendance or advice. An appeal, in which this point was raised, has this week come before the Divisional Court of the King's Bench. The question was whether the making of a set of false teeth could be considered a dental operation. It was held that it could not, and that consequently a limited company can recover a debt incurred in respect of the making of teeth. The decision was arrived at by the Lord Chief Justice and Mr. Justice Wills with some reluctance. Lord Alverstone confessed that he felt strongly that it was very desirable that the Act should be amended if it was thought desirable that only properly qualified persons should supply false teeth, but he felt obliged to hold that a "dental operation" in the Dentists Act meant an operation in the surgical sense on a living patient.

THE DISCOVERER OF LATENT HEAT.

On the occasion of "Commemoration" at Glasgow University on Tuesday, 19th inst., Sir William Ramsay gave an address on Joseph Black, the distinguished chemist and physician, who spent his life between Glasgow and Edinburgh as student and professor in the latter part of the eighteenth century. Medicine, said Sir William, suggested Black's first step in advance towards chemical discovery. Certain curious remedies—in which eggshells, snails, and sundry strange fruits were ingredients—were supposed to be beneficial to those troubled with the stone. Black, then studying for his M.D. degree, endeavoured to find some milder solvent for calculus than those generally in vogue, and this led him into an investigation of magnesium sulphate as a substitute for the solution of lime which had, up to then, been used as a remedy. He did not, indeed, demonstrate that "fixed air," as he named the gas with which lime combined to form calcium carbonate, was a compound of carbon, but he did show that a gas can be retained by a solid and made to escape by treatment either with acid or by heat. Later came the discovery of "latent heat," and Black even made a rough determination thereof. His conceptions as to the action of pressure on the boiling point and the absorption of heat by vapour were utilised by James Watt, and effected a revolution in the structure of steam-engines. Black's investigations, said Sir William Ramsay, not only laid the foundations of modern physics and chemistry, but profoundly changed the whole of our industrial and social life.

ADULTERATED DRUGS IN SCOTLAND.

The annual report of the Local Government Board shows that during the year 1903, 284 samples of drugs were examined in Scotland, of which thirty-seven samples, or 13 per cent. were adulterated. The samples analysed and found to be genuine were:—one sample each of sodium bicarbonate, calcined magnesia, compound liquorice powder, glycerin, health salt, linseed liquorice and aniseed jujubes, linseed liquorice and chlorodyne jujubes, quinine and iron tonic, sodium salicylate, snuff, and tincture of opium; two samples each of cod-liver oil and linseed meal; three samples of castor oil; four of Epsom salts; five of mercury ointment; six of cascara sagrada; seven of quinine wine; twelve of sodium carbonate; and twenty-one of camphorated oil. Other articles were examined, with the following results:—

Articles.	Number of Samples.		Percentage Adulterated
	Examined.	Found Adulterated	
Cream of Tartar	131	14	10·7
Tartaric Acid	31	8	25·8
Sulphur	16	2	12·5
Lime Water	14	2	14·3
Gregory's Mixture	6	3	50·0
Spirit of Nitrous Ether	5	4	80·0
Seidlitz Powder	5	2	40·0
Eucalyptus Oil	2	1	50·0
Sodium Phosphate	1	1	100·0

A point worth noting in regard to the samples of cream of tartar is that in no case was lead or arsenic reported as being present. Ten samples were deficient in potassium acid tartrate, two of which also contained calcium sulphate; one sample contained 8 per cent. of impurities, the nature of which is not stated; one contained 18 per cent. of calcium acid phosphate, and one 98 per cent. of tartaric acid. The number of cases in which proceedings were taken in regard to adulterated drugs was nine, three convictions being obtained, five cases withdrawn, and one case dismissed.

THE CHEMISTS' BALL.

A meeting of the Committee of the Chemists' Ball was held at 16, Bloomsbury Square, W.C., on Monday, the 18th inst., the President of the Pharmaceutical Society in the chair. The Hon. Secretary reported that, thanks to the efforts of the Stewards, 278 tickets were sold, the number of persons present at the Ball being 263, a larger number than had attended for some years. The balance amounted to £14 15s. It was agreed, on the motion of Lieut.-Col. Preston, that the sum of fifteen guineas be given to the Benevolent Fund of the Pharmaceutical Society. Votes of thanks were passed to the Pharmaceutical Society for permission to use its rooms for Committee meetings, and to the various officers of the Ball for their services.

ABSTRACTS—SCIENTIFIC AND TECHNICAL

A REVIEW OF CURRENT WORK IN PHARMACOPEDICS AND ALLIED SCIENCES

Colour Reaction of Molybdic Acid with Tannin.

M. E. Pozzi-Escot finds that a solution of molybdic acid or of a molybdate furnishes a very sensitive reagent for tannin, giving, even in very dilute (1 : 10,000) solution, a fine orange yellow colour with a few drops of a solution of tannin ; the reaction is quite evident with a solution containing 1 : 100,000 of molybdic acid ; after concentration, 1 : 1,000,000 may be readily detected. The author has failed to get a similar reaction with other phenolic bodies, except gallic and pyrogallic acids, which give a similar colour. The colour is not modified by boiling. Most tannin-containing extracts give the reaction, with the exception of logwood, which gives a brown precipitate. The reaction only occurs in neutral solutions, since any free acid interferes with, and in very dilute solutions prevents, the formation of the colour. The presence of iron does not interfere with the reaction unless the tannin be in excess. If a drop of the black emulsion be then placed on a piece of white filter paper, as the black iron tannate is deposited, the edges of the drop acquire a yellow tint, due to the tannin molybdate reaction.—*Annales de Chim. Analyt.*, **9**, 90.

Action of Radium Rays on Colloids, Hæmoglobin, Ferments, and Red Blood Corpuscles.

V. Henri and A. Mayer find that the -radium rays precipitate negative colloids, such as colloidal silver ; but are without influence on positive colloids, such as ferric hydrate. Oxyhæmoglobin is transformed by them into met-hæmoglobin and slowly precipitated. Oxycarbonated hæmoglobin is unaffected. The ferments invertin, emulsin, and trypsin gradually lose their activity when exposed to radium rays, and after several days' exposure become quite inert. The red corpuscles of the blood are profoundly affected. Those which have been exposed to radium rays are easily affected by various solutions, giving up their hæmoglobin and salts much more readily than normal corpuscles.—*Comp. rend.*, **138**, 521.

Colour Reaction for Coffee.

The green colour of viridinic acid, an oxydation product of caffeotannic acid, may be used to identify coffee, as shown by the following experiments :—3 Gm. of ground coffee is boiled for fifteen minutes with 100 C.c. of water, filtered, and made up to 100 C.c. Two C.c. of the filtrate is placed in a number of small open capsules, and treated with 5 drops of the following reagents, being afterwards left exposed at ordinary temperatures. Solution of ammonia gives at first a green colour with a shade of yellow, then pure green, later brownish yellow, finally dark green. Sodium carbonate solution, 25 per cent., at first yellowish green, then brownish yellow, finally coffee brown. Sodium carbonate solution, 0·5 to 5 per cent., bright green in a few minutes. Caustic potash, 5 per cent. solution, at once yellow, later brown ; the same, 0·5 to 1 per cent. solution, at first yellowish green, then green. Albumin is coloured at first yellowish, then emerald green. Maté gives the same reaction, but the green colour quickly changes to a brownish shade. If a drop of strong hydrochloric acid be applied to a section of raw coffee bean, the cell contents will be seen to be coloured blue when examined under the microscope in half to three-quarters of an hour. The addition of glycerin to the section changes the colour from bluish green, greyish, to green.—*Pharm. Centralh.*, **45**, 242.

Determination of Total Alkaloids in Belladonna

E. Léger assays powdered belladonna leaves in the manner which he has advocated for coca leaves, the number of C.c. of N/10 hydrochloric acid combined by the alkaloids being multiplied by 0·1445 to obtain the percentage.—*Journ. Pharm. Chim.* [6], **19**, 336.

Combination of Antipyrine and Calcium Acid Phosphate.

Having to dispense a mixture of antipyrine and calcium acid phosphate, Manseau noticed that when an equal weight of the latter was added to a strong aqueous solution of the former it at once dissolved, forming an oily reddish yellow liquid. On continuously stirring this in a mortar with the pestle, the colour gradually disappeared, and the mixture assumed the form of a white crystalline mass. This was dried on a filter paper, redissolved in water, and crystallised, when it formed fine rhombohedric crystals, having the formula $CaH_4 2PO_4 \cdot C_{11}H_{12}N_2O + 2H_2O$. This compound, which is very soluble in water, will probably be found to be of therapeutic value.—*Journ. Pharm. Chim.* [6], **19**, 354, after *Bull. Soc. Pharm. de Bordeaux.*

Oxidation of Vanillin by Oxydases and by Gum Acacia.

R. Lerat finds that the fresh aqueous macerations of the fungi *Russula delica* and *R. fetens* have a powerful oxidising action on aqueous solutions of vanillin. When mixed in equal volumes with a 2 per cent. aqueous vanillin solution a turbidity is soon produced, which increases rapidly, until finally a precipitate is formed, leaving the supernatant liquid clear. This oxidation is greatly facilitated by passing a current of moist air through the mixture. On collecting the precipitate it was found to be insoluble in the usual organic solvents, but readily dissolved by weak alkalies. It was purified by precipitating it from this solution with a current of carbon dioxide, and was then identified as dehydro-divanillin, melting at 302-305° C., identical with that body as obtained by Tiemann by the action of ferric chloride solution on vanillin. Solutions of gum acacia were found to exercise a similar oxidising action on vanillin solutions, but much more slowly than with *Russula* oxydase. On mixing a 20 per cent. mucilage of acacia with a 1 per cent. aqueous solution of vanillin the odour of the latter was found to have totally disappeared in twelve days, and the vanillin was entirely converted into dehydro-divanillin.—*Journ. Pharm. Chim.* [6], **19**, 10.

A New Copal and Kino from Dipteryx Odorata.

E. Heckel, H. J. de Cordemoy, and F. Schlagenhauffen have recently examined the fruits of the Tonka bean, *Dipteryx odorata*, from French Guiana. In transit these were much broken up, so that the bottom of the tin containing them was covered with a granular resinous substance of a yellowish or greenish brown colour. The whole mesocarp of the fruits was filled with the same substance An examination of the fruit showed that the stony endocarp contained two concentric series of receptacles filled with the same secretion. In the stem, leaves, and calyx other secreting cavities were found, filled with a different secretion, of the nature of a red tannin glucoside. The resin was extracted from the crushed pericarps of the fruits by boiling with water and skimming off the melted substance which rose to the surface. This was then dried and extracted with ether. The ethereal solution was pale straw yellow in colour, and left on evaporation a resinous residue, which melted on the water-bath. The yield was 5·432 per cent. Similar results were obtained by extracting the raspings of the pericarp with ether. With alcohol the extraction is less rapid, and the resin obtained is of a brownish colour.—*Répertoire*, **60**, 97.

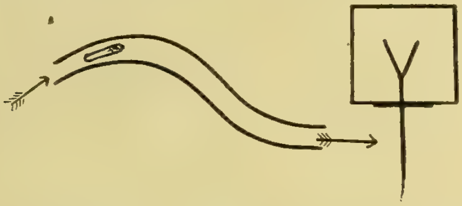
RADIUM TESTING.

BY F. H. GLEW.

In testing the commercial value of radium by means of the electroscope (see *ante*, page 440) it is important that a full knowledge of the various steps involved should be obtained. I therefore propose to consider more closely the properties of the various rays under consideration and point out the reasons for certain modes of procedure.

In the first place, it is out of the question to measure the total radiant energy, because all radium salts are sold so enclosed that about 99 per cent. of the total energy cannot escape from the containing vessel, which is usually made of glass or mica. Both of these substances cut off every trace of the gaseous radio-active emanation. The *Alpha* rays, too, are entirely cut off by the glass, and only the merest trace, if any, can pass through the very thin mica window of the ebonite capsules; therefore in practice we are not concerned with these two forms of emission, but are simply concerned with the *Beta* and *Gamma* rays, which, together, constitute the remaining 1 per cent. of the total radiant energy.

It is a singular fact that the therapeutic success already obtained has been the result of this 1 per cent. only; it is with this relatively small proportion that the luminous screen effects, the photographic effects, and electrical properties are demonstrated.



The electroscope does not measure the *Beta* and *Gamma* rays directly; what we measure with it is the ionisation of the air produced by these rays. In some way these rays, in passing through any gas, so agitate, or shatter, its molecules, either by simple impact of the projected negative corpuscules, or electrons, which constitute the *Beta* rays, or by sustained agitation resulting from the neutral *Gamma* rays, which are probably ethereal disturbances, that it is capable of conducting electricity. When any gas, which is ordinarily a very poor conductor of electricity, is ionised, it is at once a very good conductor; and so the charge on the electroscope, whether positive or negative, can leak away in proportion to the rays producing this condition. It is most important to bear in mind that ionisation, however produced, does not cease to exist instantaneously. This peculiar condition lasts for a fraction of a second—long enough for the ionised molecules to be blown a few inches.

This temporary persistence of ionisation can be well shown as a lecture experiment (see diagram above) by placing a tube of radium inside a thick lead pipe, about 2ft. long, which has been S-shaped, so that practically all the straight line radiation is cut off. If the other end of the pipe is placed near the electroscope there is no discharge, but if the mouth is placed near the end containing the radium a puff of breath through the pipe will blow the already ionised air surrounding the radium through the bent tube, and in this way the charge can be blown off the electroscope like blowing a candle out. It is as well to first blow air through when the radium is not within the pipe, to show that there is no effect without the radium.

It will now be seen that draughts in the testing-room should be avoided as much as possible, for the radio-activity readings may be higher if the air movement takes place from the specimen being tested towards the instrument, and it is possible for the reverse motion to give a reading which is too low. This error can be entirely eliminated by letting the distance be fairly great—it is not likely to influence the result, in any ordinary room, at the selected standard distance of 3ft.

Red-hot bodies also have the power of producing ionisation, but this effect is only produced in their immediate vicinity. However, the air, thus rendered conducting, can be moved over a considerable distance, and so cause error. For this reason any flame should be remote, and smoking forbidden near the electroscope.

Samples should be placed on an equality as much as possible; therefore it is well to allow for differences in thickness of the glass tubes by enclosing all specimens in another receptacle, through which only penetrating rays can pass. If a tin box is used this condition is insured, and the conditions may be regarded as uniform throughout. The lid should be placed on the box to enclose the ionised air in the immediate vicinity of the sample.

To show the reliability of this method, I may mention the result of a recent test of a glass tube of radium bromide, said to be pure, containing 10 milligrammes, for which a large sum had been paid. The electroscopic needle fell in 313 seconds with the standard specimen tube containing 5 milligrammes, but the specimen to be tested required 1,125 seconds, whereas if it had contained 10 milligrammes of pure bromide it should have discharged the instrument in half the time of the 5-milligramme tube; therefore,

$$\frac{313 \times 5}{1{,}125} = 1{\cdot}39 \text{ milligrammes.}$$

the radio activity of the specimen was only equal to 1·39 milligrammes of pure bromide. The vendor insisted it was pure bromide, and disputed my test. This sample was then tested by Sir William Ramsay, who wrote under my certificate confirming it. His actual figures were 1·33 milligrammes.

Perfumes for Toilet Soaps.

(1) Lavender oil, 4; caraway oil, 4; cassia oil, 2; clove oil, 2; fennel oil, 1; Japanese peppermint oil, 1. (2) Lemon grass oil, 6; citronella oil, 4; clove oil, 2; cassia oil, 1. (3) Clove oil, 10; patchouli oil, 5; citronella oil, 5; peppermint oil, 1; cassia oil, 5; artificial bitter almond oil, 2·5. (4) Artificial bitter almond oil, 175; lavender oil, 15; petitgrain oil, 30; bergamot oil, 50; palmarosa oil, 35; coumarin, 10; heliotropin, 3. (5) Citronella oil, 10; anise oil, 2; sassafras oil, 3; cassia oil, 1; clove oil, 1; peppermint oil, 2. (6) Lemon oil, 100; patchouli oil, 5; lavender oil, 20; bergamot oil, 30; clove oil, 20; coumarin, 5; ginger grass oil, 10; cassia oil, 20. (7) Cassia oil, 48; lavender oil, 52; lemon oil, 28; coumarin, 25; ginger grass oil, 25; white thyme oil, 10; caraway oil, 10.—*Siefensieder Zeit.*, **31**, 130.

THE PHARMACEUTICAL COUNCIL ELECTION, 1904.

In view of the approaching election for seven seats on the Council of the Pharmaceutical Society, photographs of all the candidates, with brief particulars of their claims to support, are now published.

Mr. S. R. Atkins, J.P., of Salisbury, the respected President of the Pharmaceutical Society and the "Father" of the Council—if length of service be held to justify the title—does not require an introduction to his constituents. It may be recalled, however, that he is a pharmaceutical chemist of more than fifty years' standing, and that he has been a Councillor of the Pharmaceutical Society since 1876. At different times he has been Vice-President and Treasurer of the Society, each for a period of four years, and when he was elected President a year ago it was universally agreed that the honour was thoroughly deserved. Mr. Atkins has been Mayor of Salisbury, a County Councillor for Wiltshire, and President of the British Pharmaceutical Conference (1887). During the past year Mr. Atkins has not spared himself in his strenuous endeavours to discharge the duties attaching to the presidency of the Pharmaceutical Society; in fact, his health was somewhat affected some months ago, but the President is now well again, and will no doubt occupy once more a very high position on the poll.

Mr. R. B. Betty, Ph.C., of 1, Park Street, Camden Town, N.W., is the elder son of the late Mr. S. C. Betty, who assisted in the passing of the Pharmacy Act of 1868, and was afterwards elected on the Council of the Pharmaceutical Society in 1871, retiring in 1879. Mr. R. B. Betty was a student at the School of Pharmacy, and, after obtaining several certificates, passed the Major in October, 1877. He succeeded to his father's business in 1880. In October, 1902, he was chosen Hon. Secretary for the North London Branch of the London Chemists' Association, and, on the retirement of Mr. R. H. Jones a year later, was chosen Hon. Secretary for the whole of the London Chemists' Association. In November, 1903, he contested one of the divisions of the Borough Council of St. Pancras; although at the top of the poll of his party, he was defeated by a small majority. In February, 1904, he was asked to stand for the Board of Guardians, but, having been previously asked to come forward for the Pharmaceutical Council, he considered it his duty to decline, so that, if elected for the Council, he would be able to devote more time not only to the monthly meetings, but also to committee work. Mr. Betty holds it to be important that Mr. C. B. Allen's retirement should not result in a reduction in the number of London members of the Council.

Mr. Octavius Corder, Ph.C., of 31, London Road, Norwich, was born in 1828, the year in which Mr. Atkins was born. Mr. Corder was a student of the School of Pharmacy in the early days of its history, and has ever since taken a keen interest in educational matters. For some twenty years he was a member of the Board of Examiners, and since 1895 he has sat on the Council of the Pharmaceutical Society. In 1893, Mr. Corder was President of the British Pharmaceutical Conference, which met at Nottingham in that year.

Mr. W. L. Currie, of Glasgow, "faces the music" for the second year in succession. Since he was co-opted to the Council Mr. Currie has shown great interest in every question affecting Scotland. His services to Scottish pharmacy have indeed been many. For many years he was a member of the Executive of the North British Branch of the Pharmaceutical Society, and Vice-Chairman of that body for four years. He has been President of the Glasgow and West of Scotland Pharmaceutical Association for many years, and is also Chairman of the Federation of Local Pharmaceutical Associations. Mr. Currie will not require to increase his last year's poll greatly in order to secure re-election to the Council. In addition to the practically unanimous support of Scottish members, Mr. Currie can doubtless rely on many votes from those who live south of the Tweed.

Mr. W. H. Gibson, F.C.S., of 122, King's Road, Brighton, comes forward with the unanimous support of the Brighton Association of Pharmacy, of which he has been President for twelve years. He has been in business for thirty-two years, and, in addition to an intimate knowledge of pharmaceutical affairs, can claim a wide experience of public work. Mr. Gibson has served the offices of guardian of the poor, overseer and people's churchwarden of the parish of Brighton. He is a past Provincial Grand Warden of Sussex Freemasons, a life governor of all the Masonic institutions, and was at one time the Master of two Lodges, by special dispensation of H.R.H. the Grand Master of England, an honour that falls to the lot of few. He has for many years been the chairman of the well-known and successful Brighton West Pier Company, and the trim-built lifeboat, the "W. H. Gibson," hanging in the davits, always ready to render useful service in case of need, will perpetuate his names for generations to come

Mr. R. Lord Gifford, Ph.C., of Blackburn, is well known as a thoroughly consistent advocate of the Pharmacy Bill in general, and in particular of thenecessity for conserving the title of chemist to registered persons. He is a writer of no little power, and is always ready to advocate the cause which he has at heart. The North-East Lancashire Chemists' Association owes much to Mr. Gifford's energy, and will no doubt use every effort to make his re-election to the Council certain. Since his election in 1901 Mr. Gifford has been by no means an inactive or a silent member of the Council, and there is no doubt that his views on pharmaceutical legislation are shared by many members of the Society.

Mr. Albert Hagon, of 5, Bute Street, Cardiff, was apprenticed to the late Mr. S. P. Kernick, Duke Street, Cardiff (the establishment in which the late Professor Redwood made his first acquaintance with pharmacy). He afterwards filled situations successively in Cheltenham, Birmingham, and Manchester, and after qualifying settled down in Cardiff, where for twenty years he has had a successful business career, his inspiring principle having been: "The highest professional efficiency with sound business methods." Mr. Hagon, who is in the prime of life (forty-five years of age) is not without experience in debate, for some years ago, at one of the most representative meetings of chemists ever held in South Wales, called together for the purpose of hearing an exposition of the then draft Pharmacy Bill, he displayed much ability and an intimate knowledge of pharmaceutical politics that at once marked him out as one who would be again heard in the discussion of matters affecting the craft. He was one of the founders of the Cardiff and District Pharmaceutical Association, and at its inception was unanimously and enthusiastically appointed its first President. The inaugural meeting, which was held in the Town Hall, Cardiff, and attended by

MR. W. H. GIBSON.

MR. A. HAGON.

MR. A. HIGGS, J.P.

MR. W. L. CURRIE.

MR. S. R. ATKINS, J.P.

MR. G. T. W. NEWSHOLME.

MR. R. LORD GIFFORD.

MR. R. A. ROBINSON, J.P., L.C.C.

MR. O. CORDER.

MR. R. B. BETTY.

MR. JAMES PATERSON.

MR. C. E. PICKERING.

MR. F. PILKINGTON SARGEANT.

CANDIDATES FOR THE COUNCIL, 1904.

the then President of the Council (Mr. Newsholme) and Mr. Gowen Cross, who were officially received by His Worship the Mayor, was a great success, and those gentlemen left Cardiff with a strong impression that an Association started with such an excellent President would soon justify its existence, and this was more than verified. At the close of his year of office he was presented by the members with a handsome illuminated address as a mark of their appreciation of his services. He has been for years a member of the Pharmaceutical Society, and is most assiduous in his efforts to induce others to join. In his scant leisure he has displayed great interest in Masonry, and has held office in his Lodge.

Mr. Alfred Higgs, J.P., chemist, Kingston-on-Thames, was born in 1856 and educated from 1864 to 1872 at Christ's Hospital, London, where he learnt the rudiments of chemistry. To him belongs the unique experience of having passed the Preliminary Examination at Bloomsbury Square in blue coat and yellow stockings. He was apprenticed immediately on leaving school to Mr. Timothy, Reading, afterwards supplementing his knowledge and experience in London, Brighton, and Croydon. He passed the Minor in 1878, and then became the suburban representative of Messrs. Thos. Hodgkinson, Prestons, and King, wholesale druggists, London. Later a favourable opportunity presented itself to purchase a business at Kingston-on-Thames, and Mr. Higgs resigned his position for a retail business. In 1888 he commenced to take part in public life, being then elected on the Town Council of Kingston-on-Thames; 1896 saw him made a magistrate of that borough, and two years later he was specially appointed by the Lord Chancellor to adjudicate in lunacy cases for Kingston-on-Thames. Last year, when the Thames Valley District Chemists' Association was formed, he was elected the first President, and he has since presided with distinction and success over the deliberations of that flourishing association. From the time when he began wage-earning he has been connected with the Pharmaceutical Society. He considers that every registered chemist should be a member of the Pharmaceutical Society. He bases some claim to a seat on the Council upon the feeling that middle-class retail chemists are not sufficiently represented.

Mr. G. T. W. Newsholme, Ph.C., F.C.S., of High Street, Sheffield, who, like his successor in the Presidential chair, stands for re-election next month, can look back on seventeen years' good service on the Council. Mr. Newsholme was Vice-President for three years before being promoted to the more important position of President, in 1900. He has for several years been a member of the Sheffield Board of Guardians, of which body he has been Chairman. One of his achievements, which is a monument to Mr. Newsholme's foresight and energy, is the establishment of the present system of local organisation among chemists and druggists. Mr. Newsholme always has the courage of his convictions, and recently his opposition to the agitation for "territorial representation" has made him the object of attack. But most of those who differ from him on that subject will agree that the Society could ill afford to lose Mr. Newsholme's services as a Councillor.

Mr. James Paterson, of Aberdeen, stood for the Council in 1901 and 1903. Like so many of the other candidates, Mr. Paterson can look back on a record of public service. He has been a member of the Aberdeen Town Council and the Kincardineshire County Council, a Harbour Commissioner, a magistrate, and a member of the Executive of the North British Branch of the Pharmaceutical Society. "Company pharmacy" and deficiencies in pharmaceutical education are subjects on which Mr. Paterson holds strong views. Although his business is not strictly that of a chemist and druggist, his interest in pharmacy is undoubtedly great.

Mr. C. E. Pickering, of London, who has been nominated by several members of the London Chemists' Association, is making a third effort to obtain a seat. Born and apprenticed at Stockton-on-Tees, he has as an assistant had insight into the needs of pharmacists in many counties of England, and he has on former occasions sought to represent the assistants chiefly. Now forty-one years of age, he has lately gone into business in the West-End of London. As an assistant he was one of the oldest members of the London Chemists' Assistants' Association, the founder of the Chemists' Assistants' Union, now known as the Chemists' Managers' and Assistants' Society, a member of the Public Dispensers' Association, a member of the Parliamentary Committee of the London Chemists' Association, and a Freemason. His was one of the few voices raised at the meeting of chemists at the Holborn Restaurant against giving away the principle embodied in the Pharmacy Act, 1868, of "personal qualification to the title of chemist and druggist," and he is still of firm conviction that no company should be permitted to exhibit the title unless the several partners possess diplomas. On this point he will admit of no compromise. He studied at the School of Pharmacy, but passed the qualifying examination after a course at Muters' School.

Mr. R. A. Robinson, J.P., L.C.C., of Brompton Road, London, and elsewhere, was well known as an active member of the Pharmaceutical Society long before his co-optation to the Council two years ago. To him, more than to anyone else, chemists and druggists who have passed the "Minor" since 1868 owe their rights to full membership of the Society, in lieu of the Associateship with which, prior to 1898, they had to be content. For many years Mr. Robinson advocated that the Society's Journal should be made more interesting to the rank and file of the craft. The adoption of the Poisons Regulations, which is now acknowledged to have been a sound piece of tactics, was carried through principally as a result of his efforts in January, 1899. Of Mr. Robinson's work as a member of the London County Council it is unnecessary to do more than mention that it has brought him into close touch with most of the members of the Government, including the Prime Minister, the Presidents of the Board of Agriculture and the Local Government Board, and the Lord President of the Council, and that the value of his services was recognised by his appointment to the position of Deputy-Chairman in 1903. He is well known as an Alderman of the Kensington Borough Council, as a former Town Councillor of Tunbridge Wells—where he has a business—as a Conservator of the River Thames, and as the first Chairman of Council of the Society of Yorkshiremen in London.

Mr. F. Pilkington Sargeant, Ph.C., F.C.S., Principal of the College of Pharmacy, Clarendon Road, Leeds, is a very energetic member of the craft, who has worked especially hard in connection with several of the local associations of chemists in Yorkshire, before whom he has read numerous papers. He is also a Divisional Secretary of the Pharmaceutical Society. His earliest knowledge of pharmacy was obtained from Mr. Geo. Oakes, of Chorley. Since leaving Chorley, Mr. Sargeant has devoted himself to tutorial work, but has kept in close touch with retail chemists and with the developments of pharmaceutical politics. Mr. Sargeant is a "territorial representer," and hopes to see introduced some system of compulsory membership of the Pharmaceutical Society. He is assured of strong support from the North of England.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN.

EXAMINATIONS IN EDINBURGH,

April, 1904.

MAJOR EXAMINATION.

Candidates examined	3
,, failed	2
,, passed	1

Webster, Magnus Herd; Buckie.

MODIFIED EXAMINATION.

One candidate was examined, and passed:—

Owens, Richard Jones; Glasgow.

MINOR EXAMINATION.

Candidates examined	155
,, failed	104
,, passed	51

Adams, Albert E.; Nottingham
Anderson, John, Jun.; Dundee
Baxter, Evelyn M. R.; Grangemouth
Brydon, John; Murthly Station
Cæsar, Henry Wilkin; Dumfries
Caithness, A. G. A.; Liverpool
Christie, Benjamin; Newburgh
Craven, Arthur; Leeds
Dall, John; Edinburgh
Davies, Francis W.; Carmarthen
Day, Victor Moore; St. Neots
Deacon, Charles H.; Shipley
Dundas, Robert E.; Edinburgh
Dunlop, David A. T.; Annan
Dunn, Peter P.; Edinburgh
Durno, Duncan M.; Aberdeen
Ferriday, Herbert J.; Edinburgh
Flint, James; Edinburgh
Forster, C. H. S.; Bebside Wood
Gibb, Robert; New Blyth
Glass, Julia; Edinburgh
Gordon, John L. S.; Crieff
Graham, Walter; Edinburgh
Harper, Francis A.; Govan
Heggie, John; Lochee
Hill, David; Arbroath
Joiner Samuel; Edinburgh
McConnell, Samuel; Dailly
McCrae, Alexander C.; Edinburgh
McCurrach, Robert; Aberdeen
Mackay, Hugh G.; Leith
Mitchell, Jessie; Inverness
Neasham, Archie; Sunderland
Nichols, Edgar R.; Middlesbrough
Oliver, John T.; Thornhill
Osborne, Henry; Portsoy
Plackett, Henry; Nottingham
Ronchetti, T. A.; Thornaby-on-Tees
Scott, William R.; Stranraer
Smith, A.; Stockton-on-Tees
Souter, James C.; Aberdeen
Stewart, James C.; Edinburgh
Thompson, T. W. F.; Edinburgh
Thomson, George H. B.; Hawick
Thorpe, John W.; Harrogate
Tullie, John; Dunfermline
Ventners, J. W., Coaltown of Wemyss, Fife
Watson, George R. T.; Glasgow
Watson, Jessie T.; Edinburgh
Wellwood, Robert D.; Glasgow
Wilkie, James M.; Kirriemuir

EXAMINATIONS IN LONDON,

April, 1904.

MAJOR EXAMINATION.

Candidates examined	
,, failed	19
,, passed	14

Baxter, Percy C.; Walthamstow
Bedell, Margaret I.; London
Caws, Hilda B.; London
Clarke, Arthur S.; London
Dallimore, Frank; Ormskirk
Gilliatt, Alice; Brixton
Hill, Wilfrid, Ashton-in-Makerfield
Hockin, Arthur W.; Stockwell
Keene, Hedley H.; Kennington
Kirby, Francis B.; Clapham
Pickles, Walter H.; New Brighton
Wade, Alfred; Harlesden
Walker, Frederick G. C.; London
Wood, Charles E.; Liverpool

Major Examination Questions.

BOTANY (Theoretical).

(Time allowed, two hours.)

Four questions only to be attempted.

A Paper.

1. Describe fully the structure of a bud, and explain how it becomes transformed into a branch. Mention two examples of adult plants which permanently retain the bud form.

2. Contrast the structural differences you would expect to find between a plant grown in darkness and one grown under a full exposure to light.

3. How would you prove that gravity acts as a stimulus on vegetable protoplasm?

4. Give a description of the structure, function, and development of
(*a*) a laticiferous tube;
(*b*) a stoma;
(*c*) a sieve tube.

5. Give a general account of the Orchidaceæ *or* Umbelliferæ, and mention any plants in the Order you select that are useful to man.

B Paper.

1. Describe the structure of the nucleus of a vegetative cell, and trace the changes which take place during nuclear division.

2. How would you recognise under the microscope Starch, Resin, Inulin, Oil, and Calcium Oxalate? Mention some plants or parts of plants in which the presence of these substances may be easily demonstrated.

3. Describe what happens when a green leaf is exposed to light of varying intensity, under the following heads:—
(*a*) Movements of protoplasm.
(*b*) Constructive activity of chloroplasts.
(*c*) Evolution of water vapour.

4. Give an account of the structure and function of
(*a*) a root hair;
(*b*) a lenticel;
(*c*) a nectary.

5. Give a general account of the Gramineæ *or* Euphorbiaceæ, and mention any economic products derived from plants in the Order selected.

MATERIA MEDICA.

(Time allowed, one hour.)

Only two questions are to be answered.

A Paper.

1. State what you know of the active constituents of the following drugs:—Buchu Leaves, Jaborandi Leaves, Jalap, Catechu, Belladonna Root.

Give a process by which any one of the principles you mention can be obtained from the drug in a pure state.

2. What commercial varieties of Ipecacuanha Root are you acquainted with, and what are their diagnostic characters? Mention any adulterants with which you may be familiar, and give a process for the determination of the total alkaloid in Ipecacuanha Root.

3. Give the chief diagnostic features of the following drugs, and state how you would identify them microscopically:—Nux Vomica, Aconite Root, Kamala, Red Cinchona Bark, Hemlock Fruit.

B Paper.

1. State what you know of the active constituents of the following drugs:—Cevadilla, Rhubarb Root, Rhatany Root, Nux Vomica, Senna Leaves. Give a process by which any one of the principles you mention may be obtained in a state of purity from the drug.

2. What are the chief active principles of Conium Fruit? At what stage of the plant's growth is it most active? How is the chief alkaloid obtained, and how may it be distinguished from Nicotine?

3. Give the chief diagnostic features of the following drugs, and show how they may be identified microscopically:—Mustard Seeds, Ipecacuanha Root, Cassia Bark, Black Pepper, Lycopodium.

CHEMISTRY.

(Time allowed, three hours.)

Six questions only are to be attempted, and of these at least two must be from Part II.

PART I.

1. Ten litres of air are passed over heated charcoal under such conditions that the issuing gas contains equal volumes of carbon dioxide and carbon monoxide and no free oxygen. Calculate the loss in weight of the charcoal and the total volume of the resultant gases.

2. Explain, giving equations, how you would prepare (*a*) iodic acid from iodine, (*b*) ferric sulphate from iron, (*c*) chlorine from potassium chlorate, (*d*) boric acid from borax, (*e*) nitrogen from ammonium chloride.

3. A piece of iron immersed in water saturated with carbon dioxide dissolves to some extent, and the surface of the solution exposed to air becomes coated with a brown pellicle. Explain the chemistry of these changes.

4. Explain the reasons which account for the difficulty in preparing or keeping (*a*) anhydrous aluminium chloride, (*b*) colourless nitric acid, (*c*) pure potassium cyanide, (*d*) a solution of NH_4HS, (*e*) pure Pb_3O_4.

5. Describe the action which takes place when the following substances are added to separate solutions of silver nitrate:—Ammonia, sodium thiosulphane, sodium hypochlorite, borax, potassium persulphate, ordinary sodium phosphate. Give equations.

PART II.

6. Write a short general account of the preparation and properties of the class of compounds called amines.

7. Give an account of the manufacture of glucose; describe its chief chemical properties, and the evidence which has led to the establishment of its constitutional formula. Explain the theory of Fehling's test, and the part played by each of the ingredients.

8. By what reactions would you distinguish between (*a*) ethyl cyanide and ethyl carbamine, (*b*) acetamide and amido-acetic acid, (*c*) benzyl chloride and chlortoluene?

9. Give some account of the chemical changes which take place during the decomposition of proteid matter exposed to atmospheric influences in contact with soil. Describe briefly Kjeldahl's method for estimating nitrogen.

PHYSICS.

(Time allowed, three hours.)

Only six questions to be attempted.

1. What do you understand by the "critical angle" as applied to a ray of light incident in the more refractive of two media? What relation is there between the critical angle and the relative index of refraction?

2. Describe a method of determining the vapour density of a liquid boiling below 100° C., and mention all the precautions necessary to ensure accuracy.

3. The latent heat of steam at 100° C. is represented by the number 536. Fully explain the meaning of this, and describe a method of determining latent heat.

4. Boyle's law of the relation between pressure and volume in gases is not rigorously exact. Discuss the conditions for the nearest approach to conformity with the law, and explain the reason of the marked deviations from the law in the case of such gases as ammonia, carbon dioxide, and sulphur dioxide.

5. Describe the construction of an electrical condenser such as a Leyden jar. How would you demonstrate the use of such a condenser? What do you understand by the expression "specific inductive capacity" as applied to the dielectric of a condenser?

6. What is the construction of a Daniell cell? Give an account of the changes which occur when such a cell is in active work.

7. Give a general description of the spectra of (*a*) the sun, (*b*) the light of incandescent lime, (*c*) the flame of burning sodium, (*d*) the condensed spark between metallic poles.

8. Distinguish between mass and weight. How do you explain the fact that one and the same mass of material weighed near the polar regions will have a greater weight as shown by a spring balance than if weighed near the equator?

LIBRARY, MUSEUM, SCHOOL, AND HOUSE COMMITTEE.

Attendance in Library.

	Total.	Highest.	Lowest	Average.
London Library, March......	403	24	4	15

Circulation of Books.

	Total.	Town.	Country.	Carriage Paid.
London Library, March	269	147	122	£1 0s. 0½d.
Edinburgh Library, March ..	363	223	140	6s. 4d.

Donations to the Library (London).

Royal College of Veterinary Surgeons, London:—Register, 1904.

College of Preceptors, London:—Calendar, 1904.

Agent-General for New South Wales:—Report on a Second Outbreak of Plague at Sydney, 1902.

Harper and Brothers, New York:—The Rise and Progress of the Standard Oil Company, by G. H. Montague, 1904.

J. J. y Padró, Logroño:—Histotermo y Estequiotermo o Sea Calórico de Animación y Vegetación en Funciones del Elemental, 1902.

Geological Survey Department, Canada:—Altitudes of Canada, by J. White, 1901.

Donation to the Library (Edinburgh).

Messrs. E. R. Squibb and Sons, Brooklyn:—Ephemeris, Vol. VII., No. 2, 1904.

Purchase of Books.

The Committee authorised the purchase of the undermentioned works:—

For the Library in London.

Mendeléef, Chemical Conception of the Ether, 1904.

Findlay, The Phase Rule and its Applications, 1904.

For the Library in Edinburgh.

Green, Vegetable Physiology.

Clowes and Coleman, Quantitative Chemical Analysis.

Attendance in Museum.

	Total.	Highest.	Lowest.	Average.
March	591	35	2	22

Donations to the Museum.

Mr. P. H. Marsden, Liverpool:—Specimens of the Fruit of *Strophanthus arnoldianus* and of Juto Root, from West Africa.

The Superintendent of the Indian Section, Imperial Institute:—Specimens of the Bark of *Avicennia officinalis*, *Briedelia retusa*, *Callicarpa lanata*, *Casuarina equisetifolia*, *Croton oblongifolius*, *Mimusops elengi* and *M. hexandra*, *Phyllanthus emblica*, Stems of *Stereospermum suaveolens* and *Vitex negundo*, and Fruits of *Embelia robusta*.

Messrs. Hale and Son, London:—Specimen of Zedoary Root.

Messrs. Lewis and Peat, London:—Specimen of Zedoary Root.

Donation to the Herbarium.

Mr. P. H. Marsden:—Specimen of Juto and Jalu Plants from West Africa.

Inquiries.

Nineteen Specimens of Drugs and thirteen Plants had been received for identification. Twelve botanical inquiries had been replied to.

Duplicates Distributed.

Specimens of duplicates had been sent to Kew:—Mr. Canham and Mr. Perrédès.

Investigations.

The oleo-resin of *Canarium mauritianum*, Bl., from the Hanbury Collection, had been submitted to chemical examination by Dr. A. Tschirch, and the results published in the *Pharmaceutical Journal*, April 2, p. 467.

Dr. W. E. Dixon had undertaken an examination of the Seeds of *Spermacoce hispida*.

THE STUDENTS' COLUMNS.

REPORT ON PRIZE COMPETITION,

Answers to the examination paper which appeared in the *Pharmaceutical Journal* of February 27 last (see page 296) were received from thirty-two candidates. The two candidates at the head of the list are:—

1. Miss Miriam Hill, 121, Hunter's Road,
Handsworth, Birmingham.
91 per cent.

2. Mr. H. M. Harvey, 156, Clapham Road,
London, S.W.
90 per cent.

To each of the above competitors the Editor will send a copy of the 'Pharmaceutical Journal Formulary,' or, if preferred, some other book or books to the value of ten shillings.

Appended is a list of the other candidates:—

	Marks		Marks
P. A. S.	89	Albert	71
W. H. H.	85	A. E. W.	
"X. Y. Z."		"Equus"	70
"Ronim"	84	G. H. P.	68
"Ad Valorem"		T. A. C.	65
M. W. B.	83	R. J. H.	
"Condorne"	81	A. B. T.	62
"Picea Excelsa"		"Q. S."	
E. A. I. P.	78	J. R. R. I.	61
F. B.	75	"Ferrum"	56
D. F. F.	74	"Conium"	54
E. W.	73	C. T. J.	
D. M.		W. F. G.	
"Carolus"	72	E. H. T.	53
"Toc"			
E. B. T.			

1. This question was well answered, and the reports showed careful observation. The solution of chlorinated lime used by a few of the candidates seems to have contained no hypochlorite; those who obtained a white precipitate only would do well to try the experiment again, using a freshly-made solution. A description of what was observed was asked for, and not an explanation; nevertheless several candidates wasted their own and the examiner's time by giving explanations, which gained no credit, and, in the cases where they were incorrect, tended to give a bad impression.

2. The first part was done correctly in almost every case; in the second part many candidates did not read the question carefully, and gave the amount of chlorine that would combine with 1 Gm. of hydrogen, supposing two atoms of chlorine would combine with one of hydrogen! Since the atomic weight obtained by means of the atomic heat is only approximate, it is useless to work out the volume of gas to hundredths or

thousandths of a cubic centimetre; it also shows a want of appreciation of the practical possibilities in measuring gases.

3. This was done in a very disappointing manner. Not a single candidate perceived that the easiest and only accurate method was to reduce the quantities to ounces and fractions of an ounce (fluid and avoirdupois); the figures thus obtained are simply proportional parts, and may be taken as grains and fluid grains, ounces and fluid ounces, gallons and quantities of ten pounds, grammes and cubic centimetres, or kilogrammes and litres. The use of the equivalents to convert quantities of one system into those of the other is seldom required. If an exact quantity is required, as in dispensing a prescription, the quantities should be weighed and measured in the system used in writing it; in other cases the formula should be reduced to proportional parts by weight and measure, as outlined above. If this be done in this case, the figures will be found to work out to easy numbers. Here again the practical possibilities of measurement were ignored, and such quantities as 33·93664 Gm. were quite commonly given. Although in a prescription the sign ℥i., or even in many cases 1 oz., should be dispensed as 480 grains, 1 ounce is legally 437·5 grains, and in a formula written in English it should be so taken, unless there is clear evidence that 1 oz. Troy is intended.

4. This was correctly done by most, but a few showed very great weakness considering the ease of the exercise. "Ad." can hardly be considered a translation of "sufficient to make."

5 and 6. The answers to these were good, though a few said, without experiment, that sp. ammon. aromat. gave an immediate precipitate when added to a solution of magnesium sulphate. The simple statement that a mixture is incompatible is not a sufficiently full answer to questions of this type.

7. The answers to the first part of this question, with some exceptions, were poor. The details of the process are merely a practical application of principles that have been dealt with in these columns, and better answers were to be expected. Many candidates seemed to think that the statement that the solution is heated to 180° F. in order to coagulate albuminous matters is an explanation; they should have given the reason why this coagulation is advantageous. The answers to the question about infusion of calumba were better, and many showed originality and an understanding of the principles involved. It may have been due to want of clearness in expression, but several candidates seemed to think that "going bad" is an inherent property of mucilage or albumen, and appeared not to understand that this sort of decomposition is due to the growth of micro-organisms, and may be prevented by destroying the organisms (*e.g.*, by heat), or by adding some such substance as alcohol, which prevents their growth.

8. This was done well.

9. These experiments were carefully carried out and well described. The slowness of growth consequent on cold weather handicapped a few experimenters, but this was taken into account. Several lost marks by failing to carry out the instruction to lay the seedlings flat on the sawdust, when they should have observed the geotropic movements.

10. This was well done in most cases. Some did not explain clearly why the starch was deposited in the first place, nor what became of it during the night, after it had been reconverted into sugar.

Many candidates lost marks through not reading the questions carefully. This is an important point to bear in mind when answering an examination paper. The omission was most noticeable in questions 1, 2, 3, and 9.

LIVERPOOL CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Thursday, April 14, 1904, the President, Mr. R. C. Cowley, in the chair.

The Secretary was instructed to write to the Cardiff and District and Brighton Associations in acknowledgment of their letters asking for the support of the members of the Liverpool Chemists' Association for Messrs. Hagon and W. H. Gibson, F.C.S., respectively, in the forthcoming election of members of Council of the Pharmaceutical Society.

Mr. Cowley then read a

Note on Calcium Chloride, B.P.,

by himself and Mr. J. P. Catford.

The authors asked: Why does the B.P. order this salt to be "carefully desiccated at a temperature not exceeding 392° F.," so as to retain two molecules of water, and yet, for the only preparation from it in that work, viz., a "Test Solution," it is ordered to be "fused"—that is, treated to about another thousand degrees of heat, and so, expelling acid, rendering it alkaline and partly insoluble, before dissolving it in the water? An endeavour to trace back the origin of this inconsistency reveals the melancholy fact that successive pharmacopœias, instead of improving, have gone from bad to worse about it, for nearly a century. Formerly the anhydrous salt was required in the working formulæ then given for preparing pure ether, absolute alcohol, etc., and the directions for preparing it were calculated to produce the conveniently porous, yet perfectly anhydrous, substance required. For instance, the P.D., 1826, orders it "in vase patenti igni exponatur donec penitus inarescat." Ten years later, the P.L., 1836, blundered into ordering "in crucibulum injice et ad ignem *liquefactum*," etc. The next, and last, P.L. gave merely the name "Calcii Chloridum" in the list of materia medica, not a word more as to composition or mode of preparation, so presumably its predecessor would continue to be followed. Neither have the successive editions of the B.P. improved on one another. The anhydrous salt was required in that of 1864 and 1867, the latter being really an amended reissue of the first B.P., and ordered the calcium chloride to be "dried at about 400° F." This was required for the process given for preparing dehydrated ether. But it was also used for making two test solutions, a saturated solution as a quantitative test for nitrous ether (Allen's nitrometer test not having as yet been published). The other solution was made with one part of the anhydrous chloride to ten of water. This appears to be the original of the 1898 formulæ, only the latter aggravates the absurdity by ordering "fused" chloride. The B.P., 1885, repeats verbatim the 1867 directions for preparing and "drying the salt at about 400° F. (204·4° C.)," but requires the finished product to contain two molecules, *i.e.*, 25 per cent., of water; yet good authorities say that it becomes anhydrous at 200° C. However, the Pharmacopœia ordered it to contain what amounts to 25 per cent. of water, and this was ordered to be used for dehydrating ether! No special test solution was included in that edition, but a liquor for prescribers (1 to 5) was to be made from the partly dried salt. Our up-to-date latest edition contains no working formulæ that really need the dried salt; yet it is ordered to be carefully desiccated at a temperature not exceeding 392° F., and this has to be dissolved in water for washing alcohol out of ether, and, on the other hand, it has to be "fused" (*i.e.*, made red hot) for making a "test solution." The crystallised 6-hydrate salt that used to be in the Edinburgh Pharmacopœia is the most suitable for all the requirements in the 1898 B.P., and a liquor made from it would be the most definite and convenient form for dispensing, and might also serve as test solution, but the Pharmacopœia compilers seem to get so inextricably mixed over this simple matter that one wonders what they will make of it in the first edition in the twentieth century.

In the discussion which followed, Mr. Harold Wyatt, Jun., spoke of the change in colour induced when syrup of calcium chloride of varying strength was mixed with the syrup of iodide of iron, and thought that a more definite syrup could be made from a standard solution of the anhydrous salt.

In reply, Mr. Cowley said that if the syrup came into extensive use that a good formula could be given.

Mr. Cowley then read some brief

Laboratory Notes,

by himself, and Mr. J. P. Catford, which ran as follow :—

Ferrous Phosphate.—In a former communication we expressed the opinion that the precipitate produced by disodic phosphate and ferrous sulphate is *di*-ferrous instead of *tri*-ferrous, as it has always been considered. Having prepared some crystalline ferrous phosphate, by using di-basic phosphate of an alkaline earth and a soluble ferrous salt, we recently determined the proportion of FeO to P_2O_5, which would be 216 to 142 in tri-ferrous and 144 to 142 in di-ferrous phosphate. Our results agreed with the latter.

Uranium Pyrophosphate is erroneously represented in "Sutton" as $Ur^2O^3 \cdot P_2O_5$, instead of $^2(UrO_3)''P_2O_5$. This is not a mere printer's error, being repeated throughout. The percentage composition given is not calculated from the atomic weights adopted in that work, but copied from what was published half-a-century ago, when the atomic weight of uranium was taken as 59·4, instead of 240.

An instance of a typographical error being perpetuated in successive editions and copied from one standard work to others occurs with *Hydrochloric Acid.* Dr. Ure's table of percentages contained six misprints, reproduced in successive editions of his Dictionary and those of Watts and others :—

Sp. Gr.	HCl per cent.	Should be.
1·0279	6·709	5·709
1·018	4·67	3·67
1·014	3·854	2·854
1·012	3 447	2·441
1·004	1·816	0·816
1·002	1·408	0·408

The early editions of Attfield's 'Chemistry' contained this table free from the above errors. In later editions this and other tables are entirely omitted.

Ferric preparations in the B.P. have gravimetric tests. Volumetrically they would not take a quarter of the time. The liquors, for example, take a quantity that should yield about 0·2 of Fe_2O_3, add a drop or two of sulphuric acid, and reduce with aqueous solution of H_2S from 10 to 20 C.c. ; heat until no reaction with either KCNS or lead acetate, then titrate with one of the usual decinormal oxidisers. There is no necessity in these cases to precipitate ferrous sulphide. In case of organic compounds, *e.g.*, scale preparations, take about 1 Gm., dissolve in 2 or 3 C.c. HCl on a water-bath, and add a few decigrammes of $KClO_3$, but not more than a few centigrammes at a time; in this way there will be no waste of chlorine nor loss by spurting, and there will be only a slight excess of chlorate to be subsequently reduced by the H_2S treatment. In this way, with ferrum tartaratum, for example, the time taken may be reckoned in minutes instead of hours by the repeated incineration and extraction of the potash. Mercurial ointment can be easily treated in a similar manner; place about a gramme in a small dish, melt on a water-bath with a few C.c. of HCl, add small particles of chlorate until all is colourless; the whole of the mercury being in solution, there is no necessity to oxidise any remaining fat; simply dilute, and pass through a wetted filter (which will retain the now colourless fat). The filtrate neutralised with fixed alkali, and two or three drops of liq. ammoniæ added, can now be titrated with standardised KCN. We find the result satisfactory, and should no more think of distillation in combustion furnace.

Mr. Harold Wyatt, Jun., considered that the methods described would effect a considerable saving of time in estimating the value of the chemicals mentioned.

Mr. Shacklady spoke in praise of useful papers of this character.

The Secretary read a paper by Mr. H. B. Morgan, one of the members of the Association, who had recently gone to the Far East, upon

Chinese Pharmacy.

A cordial vote of thanks to Mr. Morgan was proposed by the President, seconded by Mr. Harold Wyatt, Jun., and passed by acclamation.

WAKEFIELD AND DISTRICT CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Thursday, April 14, 1904, Mr. Whaley in the chair.

At the outset of the meeting there was some discussion as to a representation from the P.A.T.A. to the effect that that body desired some member to act as its local secretary at Wakefield, and it was decided that Mr. Chaplin should act as such.

Mr. Sargeant's Candidature.

Mr. Beacock, of Leeds, who formed one of a deputation from the Leeds Chemists' Association, spoke in introduction of the candidature of Mr. F. Pilkington Sargeant. As members of a large and influential association, they in those provincial parts ought to be more in touch with the Council in Bloomsbury Square, and such a representative as Mr. F. Pilkington Sargeant would be calculated to bring about that desideratum.

Mr. Preston said he was sure Mr. F. Pilkington Sargeant would do his best for them, and would give better representation to the retail trade.

Mr. Kirk also spoke in support of the candidature.

Mr. F. Pilkington Sargeant then addressed the members on the lines of his election address.

Mr. Pollard said he was fully in accord with the address of Mr. F. Pilkington Sargeant, and he hoped that gentleman would be elected. They would be having a meeting of the Yorkshire Federation before the election came on, and he should certainly advocate Mr. F. Pilkington Sargeant's return.

Mr. F. Pilkington Sargeant said, in reply to Mr. Pollard, that he should certainly oppose any proposed further severity in the Minor Examination.

Mr. Pickard spoke in commendation of the address which the candidate had delivered. Mr. Sargeant was a very active man, able to represent them as well as, if not better than, a director of a company, an ex-newspaper editor, or a retired chemist.

Mr. Broadhead said that the organisation of the Pharmaceutical Society was about the weakest feature of that body. He said that with other professions the first line of defence was the charter. He suggested that it would be a very useful thing indeed if each local association had power to elect from its members a sort of executive committee and to retain a solicitor to prepare and deal with its own cases

Mr. F. Pilkington Sargeant said he was fully in agreement with what Mr. Broadhead had said, and he should be prepared to support any system which tended to make the Society stronger

On the motion of Mr. Judge, seconded by the Chairman, it was resolved—

> That the members of this Association pledge themselves to support and aid the election of Mr. F. Pilkington Sargeant as a member of the Pharmaceutical Council by all means in their power.

Mr. F. Pilkington Sargeant tendered his thanks for the expression of support.

CHEMISTS' ASSISTANTS' ASSOCIATION.

EXHIBITION EVENING.

Thursday, April 14, 1904, at 73, Newman Street, London, the President, Mr. A. B. Britton, in the chair.

The minutes of the previous meeting having been confirmed, Mr. G. E. Town read a short paper on the

Natural and Artificial Breeding of Trout.

Mr. Town briefly described the process of spawning, and the subsequent development of the young fry. He also exhibited specimens of the fertilised ova at various ages, and of the young fry, some of the latter being deformed, having two and some three heads.

Mr. R. E. Lownsbrough then exhibited some

Old Materia Medica Specimens

and medicines prescribed in the pharmacopœias of the eighteenth century. Among the articles shown were *Agaricus albus*, a polyporus fungus growing on larch trees, from which agaric acid or "agarisin" is obtained; *Aletris farniosa*, or star grass; *Arquebusade*, or Spiritus Vulnerarius, an old aromatic preparation containing some seventeen ingredients, somewhat similar to Listerine; *Carica papaya*, or papaw leaves, from which papain is obtained (also some curious insects and larvæ, found in the packet of leaves); Carnauba wax; *Caulophyllum*, or squaw root; *Coralia præparata*, coral finely powdered and freed from impurities; cypress fruit; Eau de Luce, a compound tincture of ammonia; orange flowers, used for making infusions; *Fucus helminthœorton*, a Corsican moss which has some reputation as a febrifuge; *Globuli contrayervæ*, or contrayerva balls; *Globuli gascoignii*, or Gascoign's balls, prepared from compound powder of crabs' claws and mucilage; Kava-Kava, an extract and infusion of which are largely used in India for gonorrhœa; *Pulv. e Chelis Composita*, or Gascoign's Powder, prepared from chalk, coral, and crab-shell; *Pulv. Cornu Usti c Opio*, prepared from opium, burnt hartshorn, and cochineal. Mr. Lownsbrough also showed the difference in readings of some re-tested clinical thermometers, and created considerable amusement by reading a list of thirty-six drugs and preparations prescribed for one patient during a period of six weeks in a nursing institution. Among other interesting things shown by Mr. Lownsbrough were the remains of a bottle which had contained some compressed compound phenol tablets, prepared from sodium bicarbonate (12 gr.), carbolic acid ($1\frac{1}{2}$ gr.), and sodium chloride (2 gr.). While standing on a shelf the contents of the bottle had exploded, the tablets being reduced to powder and the bottle shattered. The makers of the tablets were unable to explain the cause of the explosion.

Mr. T. Morley Taylor had also sent some specimens, including samples of *Balsam locatelli; Chimaphila*, a North American evergreen from which Ext. Chimaphilæ Liq. is made; cinnamon-leaf oil distilled in Ceylon, and having a clove-like odour; castor oil leaves; a peculiar sample of gum Senegal; a curious specimen of cream of tartar; and a piece of the "Lace Bark Tree" of Jamaica.

The thanks of the meeting were accorded to the exhibitors, and the proceedings terminated.

GRIMSBY AND DISTRICT CHEMISTS' ASSOCIATION.

ANNUAL MEETING.

Thursday, April 14, 1904, at the Oberon Hotel, Grimsby, Mr. Cor. Willson, Vice-President, in the chair.

The Secretary (Mr. H. W. Colley) read his

Annual Report

on the year's work. Owing to the regretted illness of the President, the leadership of the Association had fallen upon the Vice-President, to whom hearty thanks were due. The Secretary was afraid that the Association had allowed the social and business side of their meetings to obscure the educational objects of the Association, and urged for the sake of attracting the younger members that in the future one short paper should be read at each meeting. Yet he could congratulate the members on a year of steady progress and useful work. With regard to the Pharmacy Bill, the borough member (Ald. G. Doughty, M.P.) had promised to support the second reading. The Buying Section had every prospect of being a success. The suggestion for forming a museum was that the Association form a materia medica, botanical, and chemical cabinet, possibly with the aid of a small grant from the Pharmaceutical Society; and that the case should occupy a certain position in the Borough Public Museum. The balance-sheet showed a balance in the hands of the Treasurer of £7 12s. 5d., including a balance of 10s. on the library account, this being a much better balance than last year showed.

The Secretary's report and balance-sheet were unanimously passed as very satisfactory.

Election of Officers.

Mr. R. Cook, J.P., was re-elected President; Mr. C. Willson, Vice-President; Mr. J. A. Hawdon, Treasurer; Mr. H. W. Colley, Secretary. Committee, Messrs. J. Carter White, G. R. Cook, R. C. Johnson, T. D. Sneath, J. A. Moore. Auditors, Messrs. W. Barker, and R. M. Hearne.

Alteration of Rules.

It was resolved, on the proposition of Mr. C. Dewing, to amend Rule 4, so that it should read:—"The amount of annual subscriptions shall be as follows: For members and associates, 5s.; apprentices, 2s. 6d.; and shall be due on March 15 in each year."

New Members.

The following were elected members of the Association:—Mr. C. Barnett (Cleethorpes), Mr. J. Forrester (Cleethorpes), Mr. R. J. Watson (Caistor).

Annual Dinner.

It was resolved that the annual dinner be held at the Oberon Hotel on Thursday, April 28, and that the Secretary make all arrangements.

Federation.

It was resolved to pay the annual subscription to the Federation of Local Pharmaceutical Associations.

Correspondence.

Letters were read, asking support on behalf of Mr. Hagon, Mr. Gibson and Mr. Sargeant, candidates for the Council of the Pharmaceutical Society. It was resolved to leave the matter in the hands of the Committee for further consideration; and hope was expressed that more candidates would favour the electors with their addresses and views on current events.

The Secretary was instructed to forward a letter of sympathy to the President of the Association, regretting his continued illness, and expressing the hope that he would soon be able to be present amongst them again.

LEEDS AND DISTRICT CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Thursday, April 14, 1904, in the Grand Central Hotel, Leeds. Mr. G. W. Worfolk (of Ilkley), the President, in the chair.

Mr. Maben delivered his lecture on "The Preparation of Vaccines and Serums," which has already been reported in the *Pharmaceutical Journal*.

Mr. Maben was cordially thanked for his paper.

NORTHAMPTON CHEMISTS' ASSOCIATION.

ANNUAL DINNER.

Thursday, April 14, 1904, at the Black Boy Hotel, Wood Hill, Northampton, Mr. W. McKinnell in the chair.

The Chairman proposed the toast of

The Pharmaceutical Society.

He rejoiced that the chemists of Northampton were loyal to the Society and especially to its Benevolent Fund, on behalf of which he appealed for continued support. He referred to the Pharmacy Bill and to the need that the younger men should support the Society as loyally as some of the older ones.

Mr. Flinton Harris responded. He spoke with pride of the way the members of the Northampton Chemists' Association supported the Benevolent Fund and of the great increase in membership of the Society among Northampton chemists in the last ten years. During the last few years especially there had been a stirring among the dry bones of the Society and also in regard to its Journal, and the results were a happy augury of its future usefulness. He was glad that the Northampton Association kept well in touch with the doings of the Society and that frequently at the monthly meetings there were energetic, but not unfriendly, discussions upon the action of the Society in various directions. It was far better to discuss the action of the Society and arouse interest in its doings than to allow any dissatisfaction to fester in the hearts and bosoms of individual members, who in such circumstances might become apathetic

Mr. Armitt proposed the toast of

The Northampton Chemists' Association.

He congratulated the Association upon the success of its early closing scheme among the chemists of Northampton. Some chemists seemed to hope to get something from the new Pharmacy Bill, though he, for one, was not very confident about it.

The Vice-Chairman acknowledged the toast. The Association, he said, was formed for the purpose of uniting the chemists, and it had certainly brought the chemists together, and had cemented a good feeling between them. He appealed to the young chemists of Northampton to join the Association, and assured them of a hearty welcome.

Other Toasts.

Mr. Cowdery proposed "The Health of Our President." He alluded with regret to the absence of Mr. Mayger, whose kindly presence was such a pleasant feature of their gatherings. The toast was accorded musical honours.—Mr. Ashton, nephew of the President, and Mr. Bond Smith, son-in-law of the President, responded.—Mr. W. Lucas proposed "The Hon. Secretary" in appreciative terms, to which Mr. Donald McKinnell supported and Mr. Cowdery replied.—"The Press" and "The Assistants," acknowledged by Mr. Price, were the other toasts.

HARROGATE AND DISTRICT PHARMACEUTICAL ASSOCIATION.

ORDINARY MEETING.

Friday, April 8, 1904. Mr. Pilkington Sargeant and a deputation of Leeds chemists were present.

Mr. Sargeant laid his views on current pharmaceutical topics before the meeting, and a resolution was unanimously passed that the support of the Association should be accorded to Mr. Sargeant at the forthcoming Council election.

EAST SUSSEX PHARMACEUTICAL ASSOCIATION.

ORDINARY MEETING.

Tuesday, April 12, 1904, at the Devonshire Hotel, Bexhill, Mr. T. D. Vint, President, in the chair.

Several members from Hastings and St. Leonards went over to Bexhill for the occasion.

Mr. Burne, who has just succeeded to the business of Mr. Stedman at St. Leonards, was elected a member of the Association.

A resolution was unanimously carried, pledging the Association to assist Mr. Gibson in his candidature for the Pharmaceutical Council.

SOCIETY OF CHEMICAL INDUSTRY: YORKSHIRE SECTION.

ANNUAL MEETING.

Monday, April 18, 1904, at the Midland Hotel, Bradford, the Chairman of the Section, Mr. James E. Bedford, F.G.S., of Leeds, in the chair.

Mr. S. H. Davies read a paper on

The Amount of Cacao Butter in Cacao Bean,

in the preparation of which he had been assisted by Mr. G. B. M'Lellan. As far as he (Mr. Davies) was aware, no communication regarding the percentage of cacao butter in the bean had been made to the Society. The subject was, however, an important one to those analysts who are called upon to state the amount of pure cocoa in samples of commercial chocolate. The samples experimented upon were taken from bulk lots on the London market, with the exception of the Jamaica cocoas, and these came direct from the island. The beans were roasted fully, but with careful precautions against burning. They were then broken and winnowed, in order to remove all the husks, the nibs being afterwards finely ground on stones in a small mill. The pasty mass resulting was cooled quickly, in order to prevent any separation of butter, and the mass was then carefully sampled by taking scrapings from different parts of the block. A weighed quantity of this sample was exhausted in a Soxhlet with petroleum ether, the latter being subjected to fractional distillation. Petroleum ether had been found more satisfactory than other solvents, some of which extracted theobromine and some of the colouring matter in addition to the fat.

The variations found in roasted cacao nibs were then given in tabulated form. In the case of the Jamaica cocoas, the exact history of which was known, it was possible to observe the effect of fermentation in the fat contents. As might have been expected, prolonged fermentation resulted in the loss of some of the carbohydrate and albuminised constituents of the bean, leaving a substance richer in fat. Agreement was expressed with earlier observers that there is not sufficient variation in the percentage of fat in different kinds of bean to enable the country of origin to be established from this determination. Probably the percentage varied chiefly with the richness of the soil, and with the method of curing adopted, and was not dependent upon the locality.

An interesting discussion followed, and Mr. Davies replied to a number of questions. In answer to Dr. Chaplin, he said it was not illegal in England to introduce other foreign fats in the manufacture of chocolate, providing they were not injurious to health, but in Germany, Belgium, and Switzerland the use of fat substitutes was illegal.

EDINBURGH CHEMISTS', ASSISTANTS', AND APPRENTICES' ASSOCIATION.

VISIT TO A COAL PIT.

Wednesday, April 13, 1904. The meeting took the form of a visit to the Newcraighall Coal Pit, belonging to the Niddrie and Benhar Coal Company. The members, on arrival at the pit, were courteously received by the underground manager, who conducted them to the pit-head, where the coal hutches were seen emerging from underground. The shaft descends at an angle of 75° to a vertical depth of about 1,050 ft. The party was then conducted over the very complete mechanical appliances by which the coal is separated into hand-picked, washed nuts, dross and coal dust. A visit was then paid to the engine-house, where the exceedingly ingenious signalling appliances and the machinery by which the engine is kept absolutely and completely under the ready control of one man were fully explained. The engine for driving the huge fan by which the workings are supplied with fresh air was also explained.

CHELTENHAM AND DISTRICT CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Friday, April 15, 1904, at the Imperial Temperance Hotel, Mr. Barron, President, in the chair.

Federation.

The Secretary put forward the question of alliance with the Federation of Chemists' Associations, which had been adjourned from the last meeting. The proposal was objected to by the President and others as unnecessary, the Association being already federated to and recognising its head and centre in the Pharmaceutical Society, and that individual and local pressure was more likely to be effectual with M.P.'s than could that of any collective combination.

A resolution that such alliance should not be entered into this year was carried by a majority.

Mr. Palmer, of the establishment of Messrs. Nathl. Smith and Co., read a most interesting and instructive paper on

Continental Pharmacy,

detailing his experience in a Parisian pharmacy, and making a strong and eloquent claim for the adoption in this country of the metric system. This subject was especially apropos, as a few nights previously the late Chancellor of the Exchequer, in addressing the Bristol Chamber of Commerce, alluded to the difficulty of its adoption from a political standpoint, and almost at the moment of the delivery of the paper the subject was under discussion in the House of Commons.

A hearty vote of thanks was accorded to the reader of the paper, and a strong and general desire was expressed that it might be inserted in the *Pharmaceutical Journal.* [We hope to find space for the paper in an early issue.—Ed. *P.J.*] The next meeting, it was hoped, would be held in the neighbouring city of Gloucester, the Vice-President, Mr. Freshfield Reynolds, hoping to secure the services of a Gloucester scientist to give a lecture on radium.

WOLVERHAMPTON AND DISTRICT CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Wednesday, April 13, 1904, at the Star and Garter Hotel, Wolverhampton, Mr. F. A. Willcock in the chair.

Mr. Cullwick read a paper on

Modern Conditions of Pharmacy.

He reviewed the adverse economic influences and circumstances which have affected pharmacy, including the "co-operative" system of trading, the prescribing of proprietary articles and medicines, the growth of medical associations and clubs. More hopeful signs were to be found in the growth of the local associations of chemists, and in the recognition by many qualified men that their personality was their main line of defence against the stress of competition.

Mr. A. C. Weaver, in proposing a hearty vote of thanks to Mr. Cullwick, gave some very interesting reminiscences of his fifty years in business.

Mr. F. J. Gibson seconded the vote, and compared his apprenticeship days with those of the present.

The vote was unanimously carried.

DEWSBURY AND DISTRICT CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Monday, April 18, 1904, Mr. J. Rhodes, President, in the chair.

A letter was read from the Secretary of the Federation of Local Associations asking the Association to discuss the Shop Hours Bill introduced by Sir Charles Dilke, which, it was stated, would seriously affect chemists. On the suggestion of Mr. Glyn-Jones, consideration of the Bill was postponed.

Co-operative Buying.

Mr. Glyn-Jones, who had been invited to attend the meeting and speak on co-operative buying, said he would like them to deal with this question in a friendly conversation. If questions were put to him perhaps he would be able to clear up points on which they might be in doubt.

Mr. J. Day referred to the question of co-operative stores cutting prices and giving dividends, and asked if any effort had been made by the P.A.T.A. to come to an amicable arrangement with them.

Mr. Glyn-Jones replied at some length, pointing out what had been done by the P.A.T.A. in the way of interviewing manufacturers.

Mr. R. Broadhead and Mr. W. Stead both suggested that the present was an inopportune time for dealing with the question. Mr. Broadhead expressed the opinion that the Pharmacy Bill and the Poisons Bill were more important matters.

Mr. W. Blakeley pointed out that private firms were giving bonuses.

Mr. Glyn-Jones replied that he thought such cases could be dealt with if they were reported to the P.A.T.A.

Mr. R. Gledhill then asked in what way they were transgressing in adopting a system of co-operative buying? They were simply purchasing large quantities of goods and exchanging among themselves.

Mr. Glyn-Jones replied that no one could blame local associations for striving to get all they could for those engaged in the trade. But this was not only a question of buying; there was the profit to consider. The P.A.T.A. for seven years had protected the prices of hundreds of articles in 25,000 or 30,000 shops. But if only the retailers' profits were to be protected there would no longer be any reason for the wholesalers to assist the scheme. If they withdrew bang would go the whole scheme.

A vote of thanks was passed to Mr. Glyn-Jones, on the motion of Mr. Gledhill, seconded by Mr. Broadhead.

BRISTOL PHARMACEUTICAL ASSOCIATION.

DEPUTATION TO SIR M. HICKS BEACH.

At the offices of the Bristol Chamber of Commerce on Wednesday afternoon, April 13, Sir Michael Hicks Beach received a deputation—Messrs. H. E. Matthews, G. T. Turner, G. W. Isaac, and A. J. Trebilco—representing the Bristol Pharmaceutical Association. They were introduced by Mr. Mandeville Edwards, who expressed pleasure in enabling them to meet Sir Michael there.

Mr. H. E. Matthews first explained the provisions of the Pharmacy Acts, which, he said, were designed to safeguard the public in regard to the dispensing and sale of poisons, and provided that all persons who kept open shops for the purpose should be duly qualified by examination. Until 1880 everything went well, but it was then decided by the House of Lords that corporations or companies of persons did not come within the scope of the Pharmacy Act, 1868, and that had led to many abuses and to consequent public danger. Since that time, also, other abuses had arisen, and particularly one which a Bill promoted by the Pharmaceutical Society aimed at checking. This was that qualified persons who were permitted by law to carry on the business of pharmacists were opening branches in every direction, and the public had no guarantee that those branches were conducted by qualified persons. The Bill provided that all shops for the sale of medicines should be registered, and at each there should be a qualified person registered as being in *bonâ-fide* control. Another provision of the Bill was intended to stop the hawking of poisons. The only clause of the Bill which was open to opposition was Clause 7, which provided that companies carrying on pharmaceutical businesses should have qualified directors. The purpose of that was to put companies an all fours with individuals, who must be qualified in order to carry on business as pharmacists. The various persons interested in companies objected to this on the ground that it was unnecessary for directors of companies to be qualified so long as qualified managers were employed. The law did not at present provide that managers should be qualified. Thus, companies were under no restrictions at all, whereas individuals were regulated and bound by very stringent restrictions.

Sir Michael Hicks Beach inquired if nobody could be owner of a chemist's business without being himself a qualified pharmacist, even though he should desire to conduct the business by the aid of a qualified pharmacist.

Mr. Matthews replied that that was the case. An individual could not do so.

Sir Michael said he confessed that he failed to see the reason for that. He rather thought he was responsible, a good many years ago, for a Pharmacy Act in Ireland, and to the best of his recollection one of the provisions was to secure that anybody actually conducting a business should be a qualified person. He thought it was quite right that the person on the premises managing the business should be qualified, but why they should go further, and say that the owner of the business whether he were an individual or the director of a company, should also pass an examination and be qualified as a pharmacist, he did not see. For instance, he was a railway director, but he would be very sorry to be asked to run an engine or to do the technical work which those who actually managed the railway did.

Mr. Matthews said he thought the two things were not quite on an equality. The individual who kept a pharmacy was supposed to be responsible to the public.

Sir Michael replied that that was the case with directors of companies, who were all responsible. But surely a man might be a director of a pharmaceutical company without himself having a qualification for the sale of poisons.

Mr. Matthews, in reply, said that the trouble which had called for legislation in Ireland was a dearth of pharmacists. If they allowed individuals to be crushed out by companies, they would find the same state of affairs in England before long.

Sir Michael, in return, said he did not see why individuals should be crushed out by companies if it were required that persons actually conducting the business should be qualified persons.

Mr. Matthews replied that they were following the lead of the Lord Chancellor in regard to Clause 7. In 1901, during a discussion upon the Companies Bill, the Lord Chancellor expressed himself as firmly convinced that companies ought to be subjected to the same restrictions as individuals. Chemists had thought out the matter very earnestly, and the proposals made appeared to them as representing what ought to be done. If the question could be arranged by some modification or alteration of the clause, they would be satisfied as long as the public were protected in the matter. What frequently happened now was that a man unable to pass a qualifying examination formed himself into a company, with the help of relatives and friends, and carried on business as a pharmacist.

Sir Michael said he was entirely with them there. A man had no business to do that, and the law ought to prevent him.

Mr. Matthews: Then you are agreeable to making them responsible?

Sir Michael answered that any director was responsible for the persons he employed.

Mr. Turner said that if by any neglect a pharmacist poisoned a person his professional reputation was ruined. If the employee of a company did the same thing, he was simply discharged. He bore the onus, and the company did not suffer. The company was not in the same position as the individual chemist, and that was what they complained of. What he contended was that individuals had to pass a very stringent examination, and when they had qualified and had opened a business they had to conduct it as respectably as they possibly could. If they did by any mistake poison a person their reputation was gone, and they could no more hold up their heads. With a company it was not so. They had no prestige, and nothing to lose. It was simply the assistant who made the mistake, and he was sent away.

Sir **Michael** said that he quite agreed with them that they could not put a company in quite the same position as the individual, but he believed that in such a case a company would lose prestige very considerably.

Mr. **Matthews** thought that if they could not put companies in the same position as individuals, companies should be prohibited from carrying on a chemist's business.

Sir **Michael** said that he could not see why a board of directors could not manage a pharmacist's business as they could manage a railway or any other business, without themselves being technical experts, as were those they employed to do the actual work.

Mr. **Turner** said that they could not have a solicitor's office carried on as a company by a board that knew nothing about the law, but employing experts. It would be absurd, and it was very much the same with chemists.

Sir **Michael** replied that he did not wish to argue the question any more. They had expressed their opinion, and he had expressed his. He thought they went too far, and that they would have to modify their opinion.

Mr. **Matthews** said that if the public could be protected, they would be quite satisfied with a modification of Clause 7, and that was why they had met him that day, as the Bill was likely to come before Parliament on the 18th. With regard to the non-contentious part of the Bill, they were in accord, and they hoped they might look to him for sympathetic support of it when brought forward.

Sir **Michael** said that he never liked to pledge himself beforehand to any details.

Mr. **Isaac** remarked that it was a great hardship that a number of men should be able to start in a business of which they had no knowledge, whereas the individual had to pass a stringent examination.

Sir **Michael** pointed out, in conclusion, that the Society's Bill was hardly likely to be discussed, but the Government was pledged to introduce a measure on the subject.

A vote of thanks to the right hon. gentleman terminated the proceedings.

CHEMICAL SOCIETY.

THE FARADAY LECTURE.

Tuesday, April 19, 1904, at the Royal Institution, London, Professor W. A. **Tilden** in the chair.

Professor W. **Ostwald**, of Leipzig, delivered the Faraday Lecture, his subject being

Elements and Compounds.

Faraday, he said, was the first scientific man to direct all his investigations in view of the idea of the conservation and the mutual transformation of the various forces, as he called them, or the various kinds of energy, as they were now called. Although the greatest advance—the discovery of the quantitative proportionality between the energy which disappeared and that which originated—was due to Mayer and Joule at a later date, yet the practical perception of this relation was working in Faraday's mind long before, and close study of his lectures and papers showed that in every case he put the question, How could a given force be changed into another? Now, chemical dynamics, or the theory of the progress of chemical reactions and the theory of chemical equilibrium should, he thought, without hesitation, be regarded as the most important achievements of the chemistry of to-day. What answer could chemical dynamics give to the old question about the nature of chemical elements? His answer was that it was possible to deduce from the principles of chemical dynamics the law of constant proportions, the law of multiple proportions, and the law of combining weights. Up to the present it had only been possible to deduce those laws by help of the atomic hypothesis; but chemical dynamics had now made the atomic hypothesis unnecessary for that purpose. To prove that statement was the main object of his lecture. So far as he was aware, the only man who had worked on the question with the hope of obtaining the same answer was Franz Wald, to whose suggestions he was indebted. The differences of the elements were connected with differences in their specific-energy-content. Temperature and pressure were not specific, for they could be changed at will. If specific volume and specific entropy were placed in a system of planar co-ordination, the several elements would be represented by single points in the plane. The plane would be placed horizontally, and ordinates from those points would represent the available energy of each element. Between the points of the elements in the plane were situated the points of all possible solutions, filling up the whole plane. Each of these solutions would also have its available energy, and all the corresponding points in space would form a continuous surface. As each element had its point in a relative minimum, the surface as a whole would have a shape like the ceiling of a cavern full of hanging stalactites, the end of each stalactite representing an element. They could pass from one element to another only by going over the higher parts of the surface, of the passes separating each stalactite from its neighbours. That could only be done by accumulating an appropriate amount of available energy in the element to be changed. Now the concentration of energy could not be accomplished *ad libitum*, for the possibility very soon ended. They could not get over the pass between two stalactites because they could not attain the necessary concentration of energy. Sir William Ramsay's perplexing discovery of the transmutation of radium into helium might conceivably find some explanation in this way. In the corner of the cavern where the elements with the highest combining weight were assembled, the stalactites were very short; in fact, not really stalactites, but rather regions of different slope in the sloping ceiling. Where the plane was nearly horizontal a drop of water furnished a picture of the stability of the elements. While hanging at the end of a true stalactite, more or less work must be done to raise the drop over the pass till it flowed down another stalactite. But in that corner it would flow of its own accord, and only stay for a short time on the nearly horizontal portions in the ceiling. They might expect that enormous amount of energy would be liberated if an unstable element changed into a stable one. That accounted for the extraordinary quantity of energy developed by radium during its existence. The fact that radium changed into helium, an element with an exceptionally long stalactite (for it was impossible to get even any combination of helium) made one expect indeed such an unusually great development of energy as was found to occur.

At the close of the lecture Professor Ostwald was presented with a medal bearing the image of Faraday. A vote of thanks was accorded to the lecturer, on the motion of Professor **Dewar**, seconded by Professor **Thorpe**, and supported by Lord **Rayleigh**.

PHARMACEUTICAL SOCIETY OF IRELAND.

Pharmaceutical Licence Examination.—The following have passed:—C. W. Robinson, J. S. Scott, A. Morris, M. B. Widdess, P. J. Ryan, J. A. Whitla, J. Mangan. Twenty candidates were rejected.

Registered Druggist Examination.—The following have passed:—F. Anderson, W. Boyd, J. Byrne, R. G. Creed, J. Harper, S. Jones, G. Kennedy, C. Rollston, T. A. Sheircliffe, R. Stewart. Nine candidates were rejected.

TUNBRIDGE WELLS AND DISTRICT CHEMISTS' ASSOCIATION.

ANNUAL MEETING.

Friday, April 15, 1904, at the Clarendon Hotel, Tunbridge Wells.

The reports of the Secretary and Treasurer were read and adopted.

Election of Officers.

The following were elected :— President, Mr. A. E. Hobbs; Vice-President, Mr. S. V. Booth; Hon. Treasurer, Mr. A. J. Gower (Tonbridge); Hon. Secretary, Mr. J. H. Bishop, The Broadway Pharmacy, Tunbridge Wells; Committee, Messrs. Chatterton (Southborough), Johns, G. Nicholson, and Windemer.

The President proposed a cordial vote of thanks to the retiring President, Mr. H. S. Pearmund, who suitably responded.

The President proposed a cordial vote of thanks to the retiring Hon. Secretary, Mr. S. V. Booth, for his valuable services to the Association during the last four years.

A discussion on present pharmaceutical politics, in which many of the members joined, brought the meeting to a close.

LONDON CHEMISTS' ASSOCIATION.

GENERAL PURPOSES COMMITTEE.

Wednesday, April 20, 1904, at the Holborn Viaduct Hotel, Mr. Albert Cooper, Chairman of the Committee, in the chair.

Mr. R. B. Betty, Hon. Secretary, read the minutes of the previous meeting.

A Notice of Motion.

Mr. Pentney gave notice that at the next meeting of the General Purposes Committee he would call in question the conduct of the Chairman at the last special meeting of the General Purposes Committee.

Sir Charles Dilke's Shops Bill.

This measure was briefly discussed, but, in view of the facts that the Bill is not likely to receive consideration, at any rate, for the present, and that the Government has a Bill in preparation,

On the motion of Mr. Watson-Will, seconded by Mr. Pickering, it was decided that the whole matter should be left in abeyance until the Government Bill is published.

C.O.D. Postal System.

A letter was received from the General Post Office, in which various arguments for and against the system were discussed. The letter consisted of twenty-eight pages of closely typewritten foolscap.

Protecting the Price of Proprietaries.

Replies were read from manufacturers of proprietaries to whom a circular letter had been addressed requesting that their goods should be placed on the P.A.T.A. list.

A Benevolent Suggestion.

Mr. Betty gave notice that at the next meeting he would propose that a donation of £5 5s. be made out of the funds of the Association to the Benevolent Fund of the Pharmaceutical Society. The proposer of the motion expressed his intention of adding a guinea to the Fund on his own behalf.

Other Business.

The Secretary announced that he had received 250 tickets for the Chemists' Exhibition, and a vote of thanks was passed to the promoters for the gift of the free tickets. A meeting of the Association will be held at the Argyll Hotel, Argyll Street, W., on the Wednesday of the Exhibition week. Messrs. Cooper, Glyn-Jones, J. C. Umney, Watson-Will, R. B. Betty were appointed delegates to the annual meeting of the British Pharmaceutical Conference and the Federation of Local Associations. It was decided to send a letter of congratulation to Mr. Glyn-Jones on his recent success at the law examination.

BRIGHTON ASSOCIATION OF PHARMACY.

ORDINARY MEETING.

Thursday, April 14, 1904, at 58, King's Road, Brighton, the President, Mr. W. H. Gibson, F.C.S., in the chair.

The Pharmacy Bill.

The Hon. Secretary, Mr. C. A. Blamey, stated that, in accordance with the resolution passed at the last meeting, he had written to the secretaries of associations and principal chemists in twenty-five of the chief towns of Sussex, asking them to write to their local M.P.'s with a view to obtaining their support for the Pharmacy Bill, and that he had received several encouraging letters. A letter was read from Mr. Gerald Loder, M.P., senior member for Brighton, showing that he was willing to go into the matter when the time came.

The Council Election.

The Secretary also reported that the candidature of Mr. W. H. Gibson, F.C.S., was progressing favourably, several very encouraging replies having been received in answer to the address and letter which had been circulated asking for the support of the profession, and the Association wished to thank heartily all who had so kindly replied, particularly Mr. T. H. Townley (Keswick), Mr. F. Rose (Bournemouth), Mr. J. F. Tocher (Peterhead), Mr. R. M. Ewell (Dover), Mr. Black (Aberdeen), Mr. S. Gibbs (Eastbourne), Mr. T. D. Vint (Hastings), and Mr. J. Sankey (Blackpool).

Other Business.

The proposed visit of the Conference next came under consideration as to the date, if the invitation was accepted, and to appointment of delegates.

These matters were left open for decision at the next meeting.

The Buying Club business was next proceeded with.

The next meeting is fixed for May 19, 1904, at 9 p.m., at No. 122, King's Road, Brighton, the residence of the President of the Association.

A hearty vote of thanks to the Chairman concluded the meeting.

BRADFORD CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Tuesday, April 19, 1904, at the Royal Hotel, Bradford, the President, Alderman H. Dunn, in the chair.

Address by Mr. Glyn-Jones.

Mr. W. S. Glyn-Jones, after thanking the President for a complimentary reference to his recent success, said the only burning question in connection with the P.A.T.A. to-day was the matter of a circular which he had sent out on behalf of the P.A.T.A. in regard to co-operative buying. Were it not for the active co-operation of the Wholesale Section, the P.A.T.A. would come to grief in a week. The wholesalers would be perfectly justified in saying that if the people whose retail prices they were combined to protect were then to combine to deprive them of their profit, there was obviously no further reason for the wholesalers to be concerned with such a combination. In regard to the Pharmacy Bill, he said he did not think that the importance of Clause 7 was appreciated as it ought to be by their own people. Suppose Clause 7 was to go; did they think that the Grocers' Federation would be long in suggesting that if a grocer could put himself in the position of being able to sell poisons by forming himself into a little limited company and having a qualified assistant, there was no reason why he should not be able to do the same sort of thing as an individual. In no case could a servant be a manager in the same sense as the chemist who was conducting his own business. The owner was the man who at any moment could come into the shop and say what should be done. The qualified man under a company could not possibly safeguard the public as the qualified man conducting his own business could.

A long discussion followed upon the points dealt with by Mr. Glyn-Jones and many other matters which arose in the course of questions which were put to him.

Alderman Dunn said he had not yet met with a wholesaler who seemed to care a brass farthing about the "patent medicine" trade.

In reference to a question whether it was his opinion that the Pharmacy Bill would have a better chance without Clause 7, Mr. Glyn-Jones said he did not think that the dropping of the clause would make any difference, because the chances were a hundred to one to-day against any private member's Bill becoming law.

SHEFFIELD PHARMACEUTICAL AND CHEMICAL SOCIETY.

ORDINARY MEETING.

Wednesday, April 20, at the Montgomery Hall, Sheffield, the President, Mr. G. T. W. Newsholme, in the chair.

Mr. F. A. Upsher Smith read a paper on

The Advantages of Amber Glass.

Mr. Smith spoke of the manufacture of amber glass, and regretted that there was no standard method of making it. He proceeded to consider what substances were likely to be affected by light, and should be stored in amber vessels. He classed pharmaceutical preparations as those, such as spirit of nitrous ether, which decomposed in darkness as well as in light, and those, such as chloroform, which decomposed in light only. He then gave a list of preparations which, he suggested, required to be stored in amber vessels or under special conditions. The list included carbolic acid, hydrobromic, hydriodic, and hydrochloric acids, hydrocyanic acid, nitric acid, lard and ointments containing it, ether and its preparations, almonds and their preparations, amyl nitrite, aniline, silver nitrate, arsenious iodide, carbon bisulphide, chloroform, cochineal, creosote, ergot and male fern preparations, fennel fruit, mercuric chloride, various preparations of morphine, iodoform, iodine, solutions of ammonium citrate, of chlorinated lime and soda, of ethyl nitrite, of hydrogen peroxide, liquor pancreaticus, liquor thyroidei, mucilage, fixed oils and fats, volatile oils, paraldehyde, phosphorus, eserine sulphate, potassium iodide, compound liquorice powder, Gregory's Powder, santonin, spirit of nitrous ether, sulphur iodide, syrup of iron phosphate with quinine and strychnine, and tincture of iron perchloride.

Briefly summing up, Mr. Upsher-Smith emphasised the following points:—(1) When in doubt use amber glass. (2) In fitting out a pharmacy, let all shop rounds be of amber glass, and as small as convenient. (3) It is highly probable that incandescent, acetylene, and electric lights are similar to solar lights in promoting chemical change; hence the importance of protecting substances that are exposed to their action. (4) Amber glass is preferable to green from the fact that it contains no lead. In conclusion, he opposed the practice of filling up bottles when partly emptied. Bottles should be completely emptied before refilling them. There was a promising field for anyone with the necessary time to clear up doubtful points, and also to determine precisely which tint of amber glass was the best. There were so many grades of amber glass, and it was desirable to establish one standard tint for general use.

A discussion followed, in which Messrs. Newsholme, Jackson, Ellinor, Squire, Turner, and Whitworth took part. Mr. Upsher Smith was cordially thanked for his paper.

HALIFAX AND DISTRICT CHEMISTS ASSOCIATION.

SPECIAL MEETING.

Tuesday, April 19, 1904, at the Old Cock Hotel, Halifax, Mr. C. Fielding in the chair.

Mr. Sargeant's Candidature for the Council.

A deputation, consisting of Mr. Beacock and Mr. Kirk, of the Leeds Association, and Mr. F. P. Sargeant, was present. These three gentlemen having addressed the meeting, Mr. Brierley moved, and Mr. W. R. Fielding seconded, "That the Halifax Chemists' Association supports the candidature of Mr. F. Pilkington Sargeant." This was put and carried with acclamation.

WEST HAM AND DISTRICT CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Thursday, April 14, 1904, at Earlham Hall, Forest Gate, Mr. J. H. Matthews, President, in the chair.

The feature of the evening was a practical demonstration of the process of

Manufacture of Sulphuric Acid

by Messrs. R. R. Clapp, Ph.B., and H. G. Lacell, A.R.C.S., M.I.C., both of the Standard Ammonia Co. This consisted, first, of a very able paper, in which Mr. Clapp gave a history of the manufacture of sulphuric acid, tracing it back to the time of the alchemists of the tenth century, who obtained it by the distillation of ferrous sulphate. The process of burning sulphur was introduced into England about the middle of the seventeenth century. The first works of any importance were erected in England (Richmond) by Dr. Ward in 1740, who, by employing glass retorts and mixing a little saltpetre with the sulphur, reduced the price of sulphuric acid from 2s. 6d. per oz. to 2s. per lb. Formerly all the acid was made in this way, and even now large quantities are made by this process, though the bulk of acid sold is produced by the roasting of metallic sulphides, principally iron sulphide. Samples of ferrous sulphate, native sulphur, and iron pyrites were then handed round, and an experimental quantity of sulphuric acid was made, showing the exact process which is carried on at the large works. At the close of the experiment a series of lantern slides were thrown on the screen showing the whole of the plant and processes in actual working on a large scale. These slides were also the work of Mr. Clapp.

Mr. Lacell then described the properties of sulphuric acid, illustrating his descriptions by various experiments.

The thanks of the Association were voted to the authors, and, on Mr. Clapp replying, the meeting was brought to a close.

NEWCASTLE-ON-TYNE AND DISTRICT CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Wednesday April 20, 1904, at the Hôtel Métropole, Newcastle-on-Tyne, Mr. George Foggan, of Bedlington, President, in the chair.

The Hon. Secretary (Mr. W. Pescod) read replies which had been received in regard to the placing of various articles on the P.A.T.A. list, as suggested at the previous meeting.

The Council Election.

On the motion of Mr. G. F. Merson, seconded by Mr. F. Gilderdale, it was agreed that a meeting of the members of the Pharmaceutical Society resident in the Newcastle district be held on Wednesday next, to make a selection in regard to candidates for the Council of the Pharmaceutical Society.

Scientific Papers.

Mr. J. S. Hill, Ph.C., read a short paper, entitled "Deterioration of Drugs and Galenicals, and Suggestions for Prevention Thereof." It will be published later.

Mr. Merson, Mr. Gilderdale, Mr. Wright, Mr. Clague, and the President took part in the discussion.

Mr. George F. Merson read a

Note on the Estimation of Sweet Spirit of Nitre.

He illustrated practically how simple a process is sufficient to check the strength of a newly received lot of the spirit, or to value that which has been in stock for some time. For practical purposes, he said, the retailer need not worry about corrections for temperature and pressure, etc., so necessary in accurate analyses. It is quite near enough for his purpose that he measure accurately the proper quantity into the nitrometer cup, add reagents, shake, and read off the volume of gas evolved. If any way near to the five volume minimum allowed by the B.P., then a more critical analysis should be made. But for stock newly taken in the result should show well up to the B.P. seven volume maximum.

Mr. Merson also communicated a

Note on Some Commercial Samples of Tincture of Opium.

The author submitted the results of a number of analyses for consideration. Some fifteen samples of the tincture were obtained at retail shops in Newcastle and district, all by different makers. The figures for pure alkaloid range from 0·472 per cent. to 0·76 per cent. Two samples only out of fifteen fall within the B.P. limits—viz., 0·72 per cent. and 0·76 per cent.; the others range downwards from 0·68 per cent. to 0·472 per cent.—a deficiency, based upon the B.P. minimum (0·7 per cent.), of from 3 to over 30 per cent. Not much greater uniformity obtains in the alcohol content. This varies from 54·6 per cent. (by volume) to 34·5 per cent. The B.P., just under 45 per cent., will vary slightly, according to moisture in opium. Extractive, dried to constant weight in water oven, ranges from 3·1 per cent. to 4·5 per cent. w/v. Note that the extractive, of no value as standard, depends upon richness of opium. Another article in fairly common use in the North of England is

Aqueous Tincture of Opium.

Even greater lack of uniformity is found in this preparation. Price lists quote from 2s. 8d. to 2s. per lb., and it is freely offered even at 1s. 3d. per lb. In about a dozen samples examined there is absolutely no pretence to uniformity. Alcohol content ranges from practically nil to 15 per cent. by volume. Extractive from 2·9 per cent. to 15 per cent. w/v, this latter being due to glycerin used as a preservative; whilst alkaloid present ranges from 0·27 to 0·57 per cent., with one sample testing 0·71 per cent.

Mr. Clague urged that the British Pharmacopœia was a law for them, and that they should maintain uncompromisingly the standard of purity and strength of drugs.

Mr. Gilderdale said it was certain that workers on the same tincture of opium did not always get the same result.

Mr. Kerse and Mr. Wright also joined in the discussion.

Mr. F. Gilderdale, F.C.S., read a paper on

Pilula Ferri and Allied Preparations.

He had examined, he said, several samples of iron pills, tablets, and capsules. The pills in every case, including some which were nearly three years old, conformed more or less closely to the standard of the B.P. But he thought the Pharmacopœia standard should be a percentage of ferrous carbonate—say, 18 per cent.—rather than "about one grain." Capsules, reputed to contain the equivalent of one, two, and three iron pills respectively, were on the market, but the percentage of ferrous carbonate in these varied enormously. For example, the percentages in three samples of "three-pill" capsules were 57, 19·5, and 21·5 respectively. He had not worked out the amount of ferrous carbonate in the capsules, but thought that would possibly show more satisfactory results. In dissolving the pills in dilute phosphoric acid the age of the pills was soon apparent, the time taken to dissolve and the amount of effervescence giving some indication of what the result was likely to be. There was also noticeable an attempt by some makers to colour the pills artificially to resemble the ferrous salt, and he had seen several pills coloured with chlorophyll. A sample of well-known sugar-coated tablets was subjected to the usual tests, and was found to contain 20·2 per cent. of ferrous carbonate; but a sample which was combined with cascara and had been kept for three years showed a percentage of 16·3. Summarising his results, the author said that little fault could be found with the bulk of the pilula ferri at present offered to the trade, but many capsules of "iron pill" were not up to standard, and all chemists should put those to the most stringent tests.

Messrs. Clague and Merson took part in the subsequent discussion.

A vote of thanks was passed to Messrs. Hill, Merson, and Gilderdale for their papers.

The Nomination of President.

It was agreed, on the motion of Mr. Ridley, seconded by Mr. Clague, to request Mr. G. Foggan to fill the presidential chair for another year.

NORTH KENT AND DISTRICT CHEMISTS' ASSOCIATION.

FIRST ANNUAL MEETING.

Wednesday, April 20, 1904, at the Royal Clarendon Hotel, Gravesend, the President, Mr. A. Stooke, in the chair.

The Hon. Secretary, Mr. R. Feaver Clarke, read the

Annual Report.

Forty-two members had joined the Association during the year. The report summarised the work of the Association in connection particularly with early closing on Wednesdays and with the Pharmacy Bill, two local members of Parliament having been interviewed with satisfactory results. The balance-sheet showed a balance in hand of £1 15s.

On the proposition of the President, seconded by Mr. A. J. Wing and supported by Mr. W. E. Goff, the report and balance-sheet were adopted.

Election of Officers.

Mr. Stooke was unanimously re-elected President, Mr. A. J. Wing Vice-President, and Mr. R. Feaver Clarke Hon. Secretary and Treasurer.

The new Committee are Messrs. A. F. Corfe (Maidstone), W. E. Goff (Dartford), A. Goldthorpe (Plumstead), A. W. Hanson (Sidcup), E. Millhouse (Gravesend), W. Stedman (West Malling), R. F. Clarke (Gravesend), and W. L. Towers (Chatham).

The Council Election.

The Hon. Secretary reported that he had received the election addresses of Mr. Gibson (Brighton), Mr. A. Higgs (Kingston-on-Thames), Mr. Hagon (Cardiff), and Mr. F. Sargeant (Leeds). It was decided, after a short discussion, to leave the members to take individual action.

ANNUAL DINNER.

In the evening the first annual dinner was held. The loyal toast having been duly honoured, Mr. Feaver Clarke stated that expressions of apology for absence had been received from Sir Gilbert Parker, M.P., Mr. S. R. Atkins (President of the Pharmaceutical Society), Messrs. Hills, Cooper, and Bremridge.

The President proposed the toast of

The Pharmaceutical Society.

He had listened to the discussion of the Pharmacy Bill of 1868 in the House of Commons, and heard some of Mr. Robert Lowe's speeches on the subject. He well remembered also the circumstances of the case taken by the Pharmaceutical Society against the London and Provincial Supply Association, Limited, which was decided in the House of Lords in 1880. The President spoke at some length of the past work of the Society and of its present work and activity. They in North Kent were doing what they could to support the Pharmaceutical Society, and had secured promises of support for the Pharmacy Bill. Sir Horatio Davies was particularly enthusiastic with regard to the Bill, as he was much interested in the qualification of spectacle-sellers.

Mr. A. Higgs, J.P., President of the Thames Valley District Chemists' Association, responded. He gave details of the formation and objects of the Pharmaceutical Society. He had no sympathy with critics of that Society from without. His answer to them was: "Come in and reform it." With regard to the Pharmacy Bill, he thought that without Clause 7 the Bill was not worth having. The "one-man company" constituted the real grievance; they could not hope to touch the large stores. With the increased stringency of the examinations, the "one-man company" was bound to be an increasing quantity.

Mr. R. B. Betty proposed the toast of

Kindred Associations.

He spoke of the value of local associations, and advocated territorial representation on the Council of the Pharmaceutical Society. He would like, indeed, to see members of local associations, even if they were not members of the Pharmaceutical Society, allowed to vote at Council elections.

Mr. J. H. Matthews, President of the West Ham and District Chemists' Association, and Mr. H. S. Pearmund, lately President of the Tunbridge Wells and District Chemists' Association, responded. Both those gentlemen congratulated the North Kent Association on its good work and prosperity. Mr. Pearmund suggested a federation of all the chemists' association in Kent.

Other Toasts.

Mr. A. J. Wing proposed "The Health of the Visitors," to which Mr. F. Harvey, of the Thames Valley Association, and Mr. A. J. Gower, of the Tunbridge Wells Association, responded.—Mr. Higgs proposed the toast of "The Local Association," and Mr. R. Feaver Clarke responded. Mr. Clarke emphasised the necessity for all local associations to work in conjunction with the Pharmaceutical Society. With regard to the prospects of legislation, Mr. Clarke said that if chemists showed themselves worthy of recognition, recognition would come in due course.—The toast of "The Pharmaceutical Press" was proposed by Mr. Feaver Clarke, and responded to by Mr. Peter MacEwan.

WESTERN CHEMISTS' ASSOCIATION.

SMOKING CONCERT.

Wednesday, April 20, 1904, at the Norfolk Square Hotel, Paddington, W., Mr. J. W. Bowen (President of the Association) in the chair. The excellent programme included songs by Mr. Henry Prenton, Mr. James Avon, Mr. Arthur Mortimer, and pianoforte solos by Mr. Frank Peskett and Herr Bondewyn Van der Meulin.

LEGAL INTELLIGENCE.

Sale of Food and Drugs Acts.

Cream of Tartar.

On Friday, April 15, 1904, at the Mansion House Police Court, before the Lord Mayor, George Squire Boutall, chemist, 17, Ludgate Hill, was summoned for selling to the prejudice of the purchaser an article called cream of tartar.

Mr. Vickery, who prosecuted for the Health Department of the Corporation, stated that two-pennyworth—an ounce—of cream of tartar was purchased at the defendant's shop, and upon analysis it was found to contain 0·029 per cent. of lead in combination, or a quantity of lead equal to 2·03 grains per pound.

Evidence of the purchase of the article having been given,

Dr. Collingridge, Medical Officer of Health for the City, said lead vessels were used in the manufacture of cream of tartar, but it was possible to make the article without fear of contamination by the use of porcelain vessels.

Mr. Kebbell (who defended) pointed out that there were two descriptions of cream of tartar—the commercial, which could be sold at one ounce for twopence, and the pure, which cost 3s. 9d. per pound. The latter was only used for prescriptions.

The Lord Mayor: That being so, ought not the defendant to have asked the customer which kind was wanted? I think that in a matter of drugs, if the chemist has two or three different qualities, it is his bounden duty to inquire which one his customer requires.

Mr. Ernest John Parry, called for the defendant, admitted the correctness of the analysis. He said that this kind of cream of tartar was used in making scones and bread, and before a person would have absorbed the 2·03 grains of lead mentioned in this case he must have consumed from 1,200 to 1,300 four or five ounce scones, or 300 lb. of bread. It was a fact that the Somerset House authorities had recently decided that as much as four grains of lead in a pound of cream of tartar was not injurious to health when used in making lemonade. No manufacturing chemist would undertake to supply this cream of tartar free from an admixture of lead.

The Lord Mayor said he did not think the evidence sufficiently strong to justify him in convicting the defendant, but he should recommend the defendant, and, indeed, all chemists, in future to inquire when supplying articles of this kind which quality was required. The City authorities had only done their duty in bringing this matter forward, but he was satisfied that the defendant did not intend to do anything to deceive or defraud the public.

Mr. Kebbell applied for costs, but the application was not granted.

The case was then dismissed.

Magnesia.

On Monday, April 18, 1904, before a full bench of magistrates, at the Spelthorne Petty Sessional Court, held at Sunbury-on-Thames, Agnes Cook, a general shopkeeper, of Ashford, was summoned for selling "magnesia" that was not of the nature, substance, and quality demanded.

It appeared that two of the inspectors to the Middlesex County Council called at the defendant's premises on March 7 and purchased several packets of what was represented to be magnesia. The public analyst's certificate showed that the so-called magnesia consisted of 100 per cent. of magnesium carbonate.

Dr. Dwight Morris, Medical Officer of Health to the Sunbury-on-Thames Urban District Council, also gave evidence, mainly as to the effect of magnesium carbonate as compared with pure magnesia, and he added that the former was very much the cheaper.

Defendant pleaded that she did not know she was doing wrong in selling the so-called magnesia, for she was under the impression that it was what it represented to be. She purchased it from Mr. Scott, a grocer, of Hampton Hill, according to the invoice which she produced.

Mr. Scott was in Court, and stated that the defendant did purchase some magnesia from him, but he procured the magnesia from a firm at Bermondsey, who guaranteed it to be pure and of the best quality, and he thought, therefore, that it was genuine.

The summons was dismissed, it being understood that further proceedings would be instituted.

Lime Water.

On Wednesday, April 13, 1904, at the Barnet (Herts) Petty Sessions, Horace Dugdale Taylor, chemist, East Barnet Road, New Barnet, was summoned for selling lime water which was 45 per cent. below the legal standard.

Defendant admitted being guilty of a technical error, stating that he was absent from the shop when the sample was supplied. A fine of 10s., with 16s. costs, was imposed.

Green Peas.

Last week, at Bournemouth, proceedings were instituted with regard to the sale of tinned and bottled peas, in the treatment of which sulphate of copper was alleged to have been used. There were a number of defendants, all grocers.

Formal evidence having been given of the purchase of the sample in the case of John Alan Webb, of 262, Christchurch Road, Mr. R. A. Cripps, pharmaceutical chemist, the public analyst for the borough, gave the results of his analysis. The sample contained 1·94 grains of sulphate of copper in each pound, or 3·1 grains in each pound exclusive of liquor. Copper sulphate was recognised as a poison, and if bought at a chemist's shop would be labelled as poison. A person consuming a quarter of a pound of the peas would consume about three-quarters of a grain of the copper, which would be three times the minimum of a medicinal dose according to the British Pharmacopœia. For the purposes of experiment he had used imitation gastric juice; he had not experimented on his own system.

The defence was that the analyst's certificate disclosed no offence, as it nowhere stated that copper was an ingredient foreign to green peas, as required by the Act. Persons when buying preserved green peas must have known that sulphate of copper was used in their preservation, and so small a proportion was used that no injury was likely to follow. With regard to the recommendation that goods containing sulphate of copper should be so labelled, defendant was ready to give an undertaking that in future this should be done.

In view of this promise, only a small fine of 5s. was imposed. As notice of appeal was given, the remainder of the cases were adjourned *sine die*.

Camphorated Oil.

On Wednesday, April 13, 1904, at Wolverhampton, Richard Cook, general dealer, 61, Wolverhampton Road, Heath Town, was summoned for having sold camphorated oil not of the nature and substance demanded.

Mr. Van Tromp said that the oil was not made in accordance with the formula of the British Pharmacopœia, mineral oil having been substituted to the extent of 38 per cent. for olive oil. Mr. Cook had informed him that the oil was bought about six months ago, but that he could not trace the wholesale firm who sold it.

Defendant said he sold the oil as he had bought it, and as he gave a fair price for it, he thought it was all right.

The Magistrate ordered defendant to pay a fine of 5s. and costs.

Pepper.

On Thursday, April 14, 1904, at Rawtenstall, Roger Peel, grocer, was fined £5 and costs and five guineas extra costs for selling an ounce of pepper adulterated with 3 per cent. of ground olive stones. In default he was told the penalty would be fourteen days' imprisonment.

Mr. Peel said his conscience would compel him to accept the alternative.

Milk of Sulphur.

On Tuesday, April 12, 1904, at Oldbury, near Birmingham, W. H. Round, chemist and druggist, was summoned for selling milk of sulphur not of the nature, etc., demanded.

The sample was certified to be adulterated to the extent of 45 per cent.

A fine of £2 and costs was imposed.

Dentists Act.

On Wednesday, April 13, 1904, G. Harrison, of Rotunda Buildings, Bold Street, Liverpool, was summoned for having used the word "dentist," implying that he was qualified to practise dentistry, he not being a registered person. The prosecution was instituted by the British Dental Association, and as the defendant had undertaken to discontinue using the word dentist, the summons was withdrawn on the payment of costs.

Theo. A. Bioletti, of 10, Catharine Street, Liverpool, was similarly summoned for two offences, one for using the words "dental surgeon" and the other for the use of the words, "late assistant to the dental surgeon to the Queen and Court of Holland." It was stated that a plate bearing these words was fixed to the front of defendant's house, and was so arranged as to be an infringement of the Act. The words "late assistant" were so small as to lead people to believe that the defendant was a dental surgeon.

For the defence it was explained that the defendant had served his time to dentistry, but was not fully qualified. Defendant placed himself before the public as a "Crown tooth operator," and he had a plate with those words printed upon it. He did not in any way call himself a dentist. The first summons was withdrawn, and on the second defendant was fined £5 and £5 5s. costs.

H. W. Griffin, of 34A, Bold Street, Liverpool, was also summoned for using the word "dentist," and for assuming the description—"Dentist entrance; painless gas extractions. Lancashire Dental Institute, Limited, Mr. Griffin, manager. Crown bar bridge work, gold fillings"—implying that he was specially qualified to practice dentistry.

For the defence it was argued that the word "dentist" was not associated with the name of Mr. Griffin.

For the first offence defendant was fined 20s. and costs, and for the second £5 and £5 5s. costs.

High Court of Justice.—Chancery Division.

Dispute About Clinical Thermometers.

On Thursday, April 21, 1904, before Mr. Justice Kekewich, there came on for hearing an action brought by Mr. James Joseph Hicks, who resides at 8, 9, and 10, Hatton Garden, Holborn, W.C., against Mr. George Alexander Simons, of 14, Myddelton Square, Clerkenwell, for an injunction to restrain the defendant, his servants and agents, from making, selling, and offering for sale clinical thermometers made in accordance with the plaintiff's invention, for which invention a patent, being No. 5,120 of the year 1897, was granted to the plaintiff, and from in anywise infringing the plaintiff's patent, and for damages; or, in the alternative of damages, for an account of profits to the defendant accrued by reason of his infringements of the patent, and for payment to the plaintiff of the amount upon the taking of such account found due to him, and for the delivery up to the plaintiff or destruction of all thermometers in the defendant's possession, or power made in infringement of this patent, and for costs, and for such other or further relief as might be just.

The plaintiff, by his statement of claim, set out that he was the grantee and duly registered proprietor of letters patent of the year 1897 for improvements in clinical thermometers, which letters patent were granted to him for the term of fourteen years from February 25, 1897, in respect of a new manufacture which others did not use, and whereof the plaintiff was the true and first inventor. The plaintiff said the letters patent were, and always had been, good and effective in law. The plaintiff further said that the defendant had infringed his patent by making, using, vending, and offering for sale the invention the subject of the patent without the licence and authority of the plaintiff, and in derogation of the plaintiff's rights under the patent. The defendant intended and threatened to continue so to infringe the plaintiff's patent right unless restrained by the order and injunction of the Court. The plaintiff was not fully acquainted with the said acts of infringement, which were all well known to the defendant, and the plaintiff would seek discovery in the course of the action of all such acts of infringement, and would claim to have relief in respect thereof when discovered. The particulars of the breaches were to the effect that the defendant had continuously, from the beginning of the month of August last and down to the date of the writ in the action, manufactured, and openly sold and offered for sale, clinical thermometers of a particular construction under the trade name of "Duo in Uno," which thermometers were made in accordance with the plaintiff's patented invention mentioned in the statement of claim, and had been so made, sold, and offered for sale without any licence or authority from the plaintiff, and that on or about August 7 last the defendant manufactured and sold several such thermometers in the course of business to Messrs. Joseph Levi and Co., Hatton Garden. The defendant also, by advertisement inserted in the *Optician* newspaper of August 7 last, threatened to infringe the plaintiff's patent by the manufacture and sale of clinical thermometers constructed as aforesaid.

The defendant denied infringement, and said that he had not intended and did not intend to infringe the patent.

Mr. Moulton stated that the simple point in the case was this: The plaintiff's thermometer had a double contraction for the purpose of registering the heat of the patient after it was taken from the patient's mouth, and it was alleged that the defendant had copied this double contraction, and had produced the same results as the plaintiff's.

The learned Judge granted an injunction and a stay of execution pending appeal. There would be an inquiry as to profits and an order for destruction of the infringing articles.

POISONING CASES AND INQUESTS.

The deaths by poisoning reported during the seven days ended Wednesday, April 20, 1904, numbered twenty-six.

Poison.	Accident.	Suicide.
Ammonia	—	1
Carbolic Acid	1	6
Chloroform	3	—
Hydrochloric Acid	—	1
Hydrocyanic Acid	—	3
Laudanum	1	4
Mercuric Chloride	—	1
Potassium Cyanide	—	2
Rat Poison	1	—
Strychnine	1	—
Kind not certified	1	—
Total	8	18

Ammonia.—A woman at Bury committed suicide by drinkng liquid ammonia.

Carbolic Acid.—Seven deaths from carbolic acid poisoning are reported. A woman at Shotton Colliery, Co. Durham, drank the acid in mistake for whiskey. The other six deaths were suicidal, and were those of a York solicitor, a man at Treharris, a market-gardener near Devonport, and three women at Leeds, Preesall, and South Shields respectively.

Chloroform.—The deaths reported as having occurred under this anæsthetic are those of an Edinburgh stockbroker, a Westminster shop-assistant, and a young child at Hull.

Hydrochloric Acid.—A Cardiff plumber committed suicide by drinking a quantity of spirit of salts.

Hydrocyanic Acid.—This was responsible for three deaths. Dr. J. F. Taplin, a medical man at Small Heath, Birmingham, and Wm. Irving Bell, a doctor's dispenser (unqualified) at Lowestoft, both committed suicide by taking prussic acid, which also caused the death of an electrical engineer in London.

Laudanum.—A man at Edinburgh, a commercial traveller at Fulham, and a labourer at Poulton committed suicide by taking laudanum, as did also a 'bus conductor at St. Albans, who had formerly been a dispenser (unqualified) to a medical man. A man at Nottingham took a fatal overdose by mistake.

Mercuric Chloride.—A house decorator at Liverpool committed suicide by taking corrosive sublimate, a substance which is used in the decorating trade for the destruction of "fungi" in woodwork.

Potassium Cyanide.—This continues to be a poison which is chosen as a means to end life. A girl at Birmingham and a Belgian electrician in London both committed suicide with the cyanide.

Rat Poison.—Rat poison, which had been left in an oatmeal tin, and contained 25 per cent. of arsenic, was taken by a painter at Woodbridge in mistake for oatmeal porridge.

Strychnine.—A child, two years of age, died at Barrow after eating several pills. The pills contained phosphate of iron, quinine, and strychnine.

Kind not Certified.—At an inquest held before the Manchester City Coroner, on Friday, 15th inst., touching the death of a child one year old named John Whitehead, it appeared that an elder child had been treated for whooping cough by a lady physician named Anna Dahma, an M.D., of Paris, possessing also a Dublin qualification. Her prescription for whooping cough ordered chlorodyne, ipecacuanha wine, tincture of tolu, oxymel of squill, tincture of belladonna and water. There were about two drops of belladonna and five drops of chlorodyne in every dose. The elder children of the family had given several doses of the medicine to the baby, which went to sleep for two and a-half hours, upon which the mother become frightened, and took the child to Dr. Dyas, who found it moribund, and prescribed a mixture of ammonia with a few drops of spirits of ether. The child died. The bottle containing the medicine the doctor placed on one side, and it got disposed of. Dr. Dyas said the label on the bottle did not indicate what the contents were. He concluded the deceased was suffering from poison, but he made no effort to discover the nature of the poison. It occurred to him, however, that it was a sedative. He confined himself to dealing with the moribund condition of the child. He did not examine the pupils of the eyes of the deceased.—Mr. E. A. Gibson, the coroner, severely censured Dr. Dyas for his neglect both with regard to the examination of the child's eyes and with regard to the contents of the bottle of whooping cough mixture. The jury returned a verdict that the child died from the effects of poison, but whether from opium or belladonna there was no evidence to show.

NOTES IN PARLIAMENT

Inland Revenue and Return of Money.

In answer to Mr. Robertson's question with regard to the repayment by the Inland Revenue of money obtained in payment of claims which had been afterwards judicially declared to be legally untenable, Mr. Victor Cavendish said that attention would be given to the matter if the hon. member would mention specific instances.

Indian Excise and Customs Revenue.

Mr. Brodrick has informed Mr. Herbert Roberts that the net Excise revenue of India from liquors and drugs for 1901-2 and 1902-3 was £4,025,770 and £4,384,181 respectively. As regards Customs revenue, the receipts from drugs other than opium are not stated separately in the accounts, but are included with those from chemicals, dyes, etc. The net Customs revenue from liquors and opium for 1901-2 and 1902-3 was £464,481 and £504,261 respectively.

Weights and Measures.—The Metric System.

The subject of weights and measures occupied the attention of the House of Commons for a few hours on Friday last on the motion for the second reading of the Weights and Measures Bill, which was in charge of Mr. Bousfield. The Bill was broadly divisible into two parts, one of which provided for various amendments of the existing law largely with a view to securing more uniformity of administration. It was sought to make it illegal to use cased weights and measures, or to remove the stamp from one weight or measure and insert it in another. Post Office weights and scales were to be made subject to inspection. Power was to be given to the Board of Trade to grant certificates of suitability of weighing and measuring appliances, and there was provision for the verification and stamping of weights and measures by inspectors employed by the local authorities. The other main division of the Bill provided that the metric system should replace troy and apothecaries' weights in the case of all goods usually bought by troy or apothecaries' weights. It was, however, explained that this provision was separable from the rest of the Bill, and Mr. Bousfield plainly indicated a willingness to drop it rather than imperil the rest of the clauses. The motion for the second reading was seconded by Sir A. Rollit, but the rejection of the measure was moved by Mr. H. Robertson and seconded by Mr. Gretton. It soon became evident that the attempt to deal with the metric system by a clause of a general Bill of this kind was strongly objected to. Sir G. Bartley observed that if they were to have a change they had better have the duodecimal system than the metric system, for twelve was divisible by one, two, three, four, and six, whereas ten was divisible only by one, two, and five. On the whole, however, he was in favour of things remaining as they were. Owing to the tenour of the discussion, Mr. Bousfield intimated that if the Bill were read a second time he would undertake in Committee to withdraw the provision as to the metric system. The path for the Bill thus being smoothed, Mr. G. Balfour, on behalf of the Government, intimated that he would support the second reading. In addition, however, to the removal of the provision as to the metric system, a number of amendments would be necessary. The Bill was read a second time and referred to the Standing Committee on Law.

British Patents.

In the House of Commons, on Monday last, the President of the Board of Trade was asked by Sir J. Leng if the proportion of British patents granted to foreigners residing and manufacturing abroad, returned by the Comptroller-General of Patents at 53·2 per cent. for the year 1901, obtained for all the patents now in force; what was the approximate number of such patents; and what proportion of the articles so patented, if any, were manufactured in the United Kingdom. Mr. G. Balfour replied that the figures quoted by the hon. member represent the proportion of British patents granted to persons residing abroad and in the Colonies in 1901, and have no reference to the place where the patented goods were manufactured. The proportion varies from year to year. In 1902 it was 50·4 per cent., and in 1903, 51·4 per cent. The number of British patents in force at the end of the year 1902 was about 72,000; but the Patent Office have no information as to the proportion of articles manufactured in the United Kingdom under these patents.

The Pharmacy Bill.

The Pharmacy Bill, which is in charge of Mr. Lough, was down for second reading in the Commons on Tuesday last—the night of the Budget. Of course, it could not then be dealt with. It now stands for second reading on June 1.

Royal College of Science.

Lord Balcarres, replying to Mr. Coghill, writes that good progress is being made with the building of the Victoria and Albert Museum, the work being now up to the first-floor level. There is at present no reason to think that the buildings of the

Victoria and Albert Museum and the Royal College of Science will not be completed by the dates named in the contracts, viz., February 23, 1907, and June 1, 1905, respectively.

The Budget.

No wise Chancellor of the Exchequer imitates the policy of the old man in the fable of the Old Man and the Ass. He well knows that to please everybody is never possible. Mr. Austen Chamberlain, in making his first Budget statement, has adhered to the better traditions of his office. A deficit of nearly five and a-half millions on the past year had to be dealt with, and for the current year an expenditure of £142,880,000 had to be estimated for. By increasing the income-tax by a penny, by increasing the duties on tea and tobacco, and by various minor expedients the requirements of the Exchequer will be met and a balance of nearly three-quarters of a million stand to the good when the current year ends. Of course, we none of us like the further burdens. But given the necessity to raise more money, the Chancellor of the Exchequer has perhaps met it in the way least calculated to impede that revival of trade for which all are yearning, and this is an important, if negative, service.

Government Shop Hours Bill.

The Prime Minister, questioned in the House of Commons by Sir Charles Dilke on Wednesday last, stated the Government Bill with regard to the hours of shop assistants is ready for introduction.

COMPANY INTELLIGENCE.

Bewells, Limited.—Capital, £2,000 in £1 shares. Object: To acquire and carry on the business of chemists and druggists now carried on by J. E. Houseman at 19 and 21, Pitfield Street, Hoxton, and 59, Southgate Road, Islington, as Bewell's Drug Stores.

Benger's Food, Limited.—The directors of Benger's Food, Limited, recommend a dividend of 3 per cent. on the preference shares, making 6 per cent. for the year, and a final dividend of 1s. 3d. per share on the ordinary shares, making, with the 9d. per share paid December 1, 1903, 10 per cent. for the year, and to carry the sum of £10,403 17s. 6d. The gross profit for the year shows an increase over last of £1,865 6s. 2d.

A Bottle Company to be Wound Up.—At an extraordinary meeting of the debenture and share holders of Rylands Glass and Engineering Company, Limited, held on Monday of last week, at Barnsley, Mr. G. H. Peake, chairman, briefly explained the position of the company, pointing out the desirability of some arrangement being come to between the debenture-holders and the bank, who were applying for an order for the compulsory winding up of the company. Mr. Cockburn (Messrs. Parker, Rhodes, and Co.), Rotherham, acting on behalf of the debenture-holders, also pointed out that if this step were taken something might be got for the shareholders, but before any scheme of reconstruction could be carried out they must first decide to wind up the company. The chairman pointed out that there were three courses open to the shareholders—voluntary liquidation, compulsory liquidation, or the finding of £20,000. If the resolution proposed was carried, it would be the cheapest, and the shareholders would have a chance of getting something. The chairman then moved:—"That, seeing the company cannot continue business, it is advisable to wind it up, and that Mr. W. B. Peat be appointed liquidator." The resolution was duly seconded and carried.

MISCELLANEOUS NEWS.

Divisional Secretaries and other Members of the Pharmaceutical Society are requested to assist the Editor by sending local newspapers containing items of interest to chemists and druggists.

Appointment of an Analyst.—The Warrington Town Council has appointed Mr. F. G. Ruddock as public analyst, at an annual salary of £175.

Chemist's Son Killed.—On Tuesday afternoon last Claude Young, the little son of Mr. J. Young, chemist, of Fleet Street, Torquay, was run over by a motor 'bus. The boy staggered up alone after the accident, but immediately collapsed, and died within ten minutes.

A Cow in a Pharmacy.—On Saturday, April 16, a cow entered the shop of Mr. H. F. Cross, chemist and druggist, of High Street, Honiton, Devon, smashing a glass door, also a number of bottles, which it swept off the counter. The cow then rushed through a passage to the rear, knocking down and severely bruising a lad, and thence into King Street.

Radio-Active Sand at Whitby.—It was announced at the annual meeting of the Whitby Urban District Council, held on Tuesday night, that Professor J. J. Thomson, of Cambridge, had discovered that the sands on the Whitby beach were strongly radio-active. The lay Press anticipates that Professor Thomson's discovery will have an advantageous effect upon the coming season at Whitby.

The Scarcity of Cod-liver Oil.—The Bermondsey Public Health Committee reported to the Borough Council on Tuesday last that, in consequence of the scarcity of cod-liver oil this year, and of reports that what was sold as such was adulterated, samples had been taken from every place in the district where the oil was on sale. The certificates received from the analyst showed that of the twenty-six samples submitted to him twenty-three were genuine.

Australian Tariff on Patent Medicines.—As reported in our issue of January 28, the Sydney importer of "Doan's Backache Pills" was successfully sued in the police court there by the Federal Customs for duty on the retail price of a consignment valued at £10,070. This consignment the importer had declared at the invoice price of £308. The defendant appealed to the New South Wales Supreme Court, whose decision just issued reverses that of the police court.

Edinburgh Chemists' Golf Club.—Monday, the annual spring holiday at Edinburgh, was taken advantage of by the members of the Edinburgh Chemists' Golf Club, who visited St. Andrew's and played off their spring competition on the historic links. Fine weather favoured the visitors, and the green was in splendid condition. The result was as follows:—1, Mr. J. F. Anderson, 91; 2, Mr. C. Officer, 92; 3 and 4 (a tie), Messrs. James Finlay and James Finlayson.

Proposed Optical Convention.—On Tuesday, April 26, at 4 p.m., a meeting will be held at the rooms of the Society of Arts, John Street, Adelphi, W.C., to consider the advisability of organising an optical convention in this country; and, if deemed advisable, to appoint the necessary officials, and to outline the scope of the undertaking. Mr. R. T. Glazebrook, President of the Optical Society, Director of the National Physical Laboratory, is the convener of the meeting.

The Boy and the Lozenges.—At the Bournemouth Police Court, Montague Percy, aged 13, was charged with stealing a box of mentholated liquorice and a box of liquorice globules, from the shop of William Bland Botham, a chemist. The lad, who had been employed as errand boy after school hours, took the sweets from the shop to share with his playmates. He was awarded six strokes with the birch, which also he would doubtless have preferred to have shared with his playmates.

Literary Announcements.—A book from the pen of Dr. A. T. Schofield, entitled 'Unconscious Therapeutics; or, The Personality of the Physician,' will be published immediately by Messrs. J. and A. Churchill.—Mr. E. Kay Robinson, author of 'To-day with Nature,' announces a new weekly paper, to be called *The Country-Side*, a journal of the country, Nature, and wild life. Membership of the British Empire Naturalist Association is to be accorded to every annual subscriber to *The Country-Side.*

The Sight-Testing Examinations.—A special meeting of the Manchester and North of England Optical Society was held at the Albion Hotel, Manchester, on Wednesday evening, for a discussion on the new S.M.C. regulations and sight-testing syllabus. Mr. Geo. Bennett presided. There was a very large attendance, including two or three pharmaceutical chemists. Most of those present intimated their resolve to submit themselves to examination for the diploma of the Spectaclemakers' Co.

A Chemist's Licence Confirmed.—At the meeting of the Cumberland County Licensing Committee, on April 14, Mr. J. E. McVitie, chemist and druggist, of Senhouse Street, Maryport, applied for the confirmation of the off wine licence, granted him by the Maryport Bench. It was explained that Mr. McVitie had removed his business to new premises, and although he had held a licence for five years, the removal necessitated the application for a new licence. The Committee confirmed the licence.

Weighing a Paper Wrapping with Goods.—A case of considerable interest to grocers was heard at the Wolverhampton Quarter Sessions on Saturday, the 16th inst., when a grocer appealed against a conviction by the Wolverhampton Stipendiary. The evidence showed that 2 lb. of lump sugar were purchased from the appellant, and when weighed the paper bag which contained the sugar was found to weigh 17¾ drachms, the customer, it being contended, thus losing heavily. The Recorder allowed the appeal, and the conviction was quashed.

A Chemist's Will.—A family dispute was heard on April 14 in the Probate Division of the High Court of Justice with reference to the will of the late Mr. Hugh Griffiths Hughes, who for many years carried on business as a chemist and druggist at Holyhead, and died in March, 1903, at the age of eighty-nine, having about £6,295. It was alleged by a granddaughter of the deceased that undue influence with respect to the will had been exercised over the testator by one of his daughters, but the jury found that the will had been duly executed.

Public Bodies and Bacteriological Laboratories.—The Local Government Board for Scotland has been asked by the local authority of a burgh whether local authorities have power under the Public Health Act to provide a bacteriological laboratory. The Board has replied that it could not venture to give a categorical answer to a question that might be raised at an audit, but the Board was prepared to assent to the view that bacteriological investigation is often indispensable in matters of public health, and that it was for the local authority to determine, in view of the subsequent audit, how such investigation might be most efficiently and economically conducted.

A Chemist's Assistant in Trouble.—At the Manchester Police Court on April 14, before Ald. Robert Gibson, chemist in the chair, James Harding, who said he was a chemist's assistant, was charged with being drunk and incapable in Rochdale Road the previous afternoon. Defendant said he came from Staffordshire, and had been in the drug trade since he was sixteen. He had been with Mr. Furnival, of Market Square, Hanley, and had also been at Blackpool. He came to Manchester about a fortnight ago, and had been looking for employment.—Alderman Gibson: Where will you go if we discharge you?—Home to my father's house in Staffordshire.—Have you any money?—None whatever. Defendant was discharged.

Institute of Chemistry.—An examination in biological chemistry will be held at the laboratories of the Institute in October, 1904. The examination will be open to candidates whose applications for admission to the final examination have been accepted by the Council, to candidates who have passed the intermediate examination, and also to Fellows and associates of the Institute who desire to obtain a certificate of competency in this branch of work. The examination will extend over four days, and may be theoretical, practical, written, and oral. The syllabus will include biological chemistry, with special reference to the chemistry and bacteriology of foods, water, sewage and effluents, and to the practical applications of biological chemistry to industries.

The Metric System.—Sir Michael Hicks Beach, M.P., is strongly opposed to legislation which has for its object the establishment of the metric system in this country. At a recent meeting of the Bristol Chamber of Commerce he said that such a change would cause a revolution, which would, upset all the foundations of social and economic order. In the House of Commons during the discussion on Mr. Bousfield's Weights and Measures Bill, Sir Michael said he supported the Bill as far as it proposed to deal with the machinery of the law as to weights and measures; but he was of opinion that Part IV. ought never to have found a place in such a Bill. Though there might be some theorists who wished to establish the metric system in this country, when they came to apply their theories they would find such a mass of opposition as would make their scheme impracticable.

The Demand for Duty-free Alcohol.—When Mr. R. A. Robinson was in Bradford last week he addressed a meeting of the local Chamber of Trades, and in the course of his observations dwelt at some length on the disadvantages which numerous classes of manufacturers suffer in this country by reason of the heavy duty on alcohol not being remitted, as it is on the Continent, when the spirit was required for manufacturing purposes. His speech seems to have made a considerable impression upon the Chamber of Trades, and at a subsequent meeting of the Executive of that body, which was held on Monday night, at the Royal Hotel, the question was discussed at some length. On the motion of Mr. A. H. Waddington, seconded by Mr. C. E. Hanson, a resolution was passed:—"That this Chamber requests His Majesty's Government to give its very careful and favourable consideration to the adoption of the

Continental system of allowing manufacturers to use duty-free alcohol for trade purposes, thus enabling our home industries to compete on equal terms with foreign producers." It was determined that copies of this resolution should be sent to the Premier, the Chancellor of the Exchequer, the members of Parliament for Bradford, and the Bradford Chamber of Commerce.

Analyst and Bacteriologist.—The Hull Town Council, on April 14, discussed at some length the question of appointing a public analyst. The Sanitary Committee recommended the appointment of a public analyst and bacteriologist, who should devote the whole of his time to the services of the Corporation at an annual salary of £300, an amendment (in committee) that Mr. Jas. Baynes should be reappointed public analyst at £200 a year having been defeated. Mr. Wheatley opposed the Committee's recommendation on the ground that it involved the question of the professional reputation of Mr. Baynes, who had acted as public analyst for twenty-seven years, and had carried out his duties to the satisfaction of the Committee. He also argued that the professions of analytical chemist and bacteriologist were entirely distinct, and he questioned whether the Local Government Board would sanction the dual appointment. The Corporation was likely to get a "Jack of Two Professions" and master of none. He moved that the matter should be remitted to the Committee. Dr. Robinson and Ald. Holder opposed the recommendation, both testifying to the ability of Mr. Baynes. On a division Mr. Wheatley's motion was lost by twenty-nine votes to twenty-seven, and the Committee's recommendation was adopted.

TRADE NOTES.

A Useful Catalogue.—Messrs. Lorimer and Co., Limited, have just issued a very complete catalogue of chemists' specialties, perfumery, and veterinary preparations. The list, which is printed on art paper, is efficiently and copiously illustrated, and should prove very handy for reference. Readers would do well to apply to Britannia Row, Islington, London, N., for a copy.

Marking Ink.—The name of John Bond has been associated with marking ink for nearly a century. "Crystal Palace" marking ink is known throughout the world, and is a preparation which requires no comment here. The makers of this article are now the proprietors of Henry Bond's original "Oak Tree" marking ink, orders for which should be sent to 75, Southgate Road, London, N.

Spring Medicines.—A combination of sulphur and lime juice in the form of tablets is a saleable line supplied by Messrs. Potter and Clarke, Artillery Lane, London, E. They are packed in 1d. and 3d. boxes, and may also be had in bulk to retail at 1½d. per oz. There should be a demand for this class of article, especially during the spring, and the addition of lime juice to the old-fashioned sulphur tablets make a very agreeable mixture.

Camwal Waters.—We have received from Messrs. Camwal, Limited, a circular letter which they are sending out to chemists relative to the syphon trade. The letter very succinctly sets forth the drawbacks to a chemist buying syphons branded with his own name, and concludes by stating that if, after thinking the matter over, the chemist still decides to have his own syphons, Messrs. Camwal, Limited, have now erected a silver-plating plant, and are prepared to supply new silver-plated syphons of first-class quality on more favourable terms than can be obtained from foreign makers. They are also prepared to fill any syphons upon the same terms as other first-class mineral-water manufacturers.

To Preserve Eggs.—Messrs. Harker, Stagg, and Morgan, Limited, are makers of Concentrated Water Glass, a preparation for keeping eggs fresh all the year round. Now that the season of cheap eggs is approaching this solution will appeal forcibly to the thrifty housewife, whose memory bears a vivid impression of the recent high prices for microscopic "shop" varieties. Eggs thus treated can be preserved for considerably over twelve months. This appears to be an article which only needs to be made known to sell in large quantities. Prices are:—For 1 lb. tins, 3s. a dozen; 2 lb., 4s. 6d.; 7 lb., 14s.; and for 28 lb. and 56 lb. tins, 1½d. per lb. Customers can, if they wish, have their name and address printed on labels and handbills, free of charge with orders for not less than four dozen.

To Obtain Exemption Under the Medicine Stamp Acts.—Messrs. Hearon, Squire, and Francis, Limited, announce that in consequence of the Board of Inland Revenue having definitely pronounced that a limited liability company cannot claim the privilege of exemption under the Medicine Stamp Acts in respect of "known, admitted, and approved remedies," the "packed specialties" department is now transferred to a new combination trading as Francis, Son, and Naylor, each member of which is a qualified chemist. In order to prevent any disturbance of the existing mode of conducting business as between Hearon, Squire, and Francis, Limited, and their customers, the company will continue to receive orders for packed specialties, dispatch them, and collect accounts as heretofore

PERSONALITIES, BUSINESS CHANGES, &c.

Mr. John Taylor, Pontefract, is opening a new pharmacy in Ropergate of that town.

Mr. A. S. Campkin, J.P., has been re-elected Chairman of the Cambridge Board of Guardians.

Messrs. S. Maw, Son, and Sons have contributed one hundred guineas to the rebuilding fund of St. Bartholomew's Hospital.

Mr. E. R. Banner, pharmaceutical chemist, of Liverpool, has removed his business from 36, Old Haymarket to 62, Byrom Street.

Mr. William E. Darney, M.P.S., has taken over the business carried on for some years at 132, Manor House Road, Jesmond, Newcastle-on-Tyne, by Mr. W. W. Gale.

Mr. E. R. Cherrett, chemist and druggist, of Monkwearmouth, on April 13, was presented with a solid oak roller-top desk, suitably inscribed, in recognition of his services during the past nine years as Secretary of the Monkwearmouth Poor Bairns' Fund.

Mr. Wm. Dewhurst, M.P.S., of 61, Nunnery Lane, York, Divisional Secretary of the Pharmaceutical Society, has received a gold medal given by Mr. S. Stanhope, for having scored the best average in tournament matches at the York Chess Club.

Professor J. Reynolds Green, Sc.D., F.R.S., F.L.S, Professor of Botany to the Pharmaceutical Society, on Wednesday, April 20, delivered the first of a series of nine lectures on "The Metabolic Processes of Plants," to be delivered at the Chelsea Physic Garden, S.W., under the auspices of the University of London, on consecutive Wednesdays.

MARKET REPORT.

The quotations given below are the lowest prompt cash prices for bulk quantities, to which other charges have to be added. It is important that this should be borne in mind in making any comparison between the prices quoted and those of the wholesale drug trade.

General Markets.

London, Thursday, April 21, 1904.

Awaiting a demand from consumers, the drug and chemical markets remain exceedingly quiet; in fact, speaking in a general sense, there is practically nothing doing at all. There is no consumptive demand, either for the home or the foreign trade at the present moment, and speculators are holding off. There have been several changes during the week. In consequence of the increased cost of the production of spirit in Germany, makers of Chloral Hydrate have raised the price 3d. per lb. Quicksilver was dropped to £8 2s. 6d. to-day. There is no change in the price of Mercurials. Better reports come from Norway concerning the cod fishing, and, in consequence, the quotations are lower, but very little business is doing. Peppermint Oil is very firm, but the prices asked here are still considerably below the New York equivalent. In the absence of demand, Camphor is weaker, but it is difficult to give a definite quotation for English refined. Quinine is very quiet, but towards the close of the day seemed rather firmer, holders asking 1s. 0¼d., whereas sales have been made ¼d. lower than this in the morning. Ergot of Rye is somewhat flatter. Cloves and Shellac are both very firm. Peppermint Oil is very firm. American Oil, in tins, is now quoted at 14s. to 14s. 6d. For H.G.H. 15s. 3d. is wanted, the equivalent in New York being 17s. Japanese is quoted 6s. 6d. to 6s. 9d. Podophyllum Rhizome is slightly dearer. A sale has been made at 43s. 6d. Ergot is rather flatter; 1s. 7d., or a little less for quantity, would buy good Spanish.

ARROWROOT.—At the Spice Sales on Wednesday all the offerings, consisting of 330 barrels St. Vincent, were bought in at 1⅞d. to 2½d. for fair to good.

BORACIC ACID.—Powder, £1 4s. 6d.

BORAX.—In powder, 14s. 6d.; crystals, 13s. 6d.

CAMPHOR—Is weaker owing to lack of demand.

CARBOLIC ACID.—Crystals, 39-40°, 6¾d. to 7d.

CARDAMOMS.—There has been some inquiry since the sales and a fair business has been done at rather over sale rates.

CASCARA SAGRADA.—A few hundredweights of two-year-old bark have been sold at 90s.

CASTOR OIL.—Belgian 1sts, £19 15s. to £20 for spot.

CHLORAL HYDRATE—Has again been advanced 3d. per lb. The price is now 3s. 3d. in bulk packages. The advance is said to be due to dearer spirit in Germany.

CINCHONA BARK.—The London auctions (the fourth of the series) were held on Tuesday. A moderate supply was offered, amounting in all to 1,490 packages, against 1,178 packages at the preceding sales. There was a good demand, and the bulk was disposed of at 5 per cent. advance, the average unit being 1 7-16d., against 1⅜d. last sale.

CITRIC ACID.—1s.

CLOVES.—At the Spice Sales fine bright picked Penang fetched 10½d. In the private market sales of Zanzibar have been made at 7⅞d. for early delivery, and at 7 15/16d. for June-August delivery.

COCAINE.—For 175-oz. lots of the Hydrochloride, 12s. 8d. per ounce. For smaller wholesale quantities the price is 13s. 3d.

CODEINE.—8s. 4d. per ounce, with further reductions for large quantities.

COD-LIVER OIL.—Reports from Norway are to the effect that the fishing is turning out better than it promised a fortnight ago. Norwegian non-freezing is offered at from 235s. to 250s. Newfoundland is quoted at 9s. per gallon.

CREAM OF TARTAR.—98 per cent. foreign powder, 87s.

DIGITALIS LEAVES.—The new crop is offered at 36s. to 40s. c.i.f., according to quality and quantity.

GINGER.—At the Spice Auctions the offerings of Cochin totalled 640 packages, all of which were bought in. Jamaica was in very fair demand, and sold at an advance for the better qualities; the offerings totalled 437 barrels, of which 330 found buyers, fair to good bright at 47s. to 53s., good middling at 46s., and good common at 38s.

GUM CHICLE—Is scarce and dearer in consequence. 1s. 7½d. c.i.f. is the price.

IODIDES.—Sodium Iodide, 11s. 10d. to 12s. 1d.; Potassium Iodide, 10s. 3d. to 10s. 9d.

ISINGLASS.—At the auctions held on Tuesday (the fourth of the series) the offerings amounted to 861 packages, against 898 packages in March. A better tone prevailed. Brazil imports met a good demand at firm prices for Para lump, tongue was rather dearer, and honeycomb steady. Maranham sold at full rates for lump, and tongue was dearer. West Indian was steady for lump. Maracaibo all sold at higher rates. Kurrachee leaf was rather dearer for the better qualities. Penang sold with good competition at steady prices for leaf, tongue being dearer. Only a small part of Saigon sold at irregular prices. Russian was quiet.

MENTHOL.—Until to-day there had neither been business nor demand; to-day, however, a little inquiry is reported, and the prices quoted are 16s. 6d. to 17s.

MERCURIALS.—Calomel 2s. 8d.; Corrosive Sublimate, 2s. 4d.; Red Precipitate, 2s. 11d.; White Precipitate, 2s. 11½d.; Mercuric Sulphate, 2s. 4d.

MORPHINE.—The acetate, muriate, and sulphate are quoted at 4s. 5d. per ounce for the powder.

NUTMEGS—Sold at steady rates at the Spice Sales.

OPIUM—Is a quiet market. No business has been done during the week, probably owing to the Greek and Armenian Easter holidays. The alkaloids are unchanged, the demand being steady.

PIMENTO.—Greyish to fair realised 3½d. to 3⅝d. at the Spice Sales.

QUICKSILVER.—Importers have taken 2s. 6d. off the price. The quotation is now £8 2s. 6d. per bottle. The salts of mercury are unaltered.

QUININE.—Sales were made during the earlier part of to-day at 1s. for second-hand sulphate. There is now no more to be had at this price, holders asking 1s. 0¼d.

SHELLAC—Is very firm on the spot, while futures are dearer.

TARTARIC ACID.—The price is 1s. 1½d. for English.

WHITE HELLEBORE POWDER.—18s. 6d. to 22s. 6d. is the spot quotation, according to quantity.

INCREASED DIVIDENDS PAID BY CHEMICAL COMPANIES IN GERMANY.—A glance at the annual reports of the German chemical companies for 1903 shows the interesting fact that, notwithstanding the good dividends which they continue to pay on the whole, there is no apparent neglect of the sound commercial principle of writing off large sums for the depreciation of works, plant, and equipment. Among the concerns which have just issued returns may be mentioned the Baden Aniline and Soda Works Co., of Ludwigshafen, which records profits amounting to £583,785, as compared with £574,258 in 1902. It is proposed to pay the same rate of dividend as a year ago namely, 26 per cent. In the case of the Farbenfabriken (late F. Bayer and Co.), of Elberfeld, the profits reach £301,308, as against £255,475, and the rate of distribution is advanced from the 22 per cent. paid last year to 25 per cent. for 1903. The Hochst Farbwerke (late Meister Lucius and Bruning), whose profits total £397,626, as compared with £364,726, maintains for 1903 the 20 per cent. rate distributed in the previous year. The net profits earned by the Aniline Manufacturing Co., of Berlin, amount to £86,569, as against £70,178, and the dividend of 16 per cent. proposed is the same rate as a year ago. The Farbwerk Muhlheim (late Leonhardt and Co.), of Muhlheim-on-the-Maine, continues the 4 per cent. dividend paid for 1902. The operations of the Griesheim Electron Chemical Works Co., of Frankfort-on-the-Maine, which has a share capital of £450,000, reveal net profits amounting to £81,837. The rate of distribution is proposed to be increased from 10 per cent. in 1902 to 12 per cent. for last year. A dividend at the rate of 18·6 per cent. is contemplated by the Nienburg Chemical Works Co., whose profits total £11,424, as compared with £13,720 in 1902; and 15 per cent. is proposed by the Chemical Works (formerly A. and E. Albert) Co. of Amoneburg, Biebrich-on-the-Rhine, being the same rate as in the previous year; while the distribution of the Oranienburg Chemical Works Co. declines from the 14 per cent. paid for 1902 to 11 per cent. last year, owing to the reduction in the net profits from £18,162 to £9,633. The Silesia Association of Chemical Works of Ida and Marienhutte maintains its rate of 9 per cent., with net profits of £45,492, as against £48,790, and the Buckau Chemical Works Co., of Magdeburg, whose net profits reach £16,583, as against £15,818, also continues its 8 per cent. dividend. On the other hand, the Von Heyden Chemical Works Co., of Radebeul, Dresden, which increased its net profits from £18,141 in 1902 to £23,877, shows an advance from 6 per cent. to 8 per cent., and the Chemical Works (late E. Schering) Co. of Berlin, which has a share capital of £150,000, exhibits an increase from 10 per cent. to 15 per cent. in 1903.

PATENTS AND TRADE MARKS.*

New Patent Applications.

METHOD OF REMOVING SULPHURETTED HYDROGEN FROM GASES, WITH SIMULTANEOUS RECOVERY OF SULPHUR (No. 6,090 of 1903).—Dr. E. Burschell, Landau, Pfalz, Germany. Consists in oxidising the hydrogen sulphide by washing the gas (after it has been freed from ammonia) with a solution of metallic salts, from which sulphur is separated by means of air or oxygen. The solution for washing said gas is composed of ferric and cupric salts, and the reaction may be represented by the following equation:—

$$CuSO_4 + H_2S = CuS + H_2SO_4.$$

$$CuS + Fe_2Cl_6 = CuCl_2 + 2FeCl_2 + S.$$

The proportion in which the ferric and cupric salts must be employed depends entirely upon the amount of hydrogen sulphide contained in the gas. Under ordinary conditions, for every 95 parts of ferric chloride solution containing 30 parts of Fe_2Cl_6 in 100 parts, 5 parts of sulphate of copper solution (30 per cent.) are required. If the amount of hydrogen sulphide in the gas is high, more copper salts must be used, to 70 parts 30 per cent. ferric chloride solution, 30 parts 30 per cent. sulphate of copper solution.

MANUFACTURE OF ORGANIC SULPHO COMPOUNDS (No. 10,242 of 1903).—M. Iljinsky, 7, Sudstrasse, Krefeld, Germany, and R. Wedekind and Co., of Uerdingen, Germany. Relates to (1) the manufacture of organic sulpho acids in which mercury or mercury compounds is, or are, added to the sulpho mixture, whereby the sulpho group is caused to enter the molecule in positions that have hitherto been impracticable, or almost so, by direct sulphonation; and (2) the manufacture of organic sulpho acids by adding mercury or mercury compounds to the sulpho mixture. Example: 500 parts of anthraquinone, 2·5 parts of mercury, and 550 parts of fuming sulphuric acid containing 29 per cent. of free SO_3 are heated to 130° Celsius and maintained for three hours at this temperature. After cooling, the fluid mass is passed into about 4,000 parts of cold water, whilst stirring; it is then boiled up and the anthraquinone which has remained unattached is removed by filtration in the usual way. The sulphonated portion contains as the main product the hitherto unknown anthraquinone-o-monosulpho acid, together with anthraquinone-o-disulpho-acids (for the greater part consisting of 1·5 disulpho acid).

Note.—Opposition to the grant of any of the above-mentioned applications should be filed at the Patent Office on or before May 24, 1904.

New Trade Mark Applications.

"**CALIFA**," and device of tree in barrel, for chemical substances for use in the treatment of leather, by Caspari Defais and Cie., 52, Rue Taitbout, Paris. 257,743.

BLUEBELL DEVICE, for chemical substances used for agricultural, horticultural, veterinary, and sanitary purposes, by P. Dawson, Dufftown, Glenlivet. 260,922.

MAILED FIST DEVICE, for a sterilising, disinfecting, deodorising, etc., solution, by Winser and Co., Limited, 52, Buckingham Palace Road, S.W. 261,039.

"**OTOZO**," for disinfectants, by J. R. Bowick, 26, Great Quebec Street, W. 261,818.

"**TONNETTES**," for chemical substances prepared for use in medicine and pharmacy, by A. Bishop, Limited, 48, Spelman Street, N.E. 256,554.

"**VOXONIA**" ("Vox" disclaimed), for chemical substances prepared for use in medicine and pharmacy, by Braddock and Bagshaw, 37, Yorkshire Street, Oldham. 259,805.

"**CRYSTAL LAKE**" brand label (words disclaimed), for medicines for human use, and toilet preparations. 260,502-3, and

"**SYRUP OF HEDGE MUSTARD**" label (words disclaimed), for a medicine for human use prepared from hedge mustard, all by F. Sloman, trading as G. Stocker's, The Southernhay Pharmacy, 1, East Southernhay, Exeter. 260,502.

"**RADIOL**," for chemical substances prepared for use in medicine and pharmacy, by Ayrton, Saunders and Kemp, Limited, 34, Hanover Street, Liverpool. 260,681.

"**PRAEVALIDIN**," for medical pastes, salves, or ointments, by Woll-Wäscherä und Kammerei in Döhren bei Hannover, 32 Kirchstrasse, Döhren, near Hannover, Germany. 260,706.

"**EILO**," for a medicated lotion for the eyes, by F. Coulthard, 9, Montpelier Square, S.W. 261,611.

"**UNIVERSITY**," for instruments, apparatus, and contrivances, not medicated, for surgical or curative purposes, etc., by Brady and Martin, Northumberland Road, Newcastle-on-Tyne. 261,726.

Note.—Opposition to the registration of any of the above-mentioned trade marks must be filed at the Patent Office on or before May 20, 1904.

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* These abridgments of new patent applications and particulars of new applications for trade marks have been specially compiled from official sources, for the *Pharmaceutical Journal*, by Mr. Reginald W. Barker, agent for procuring patents and registering trade marks and designs, 56, Ludgate Hill, London, E.C., from whom any information on the subjects may be obtained. Mr. Barker will also send copies of his 'Trade Mark Notes' and 'Patent Notes for Inventors' free on application.

LETTERS TO THE EDITOR.

All Communications for the *Pharmaceutical Journal* must be addressed to the Editor, 17, Bloomsbury Square, London, W.C., and, if intended for publication in the current week's issue, should reach the Office not later than Wednesday, unless specially arranged for in advance. The matter should be written clearly and concisely on one side of the paper only and must be authenticated by the names and addresses of the writers, as no notice can be taken of anonymous letters. Articles submitted for the Editor's approval should be accompanied by stamped addressed envelopes, otherwise no guarantee can be given that they will be returned if not found suitable. Reprints of articles cannot be supplied unless the authors communicate with the Editor before publication. The right to reproduce all original matter and illustrations published in the Journal is strictly reserved.

Prints from Leaves.

Writing under this heading, your correspondent, Mr. Bertram Cockburn, Ph.C., seems not to be quite up to date. If he or any of your readers who may be interested in the subject will refer to the *British Journal of Photography Almanac* for 1903, p. 729, *et seq.*, he or they will find there an illustrated article by myself entitled "Leaf Photography," where the subject is fully treated. The two illustrations given in Mr. Cockburn's paper correspond to one in mine, and really form the *negative*, and not the leaf itself, as stated by him. True, he suggests a double printing, but does not illustrate it. Had he done so it would have at once been seen how much truer to nature the result was. Moreover, as shown in my article, the process is by no means confined to obtaining the marginal outline and venation of leaves, but also the ravages caused in them by noxious insects and other things. However, I need not say more, but simply ask that my article be read.

J. H. Baldock, F.C.S., Ph.C.

Croydon, April 16, 1904.

I have read with interest the article on "Prints from Leaves" in the *Pharmaceutical Journal* of April 16. Two years ago my husband noticed in his growing crop of *Trifolium pratense perenne* very many having four leaves. Being somewhat unusual, he gathered some, which I pressed between blotting-paper and dried, afterwards printing them on sensitised paper in the manner you describe. I beg to enclose a copy.

Halesworth, April 15, 1904. S. A. Gostling.

The Ultimate Effect of Conduct.

In a leading article published in the *Referee* of April 3, "Merlin" asks the question, What is sanity? "It is," he says, "simply that condition of the mind which enables one to see things in their just aspect, proportion, and perspective. A man of complete sanity might make mistakes for want of guiding knowledge, but he would do always that which, granting the visible attitude of things to be the true one, would be the wisest thing to do, and, above all other things, he would have the faculty of looking to the ultimate effect of conduct. This it is which distinguishes the wise man from the fool, and Bunyan's Parable of Passion and Patience remains eternally true as a picture of wisdom and unwisdom. The fool snatches at a momentary advantage, a momentary luxury, a passing hour of slothful ease. The wise man counts the cost of things beforehand." I commend the above paragraph to the thoughtful consideration of our young men, many of whom, let us hope, have sufficient ambition to aspire to the possession one day of a business of their own. I do so because within the last few weeks an old assistant has given up his business and left the country, finding competition too keen, because during that time I have come across a second case of the same sort, and because both these men would now be doing well, and their own masters if they and others like them had possessed "the faculty of looking to the ultimate effect of conduct."

April 15, 1904. "Pharmakos" (301/35).

The Council Election.

At present the chemists of Great Britain are not fully represented on the Pharmaceutical Council, inasmuch as Wales has no representative. We are told that "eternal vigilance is the watchword of liberty"; this being so, it is necessary that we, as a body, should exercise vigilance in all parts of our country, in order that our rights should not be ruthlessly torn from us and our liberty wrested from us. Parliament cannot lend a full ear to us unless we have first of all full representation on our own Council, so that the difficulties of the craft, and the requirements of the whole body of chemists, and not only of a part, may be made clear, whenever the opportunity occurs or the occasion arises. I trust our English and Scotch confrères will see their way clear to help Wales in its endeavour to get represented on the Pharmaceutical Council; then and only then can we go to the legislative body and say that the Society represents the whole of the chemists practising in Great Britain. Wales is at present fortunate in having a sterling candidate in the person of Mr. Hagon come forward. From a casual acquaintance with him, and from observations I have made of him in meetings from time to time I have come to the conclusion that he is not a jellyfish man, he is a man of backbone, he is a man of the Mr. Glyn-Jones type, he is possessed of plenty of energy and determination, he holds the most progressive views, and is at all times prepared to make the most strenuous efforts in safeguarding the legitimate rights of the chemist and druggist. I am of the opinion he will make an excellent acquisition to the Council, inasmuch as he is thoroughly up to date in his ideas, and knows the difficulties which chemists have to contend with in the Principality. I hope our English and Scotch brethren will give Mr. Hagon their strongest support, remembering that "unity is strength"; we all want this, remembering also that "a house divided against itself must fall." This latter we do not desire. Let us do our duty, and the strength we desire shall be attained.

Henry M. Lloyd, F.R.M.S., M.P.S., Ref. D.,
Divisional Secretary.

Merthyr, April 19, 1904.

I trust the chemists of North and South Wales and Monmouthshire will support and encourage the candidature of Mr. Albert Hagon, of Cardiff. He knows as well as any man the aspirations and wishes of retail chemists. The pharmacists of Wales and the rest of Great Britain will have an able representative in Mr. Hagon.

James B. Francis, Secretary,
Wrexham and District Chemists' Association.

Wrexham, April 19, 1904.

The 'Pharmaceutical Journal Formulary.'

I beg to acknowledge receipt of the long-expected 'P.J.F.' by the last mail. How well worth the waiting! All concerned in its production have made a splendid virtue out of necessity, and deserve the D.S.O. of Pharmacy, an order which should be instituted forthwith. Would it not be practicable to make the 'P.J.F.' an annual? It should prove a hardy one. Eliminate the bulk of the private recipes whose *raison d'être* now ceases and make room for more useful matter gathered here and there by expert collectors. Three-fourths of the book you might set to simmer, then "dig" off the scum, and getting working recipes from the residuum. Perhaps the inclusion of the Society's Calendar and the B.P.C. would curtail expense, if such were possible. In conclusion, one must feel that out of the evil of the Patent Medicine Acts solid good has come in the shape of the 'P.J.F.,' and it should be as indispensable to the chemist as his prayer-book to the churchman. I must confess to some surprise, however, that it should be considered a calamity to pharmacy should these Acts be repealed. We manage very well without them in South Africa, as also they do on the Continent of Europe, and my experience in these countries is that pharmacy has a much higher status than it has at home. May it be otherwise and soon.

Kimberley, March 28, 1904. H. J. Smith.

Labels for Toilet Preparations.

The following labels have recently been submitted to the Board of Inland Revenue and marked "Not liable to Duty":—

BROWN'S
ANTISEPTIC
DUSTING POWDER.
Cooling and Healing, for Toilet and
Nursery Use.

Prepared only by
JOHN BROWN, Chemist,
BLANKTOWN.

For Strengthening,
Preserving and Cleansing the
Teeth and Gums.

BROWN'S ANTISEPTIC
TOOTH POWDER.

JOHN BROWN,
Chemist,
BLANKTOWN.

The names of the chemist and the town are, of course, not those actually printed on the labels.

April 16, 1904. "F. H." (110/27).

Taxation and the Chemical Industry.

In your issue of last week an article appeared relating to the imposition of duties on imported chemicals in which alcohol was contained or had been employed in manufacture, under the Act of 1876—still unrepealed, and therefore operative at the discretion of the Customs authorities. You expressed the belief that British manufacturers would thereby be benefited. To what extent this desirable result would be assisted by extending the operation of the Act of 1876 may be a matter of opinion. But as your article has been widely quoted in the Press, it may be well to be reminded that British, Colonial, and foreign trade largely depends to-day, rightly or wrongly, upon freedom of trade and finance. For thirty years nothing in the nature of reciprocity or retaliatory duties has been effected, and consequently a system of comparative freedom has grown up. In papers in your Journal, contributed by me some time ago, this aspect of the fiscal question was considered. I desire again to emphasise the point that the neglect of our rulers thirty years ago to develop reciprocity—especially with Germany, then undeveloped—to co-ordinate the educational system, to introduce that principle into our patent laws, to regularise the freightage rates of the railways, and to nationalise and connect up the water-ways and canals of the country, and, by no means the least, afford equal facilities for the production and utilisation of untaxed alcohol for purely industrial purposes, has put British manufacturers in the unenviable position of to-day. In my opinion no amount of taxation will help us unless and until at least three of these elementary privileges are granted. When on equal terms we can produce at home will be the time to impose duties on imported chemical manufactures. The immediate effect of comparatively small duties would be lessened ability to hold our foreign markets, much less compete. An all round duty of 10 per cent. was proposed by tariff reformers, but is obviously insufficient if admissible at all. At the complimentary dinner to Professor Ostwald by the Chemical Society on Wednesday night I had the pleasure of meeting my old fellow student of forty-three years ago under Hoffman—Dr. von Martius, a director of one of the most thriving of the German chemical factories. He expressed publicly the obligations under which he and his managerial contemporaries lay to British manufacturers for their early teachings and examples of technical industrial proficiency. Privately to me, he distinctly ridiculed the idea that anything like a 10 per cent. duty would keep them out of this or any other country. Dr. Martius was delighted with the proposed fiscal changes, and believed there would be no real preference by the Colonies which would benefit British manufacturers as a whole. He confidently believed that no better move in the interests of German manufacturers than such taxation could be taken at this period of the development of Germany. Dr. Martius did not bless the efforts made—and he admitted with greater prospect of success now than ever before—to obtain untaxed suitably denatured alcohol for industrial use. He amiably regarded me and other workers in this cause as opponents of his country's welfare. Is it not time to pause before committing ourselves to a policy desired by our keenest and ablest competitors? and is it not time to urge, vehemently almost, amendments of the restraining and prohibitive conditions of our own internal development? I wrote months ago: educate! educate! educate! I repeat it, and add: reform!—our law, our transport, our technical education, our popular notions of discipline, and our business management.

Thomas Tyrer.

Stirling Chemical Works, Stratford, E., April 21, 1904.

Masonic Votes.

May I call the attention of my brother Masons to the case of George Harrison, who is a candidate for the Royal Masonic Benevolent Institution? Brother Harrison was Tyler for the only chemists' lodge, Galen 2,394, which he faithfully served since its foundation, thirteen years ago. Having now, at the age of seventy-two years, become totally blind, he is entirely dependent upon donations he receives from various lodges with which he has been associated. Proxies will be gratefully received by

Fred Bascombe, P.M., 1,287-2,394.

17, St. Saviour's Road, Brixton Hill, S.W., April 19, 1904.

MARRIAGE.

Holmes—Dean.—On April 19, at St. Ann's Church, Wandsworth, Alexander Holmes, chemist, to Annie Mary, youngest daughter of the late James John Dean, of Putney, and Mrs. Langden, 25, Earlsfield Road, Wandsworth Common.

DEATHS.

Aitken.—On April 17, at his residence in Edinburgh, Dr. Andrew Peebles Aitken, Professor of Chemistry and Toxicology in the Royal (Dick) Veterinary College. Dr. Aitken, who was a native of the city, was educated at Edinburgh University, where he took the degree of Master of Arts in 1867, of Bachelor of Science in the department of physical science in 1871, and of Doctor of Science in the department of chemistry in 1873. After leaving Edinburgh he studied at Heidelberg, and on his return to Edinburgh he was appointed assistant to Professor Crum Brown and Demonstrator of Practical Chemistry in Edinburgh University. He was appointed Professor of Chemistry in the Dick Veterinary College in 1875.

Beavan.—On April 14, Henry Thomas Beavan, Chemist and Druggist, Prudhoe-on-Tyne. Aged 87. Mr. Beavan, who had been a member of the Pharmaceutical Society for some years, had carried on business as a chemist at Prudhoe for about thirty-five years, prior to which he conducted a similar business at Roughside, near Blanchland, where he was born. Mr. Beavan was the second son of the late Dr. Beavan, of Blanchland.

Gilbert.—On April 10, unexpectedly, Emma Maria, wife of William Gilbert, Chemist and Druggist, Boscombe.

Le Neve Foster.—On April 19, at 86, Coleherne Court, Earl's Court, Sir Clement Le Neve Foster, D.Sc., F.R.S. Aged 63. Sir Clement, who was for many years one of His Majesty's Inspectors of Mines, the *Times* states, was the second son of Peter Le Neve Foster, a secretary of the Society of Arts, and was born at Camberwell in 1841. At the age of twelve he was sent to school in France, and, returning to England in 1857, he entered the Royal School of Mines, where he had a brilliant career. He then went to study at the Freiburg Mining College, and before he had finished his course there was appointed to the Geological Survey of Great Britain by Sir Roderick Murchison in 1860. In 1865 he took the degree of D.Sc., and the same year he resigned his position to become lecturer to the Miners' Association of Cornwall and Devon. Two years later he gave up this appointment in order to undertake mining exploration in Sinai, and, after a visit to Venezuela in 1868 in connection with gold mining, accepted an appointment with the Pestarena Gold Mining Company in Italy, where he remained till 1872. On the passing of the Metalliferous Mines Regulation Act of 1872 he was appointed an inspector to carry out its provisions. In 1894 he became editor of the mineral statistics issued by the Home Office, and of the annual reports on the mines and quarries of the United Kingdom. He resigned his official position in 1901, and last year his services received the recognition of a knighthood. In 1890 he succeeded Sir Warington Smyth as Professor of Mining at the Royal School of Mines, and in 1892 the Royal Society elected him a Fellow.

Tudor.—On April 4, William Tudor, Chemist and Druggist, Llanglwydwen, formerly of Kimberley, South Africa. Aged 40.

Wildgoose.—On April 15, John Wildgoose, Chemist and Druggist, Dronfield. Aged 79.

Wootton.—On April 3, at Sea View Terrace, Margate, Louisa, wife of Alderman E. S. Wootton, J.P., Chemist and Druggist, High Street, Margate. Aged 57.

REPLIES TO CORRESPONDENTS.

Information required by readers will be published in this column as early as possible, but the Editor cannot undertake to reply by post, even though stamped addressed envelopes accompany the queries. Replies will, in all cases, be referred to the sender's initials, and the registered number added in each instance should be quoted in any subsequent communication on the same subject. When formulæ are given without definite weights and measures, it should be understood that the solids are to be weighed and liquids measured. Plants for recognition should be addressed to the "Curator, 17, Bloomsbury Square, London, W.C.," accompanied by a stamped, directed envelope for reply. No notice can be taken of anonymous communications.

Varnish (J. F. N.—110/28).—It is probably collodion coloured with a suitable aniline dye.

Diseases of the Hair (F. Y.—110/30).—Walsh's 'The Hair and its Disease.' (Baillière, 2s. 6d. net.)

Morphine Tartrate (A. N. H.—110/31).—Doubtless because it is not pure. See the *P.J.* of January 31, 1903, page 134.

Labels (A. F. C.—110/29).—Of the titles you submit, "Digestive Wind Pills" is the only one which will incur liability.

Emp. Bellad. Fluid. (G. G. J.—302/18).—You will find the formula at page 5 (*not* 6) of the 'P.J.F.' The name is a synonym of Collodium Belladonnæ, B.P.C.

Carbolic Disinfectant (J. B. W.—110/32).—Presumably you wish to produce a liquid cresol disinfectant, in which case you will find details of a suitable process in the *P.J.* of August 1 last, page 134.

Labels (F. H.—110/27).—We should have expected the two labels to be regarded as incurring liability, in accordance with the Board's statement published in the *P.J.* of March 19 last, page 393. At the same time, there does not appear to be any sufficient reason why the disclosure should not be thought sufficient. It might be worth while to write again, pressing that point. Otherwise, the only plan for enabling the old labels to be utilised will be to print the formula on a separate slip label.

Book on Cryptogams (J. R.—110/15).—There is no single book that treats of the whole of the cryptogams on similar lines to John's 'Flowers of the Field,' but there are books on each group. Among purely elementary works, with descriptions of only a few types, there are J. E. Bagnall's 'Handbook of Mosses' (1s.), Holmes and Gray's 'Fungi and Lichens' (1s.), Butler's 'Pond Life,' 'Algæ and Diatoms' (1s.), all published by Swan, Sonnenschein, and Co., London; and Clarke's 'Common Seaweeds' (Warne and Co., London, 1s.). But for determining species the following more expensive books are necessary:—Dixon and Jameson's 'Handbook of British Mosses' (Wheldon and Co., London, 18s. 6d.); Cooke's 'Handbook of British Fungi' (Macmillan), or Massee's 'British Fungus Flora,' four volumes (G. Bell and Sons, 7s. 6d. each); Leighton's 'Lichen Flora of Great Britain,' Cooke's 'Handbook of British Hepaticæ' (W. H. Allen, London), Cooke's 'British Freshwater Algæ, and British Desmids' (Williams and Norgate). There is no book up to date on British marine algæ. Mr. Gatty's 'British Seaweeds' (30s.) is the cheapest, but the number of known species has been nearly doubled since that work was published. A list of the novelties is given in the form of an appendix in the 'Journal of Botany,' 1902. A description of the new species must be looked for in past volumes of Grevillea and the 'Journal of Botany.' The additions to the other branches of cryptogams since the publication of the above-mentioned works may be found in the same journals. The more expensive books above mentioned, for which no price is given here, may often be obtained cheaply second-hand.

Calendar for the Week (April 24—31, 1904).

Days of		Events of the Week.	Sun	
M	W		Rises	Sets
24	S	**Third Sunday after Easter.**	4.48	7.8
25	M		4.46	7.10
26	Tu	Royal Photographic Society, 66, Russell Square, London, at 8 p.m.—"The Artistic Aspect of Photography." By F. C. Tilney. Federation of West Riding Chemists' Associations, White Horse Hotel, Wakefield, at 7.30 p.m.—Half-Yearly Meeting. Huddersfield Chemists' Association, Queen's Hotel, at 8.45 p.m.—Address by F. Pilkington Sargeant.	4.44	7.12
27	W	Edinburgh Chemists', Assistants', and Apprentices' Association, 36, York Place, at 9.15 p.m.—Annual Meeting. Public Dispensers' Association, St. Bride's Institute, at 8 p.m.—Ordinary Meeting.	4.42	7.14
28	Th	Barnsley and District Chemists' Association, Royal Hotel, at 7 p.m.—Ordinary Meeting. Brighton Association of Pharmacy, 58, King's Road, at 9 p.m.—Committee Meeting. Chemists' Assistants' Association, 73, Newman Street, London, at 8.30 p.m.—Musical and Social Evening. Grimsby and District Chemists' Association, Oberon Hotel, at 7.30 p.m.—Annual Dinner. Midland Pharmaceutical Association, Great Western Hotel, Birmingham, at 8.30 p.m.—Annual Meeting and "Smoker." Swansea and District Chemists' Association, Hôtel Métropole, at 7 p.m.—Annual Dinner.	4.40	7.15
29	F	○ Full Moon, 10.36 p.m.	4.38	7.16
30	S	Lord Avebury born, 1834.	4.36	7.18

LETTERS, NEWSPAPERS, QUERIES, and other COMMUNICATIONS have been received from Messrs. Bailey, Baldock, Barnes, Barron, Barry, Bascombe, Birkbeck, Birnie, Blayney, Booth, Chanley, Colley, Corfe, Crombie, Cummings, Darney, Davies, Ewing, Ferrall, Francis, Gostling, Hallaway, Handford, Henry, Hill, Hirst, Jeffrey, King, Knight, Lloyd, Marsden, Mason, Morgan, Nicholson, Oliver, Owen, Pickering, Pollard, Polley, Powell, Ridyard, Rigby, Rowe, Sadler, Sayers, Simpson, Smith, Sumner, Todd, Town, Turner, Usher Vint, Wells, Williams, Wilson.

Telegrams. "PHARMACEUTICAL JOURNAL LONDON"
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The Pharmaceutical Journal
A WEEKLY NEWSPAPER
FOR CHEMISTS AND DRUGGISTS,
The Oldest Organ of the Drug Trade in Great Britain.
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CHANGES OF ADDRESS.

Instructions from Members of the Pharmaceutical Society, with reference to the transmission of the Journal, should be sent to the SECRETARY, 17, Bloomsbury Square, London, W.C.

The Pharmaceutical Journal Office.

Thursday, April 28, 1904.

Two Herbalists and a Fishmonger have been fined at Southwark Police Court for selling as cod-liver oil various other kinds of fish-oil.

The Dinner of the Week was that held at Kingston-on-Thames last night, when Mr. Skewes-Cox, M.P., and two members of the Council of the Pharmaceutical Society were present.

For the April Minor Examination of the Pharmaceutical Society in London, 279 candidates entered, and of these 114 passed. The percentage of successful candidates thus exceeded 40.

Mr. Edward Henry Moore, pharmaceutical chemist, of Brighton, father of several well-known actresses and singers, died on Monday. Mr. Moore's Major Certificate was numbered 40.

A Convention of Opticians is to be summoned to consider various questions relating to the sale of spectacles and optical instruments. The object is to bring about a closer relationship between science and industry, as applied to optics.

The Officers of the P.A.T.A. and the C.D.A. intend to organise a testimonial to Mr. Glyn-Jones, partly, we understand, with reference to his recent legal success, and partly on account of his past services on behalf of those two organisations.

The Benevolent Fund benefits to the extent of fifteen pounds, which has been received by the Secretary as a contribution from an anonymous contributor, who desires the same to be acknowledged under the *nom de plume* "Peccavi."

In Edinburgh, the last of the sessional scientific meetings of the Pharmaceutical Society was held on Friday, the 22nd inst. On the same day a private conference was held on certain political matters, and the Executive of the North British Branch also met.

Strophanthus Seeds have for long stood in need of fuller investigation. Three German workers, who have just completed a careful research, recommend the use of a variety of strophanthin obtained from the seeds of *Strophanthus gratus*, in preference to the strophanthin from *S. kombé*.

The Prescribing of Proprietaries and the indiscriminate dispensing of dangerous drugs are two subjects on which the annual representative meeting of the British Medical Association is to be asked to take action. A conference with the Pharmaceutical Society on the latter question is suggested.

Mr. Thomas Tyrer is continuing his campaign for duty-free alcohol with unabated energy. Last night he read a paper on the subject before the Society of Arts. Several members of Parliament and the Minister for Agriculture are interesting themselves in the subject, and the prospects of reform are brightening.

Membership of Chartered Societies will become a more valuable privilege than at present if the Chartered Societies Bill, whose provisions are summarised in this issue, becomes law. The Bill has been brought in by a private member, but the Government is understood to be willing to give facilities for its progress.

Members of the British Pharmaceutical Conference are to be asked by their Executive Committee to place the 'B.P.C. Formulary' at the disposal of the Compendium Committee of the Pharmaceutical Society. A special meeting is called for May 17, at 17, Bloomsbury Square, the day for which the annual dinner of the Pharmaceutical Society is fixed.

Local Associations have been considering the forthcoming election of the Council of the Pharmaceutical Society. Several associations in the North of England have decided to support Mr. Sargeant, while in the South Mr. Gibson's candidature finds favour. More than one association will support the six retiring candidates. A strong plea on behalf of Mr. Hagon is urged by Mr. W. A. H. Naylor in this issue.

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"ELEGANCE" OR EFFICIENCY?

Old notions of the fitness of things, in pharmacy as in every other field of activity, are gradually giving place. Among the most persistent, perhaps, should be counted those which have to do with the glass bottles on the shelves of a chemist's shop. White "shop-rounds" are even now commonly used for nearly all medicinal substances, green bottles being employed for poisons, and deep blue bottles for syrups. The white bottle is held to be the mark of a blameless pharmacy. And one of the first lessons which the young apprentice learns is that the contents of a bottle must never be allowed to "fall" below the level of the lower edge of the label. The practice of refilling a partly empty bottle makes, it is thought, for artistic effect, or tends to impress the public with the uniform neatness and care exercised by the pharmacist, but Mr. Upsher Smith, who has studied the subject urges with reason that the time has come when such rules and practices should be changed. There is no doubt that pharmacists are sometimes ignorant or careless, or ignorant and careless of the methods which should be adopted to preserve their drugs and preparations, especially from the action of light, whether solar, "incandescent," or electric. They do not always know what substances are liable to deterioration, nor what rays of light are the cause of such deterioration. A prevalent notion is that where there is need to exclude sunlight from a substance, green or blue glass provides a complete solution for the difficulty. As a fact, green or blue glass is without effect in preserving such substances from decomposition by light. The most active rays are the actinic or ultra-violet rays, and these pass freely through green or blue glass, which has little or no preservative action on medicinal substances.

Mr. Smith's plea for the use of amber glass is thus based not only on experience, but also on physical considerations. In the paper which that pharmacist read on the 20th inst. before the Sheffield Pharmaceutical and Chemical Society (see page 563, *antea*) a striking example was given. An aqueous solution of mercuric chloride, exposed for nine months, gives a copious precipitate in a white, blue or green bottle, but if kept in an amber bottle gives no precipitate. The list of substances whose keeping properties are materially affected by light is long—longer, indeed, than most pharmacists realise. But Mr. Smith has good ground for his advocacy of the use of amber-coloured glass for all medicinal substances which are prone to decomposition by light, and there is much that is reasonable in his objection to the practice of filling up shop-bottles before they have been completely emptied. The artistic standard and the standard of neatness are well enough in their way. But, after all, what is there, in a row of amber-coloured bottles, containing limpid liquids at various levels, which violates any good principle of art? If the bottles be free from dust, with clean stoppers, and stand in well-ordered ranks upon the shelf, surely there is due conformity to the essential canons of neatness. The drug's the thing! And, if the efficiency of the British public's drugs is sacrificed for a strained and spurious "elegance," elegance must go by the board.

ABUSES OF PRESCRIBING AND DISPENSING.

The following notices of motion have been given for discussion at the annual representative meeting of the British Medical Association, to be held at Oxford on July 26, 1904, and following days:—

> (1) That it is desirable that the Central Council draw the attention of the medical profession individually to the fact that by recommending by name certain drugs and certain preparations of those drugs, they are not only allowing themselves to be used indirectly as touts for wholesale druggists, but are also helping their patients to form, either in themselves or others, serious habits of drug abuse.
>
> (2) That with the view of checking the indiscriminate dispensing of dangerous drugs, the Central Council of this Association be requested to appoint a Committee to investigate the subject, either alone or in conjunction with the Pharmaceutical Society, and to report what steps they would recommend should be taken to remedy the present grave defect in the law.

The former of the above motions proposes to put into effect one of the few feasible plans to minimise, or at any rate to lessen, a real grievance which has long been recognised. Medical men can, if they will, refuse to be "touts for wholesale druggists" and to "help their patients to form serious habits of drug abuse." Whether the offenders are likely to mend their ways in consequence of a communication, or of fifty communications, from the Central Council of the British Medical Association is very doubtful. With regard to the second motion, if it be proved that any harm, in fact, results from the "indiscriminate dispensing of dangerous drugs," pharmacists will no doubt be anxious to co-operate with medical men in order that steps may be taken to remedy the "grave defect."

ADMINISTRATION OF THE FOOD AND DRUGS ACTS IN SCOTLAND.

The ninth annual report of the Local Government Board for Scotland contains some interesting particulars concerning the administration of the Sale of Food and Drugs Acts. During the year under review—1903—the Board had occasion to communicate with certain local authorities as to their failure to apply those Acts properly by neglecting to have samples taken and submitted to analysis. The result of the communications, it is stated, was satisfactory, and samples were duly taken. The Board intends during the present year to cause a systematic examination of the various quarterly returns to be made with a view to ascertaining whether sampling is being properly carried out, and whether sufficient samples are being taken in proportion to the number found adulterated. Certain local authorities, it is reported, cause test samples of food and drugs to be taken informally for analysis by the public analyst, and where such samples are found to be adulterated samples are taken with the formalities required by the Acts. With regard to the bacteriological examination of ice-cream, reference is made to a representation made by the Associations of County Councils in Scotland that the Sale of Food and Drugs Acts should be amended so as to enable local authorities to make bacteriological examinations of ice-cream sold or exposed for sale in ice-cream shops. In reply the Board states that, in its opinion, an extension of the Acts to embrace the bacteriological examination of articles of food is not advisable. It is pointed out that the primary objects of the Sale of Food and Drugs Acts is to secure genuineness, and the Acts do not take cognisance of questions of injury to health; the object of a bacteriological examination on the other hand is to ascertain wholesomeness. These two objects, it is stated, are very indirectly inter-related; looking also to the radical difference between the processes of bacteriological examination and chemical analysis, the Board doubts the expediency of associating them, and expresses the opinion that the question whether ice-cream or any other articles of food are injurious to man comes within the scope of Section 43 of the Public Health (Scotland) Act, 1897, rather than the Sale of Food and Drugs Acts.

WEIGHING THE PAPER BAG.

A case of interest to traders, and involving the validity of an alleged custom, was concluded at Brentford Police Court, after a three days' hearing, on the 21st inst. A grocer was summoned under Section 26 of the Weights and Measures Act for fraudulently using a weighing machine. The case was taken as a test, the point at issue being whether it was lawful to include the paper bags in the weight of tea, sugar, and other articles. Mr. Beck, who defended at the instance of the Grocers' Association, relied in his defence mainly on the point that to weigh bags with tea, sugar, rice, and other articles was a recognised trade custom all over the kingdom. The Court, however, held the practice was not proved as being universal or understood between the vendor and purchaser, and fined the defendant 40s. and costs. At Wolverhampton Quarter Sessions, less than a week previously (see page 570, *antea*), a conviction for a precisely similar offence was quashed on appeal. Whatever be the custom of grocers, the general practice of chemists and druggists when selling articles by weight is to give net weight of the drug, exclusive of the wrapping, a practice which should be carefully adhered to.

BRITISH PHARMACEUTICAL CONFERENCE.

The Hon. General Secretaries of the British Pharmaceutical Conference request that attention may be directed to the official announcement in this week's *P.J. Inset* of a special general meeting which is to be held at 17, Bloomsbury Square, London, on Tuesday, May 17, at 4 p.m. The business of the meeting will be to consider a recommendation from the Executive Committee, which has recently adopted the following resolution:—

> That a special general meeting be held to consider the desirability of placing the 'B.P.C. Formulary' at the disposal of the Compendium Committee of the Pharmaceutical Society of Great Britain, for use in the compilation of the proposed "Compendium of Medicines."

The reason for the proposal embodied in the foregoing resolution is, we understand, that the Executive Committee considers it inadvisable to continue the separate publication of the 'B.P.C. Formulary' on the present lines, in view of the approaching publication of the Pharmaceutical Society's 'Compendium of Medicines.' It is felt that absorption of the smaller work by the larger may prevent confusion of formulæ and possible loss to the Conference, and it is hoped that a union of forces may result in the support of British pharmacists generally being given to the Society's book.

THE CHARTERED SOCIETIES BILL.

A Bill which is not without direct interest for members of the Pharmaceutical Society was recently introduced into the House of Commons by Sir John Rolleston, M.P., supported by Mr. Fletcher Moulton, Sir James Woodhouse, Mr. Alban Gibbs, Sir Francis Evans, and Mr. Hunter Craig. The object of the Bill, whose short title is the Chartered Societies Bill, is "to provide a simple procedure enabling societies and institutes, incorporated by Royal charter for the purpose of improving the status and training of the professions which they represent, to protect the public and their members against frauds, occasioned by their inability at law to restrain unauthorised persons from using the professional designations and distinctive initials which they are entitled by virtue of their charters to use, and which are recognised by the public as denoting membership. The Bill does not seek to create any monopoly, and the offence which it constitutes is carefully limited to one knowingly committed." Any person, or any body of persons corporate or unincorporate, not being a member or members of a chartered society, who knowingly uses any initials, words, or letters, in such a way as to imply membership of such society, is to be liable on summary conviction to a fine not exceeding twenty pounds, and to be restrained from a repetition of the offence. The Bill stands for second reading on Thursday next, May 5, and it should have the good wishes of every member of the Pharmaceutical Society of Great Britain, a Society "incorporated by Royal Charter, 1843."

WITH A KILOGRAMME OF SALT.

The season of big gooseberries and "Is Marriage a Failure ?" is not yet. But the early cuckoo has been with us for some weeks, and the sea-serpent has been duly seen, with all the traditional pomp and circumstance, stretching in vertical undulations over the Bay of Along, and emitting jets of "vapoury water." The cuckoo, however, has been hopelessly out-cuckoo'd and the sea-serpent out-serpented by—nothing more romantic than a box of pills. With kindly forethought the *Daily Telegraph's* own correspondent in Paris asks the gentle reader to taste of the sea-serpent immediately before inviting him to swallow the pills. Having, with equal forethought, prepared readers of the *Pharmaceutical Journal* for things new and strange, we may venture on a literal quotation from "Paris Day by Day." "Strychnine pills were prescribed by a doctor for one of his patients in the following vague manner :—'Arseniate of soda, ten grams; sulphate of strychnine, five grams; for one pill, number twenty.' The physician meant that twenty pills were to be made of the total fifteen grams. The chemist's boy understood the prescription to be for twenty pills, each containing the above quantities, and made them up accordingly. Neither he nor his master apparently felt any misgivings at the large quantities ordered. Strychnine not being a medicine to trifle with, the unfortunate patient who took the pills very nearly died." Will the compilers of the British Pharmacopœia kindly note that the official maximum doses for sodium arsenate and strychnine (1-10th grain and 1-15th grain respectively) seem to require some revision, when a patient is found to take several thousand such doses without fatal results ? A refreshing example of the resourcefulness of the French pharmacist is to be found in his readiness and ability to dispense pills, each of which contained some 231½ grains of medicament without any excipient. England is indeed behind the times.

THE TREATMENT OF DISEASE BY RAYS.

The treatment of malignant disease by Roentgen and radium rays has been the subject of so much untrue statement and injudicious comment that the simultaneous publication in the *British Medical Journal* of several articles by experts is timely and helpful to a true appreciation of the progress that has been made. Our medical contemporary summarises the conclusions to be drawn from a study of the communications with the remark that the value of the forces discussed is no longer open to doubt so far as regards lupus and rodent ulcer, and that somewhat improved results have recently been obtained in the treatment of such cases of malignant disease as are open to direct attack. Further, it would appear possible that by a combination of surgery and X-ray treatment the recurrence of malignant disease may eventually be rendered much less common than at present. But the only procedure on which any reliance should be placed in operable cases of malignant disease is the early and complete removal by the knife of every scrap of tissue involved.

OPTICAL ORGANISATION.

The optical trade is in one respect similar to the calling of the chemist. It is, like pharmacy, a trade which is not only dependent on science but very closely associated with it. For this reason, if for no other, the optician who is just now realising the advisability of organisation will have the sympathy of the chemist who saw the importance of co-operation years and years ago. As our readers are probably aware the National Association of Goldsmiths recently approached the Worshipful Company of Spectacle-Makers; and the outcome of this was a register of jeweller-opticians, consisting of the names of goldsmiths who have been in business not less than seven years. By agreement the Worshipful Company of Spectacle-Makers exempts members of the Association from certain preliminary inquiries and parts of their examinations. The National Association of Goldsmiths is a very powerful body. It has for its president the Deputy-Speaker of the House of Commons, and numbers among its vice-presidents no less than fifteen members of Parliament, with a fair sprinkling of noble lords. In addition to this it has an honorary organising secretary of exceptional ability. When such a gilt-edged body amalgamates or at any rate comes to an understanding with a City company with a charter which dates back to 1629, the result is something very important indeed.

Recently, several members of our own craft appear to have caught the infection from the goldsmiths, and "organitis" has laid hold upon them. As a result of this attack a little band of chemists who sell spectacles met together on the other side of the water from Tooley Street one day this week, to discuss the advisability of forming a society of chemist-opticians. It was decided at this meeting to form such an organisation, and referred to the committee to choose a desirable name for it. It will be well to know something of the policy of the association before expressing any opinion as to its necessity. At first sight, however, there seems no more call for a society of chemist-opticians than there is for a society of chemist-toothpick-sellers. If the idea is to make an exclusive arrangement with an examining body, to allow certain concessions to members of the proposed Society, and to them only, it will certainly not be for the good of registered chemists as a whole. For there seems to be no just cause or reason why an individual chemist should be debarred from availing himself of any concessions that are to be obtained simply because he has not paid a subscription to the Chemist-Opticians' Society. It is quite conceivable that in some cases the individual chemist's connection with optics might be considerably more real than that of a member of an association. The fairest plan would be to exempt all chemists from portions of the examination simply because they are chemists and, as such, have already gone over some of the ground covered by the syllabus of the optical examination. This suggestion will probably commend itself to one or other of the examining bodies; such a plan would be far more satisfactory than that which proposes to restrict certain privileges to the handful of members who are likely to make up the association.

Another optical organisation was conceived on Tuesday of this week, when it was decided at an influential meeting of opticians to hold a convention of the British optical trades. Such a convention can have nothing but satisfactory results and is likely to bring about a closer relationship between the scientific and commercial branches of optics. Of course, it is as plain as a pikestaff what all this organisation means. Restrictive legislation is what the organisers are all aiming at. Spectacles are now displayed for sale at village fairs side by side with gingerbread cakes and peppermint rock, but the more influential opticians are of opinion that to sell spectacles it will be necessary to be "registered" under some future Act. Whether this restriction is necessary or advisable is of course a matter of opinion, but in spite of medical opposition it is more than likely to come to pass. In view of this possibility chemists will be well advised to be prepared for all emergencies, by obtaining the diploma of whichever of the recognised examining bodies is prepared to give concessions to the craft as a whole.

BRANDY.

That alcohol and its preparations may on occasion have great medicinal value is a fact which is acknowledged even by the most consistent and insistent advocates of temperance or abstinence in the matter of intoxicating drinks. That brandy is the form of spirit which has the greatest medicinal value may similarly be taken as proved. It therefore is important to know what brandy s. Our contemporary, the *Lancet*, was at pains some two years ago to supply a full and definite answer to the question which has continually arisen as to the nature of brandy. The answer was as full, as definite, and as emphatic as could well be conceived. Pure, good, and genuine brandy said the *Lancet* Special Commissioner, should answer to the description of the Pharmacopœia, "a spirituous liquor distilled from wine and matured by age." At the same time he expressed the opinion, founded on the most thorough investigations, that public analysts should pay regard to the amount of ethers, and other "active principles" of brandy prepared from grape spirit, instead of basing their analysis solely on the percentage of ethyl alcohol. Trade custom, however, may be an important factor where there is any doubt with regard to the legal standard for a "food." And it has not yet been settled in a High Court whether or not in this matter expert opinion and trade custom agree. For that reason chemists and medical men will watch with interest the progress of a test prosecution undertaken by the Islington Borough Council in respect of spirit sold as brandy, but certified to be composed in part of spirit not derived from the grape. On the evidence given in that prosecution no comment is at present permissible, and our object in alluding to the case while it is still pending is merely to impress upon chemists the absolute necessity that "egg-flip" should be made with genuine French brandy prepared from the spirit of the grape and matured by age.

RAILWAY ARRANGEMENTS FOR THE B.P.C.

The negotiations between the officers of the British Pharmaceutical Conference and the different railway companies have now been completed, and, as a result, the British railway companies will allow members of the Conference upon production of a certificate signed by one of the secretaries, to take return tickets for Sheffield from any station where the "through-booking" system is in operation at a single fare and a-quarter. The social programme for the Conference meeting is printed in this issue at page 600.

ABSTRACTS—SCIENTIFIC AND TECHNICAL

A REVIEW OF CURRENT WORK IN PHARMACOPEDICS AND ALLIED SCIENCES

Combinations of Saccharose with Metallic Salt.

D. Gauthier does not agree with the statement of Gill that the compound formed by saccharose with sodium iodide has the formula $2C_{12}H_{22}O_{11}\cdot3NaI\cdot3H_2O$, finding on the contrary that $C_{12}H_{22}O_{11}\cdot NaI\cdot2H_2O$ is the correct formula. Gauthier has previously described the compounds with potassium and lithium iodides, which have an analagous constitution. It is found that the alkaline sulphocyanides also form similar compounds—$2(C_{12}H_{22}O_{11}\cdot NH_4CNS) + 3H_2O$ $C_{12}H_{22}O_{11}\cdot KCNS + H_2O$ and $C_{12}H_{22}O_{11}\cdot NaCNS + H_2O$, all in fine prismatic crystals. Barium sulphocyanide also forms prismatic crystals with saccharose, which have the constitution $C_{12}H_{22}O_{11}\cdot Ba(CNS)_2 + 2H_2O$.—*Comp. rend.*, **138**, 639.

Determination of Total Alkaloids in Coca Leaves.

The following method is due to E. Léger:—Having determined the amount of moisture in a small amount of the powdered leaves, a quantity of the same powder equivalent to 25 Gm. of the dried leaves is intimately mixed in a mortar with 5 Gm. of magnesia and 15 C.c. of distilled water. The mixture is introduced into a 1-litre wide-mouth glass-stoppered flask, and treated with 625 C.c. of ether, sp. gr. 0·721, saturated with water. The flask is then stoppered, tied down with a piece of cloth, well shaken up, and set aside for twelve hours, with frequent agitation. The whole is then shaken up, transferred to a filter, the filtrate collected in a 500 C.c. graduated flask, the funnel being covered with a glass plate during filtration. The 500 C.c. of filtrate thus collected, equivalent to 20 Gm. of dry powder, is distilled in several portions from a dry 250 C.c. flask by plunging the latter in warm water. The green residue is dissolved in 20 C.c. of neutral ether, 10 C.c. of N/10 hydrochloric acid, and 20 C.c. of water are added, the flask closed with a rubber stopper, and agitated. The whole contents are then transferred to a separator, and the acid liquid, after separation, withdrawn into a conical flask. The ether layer is then twice shaken out with 25 C.c. of distilled water, these washings being added to the acid liquid in the flask. This acid solution is filtered through a moistened double filter into a wide-mouth glass-stoppered 500 C.c. flask, and the filter thoroughly washed through into the same. Sufficient distilled water is added to make up the volume to 150 C.c., when sufficient neutral ether to give a layer 1 Cm. deep is added. Five or six drops of 0·2 per cent. iodeosin solution are then added, and the amount of free acid titrated back in the usual manner with N/10 potassium hydrate solution. The number of C.c. of acid thus found to be combined with the coca alkaloids, multiplied by 0·1535, gives the percentage of these in the powder.—*Journ. Pharm. Chim.* [6], **19**, 334.

Radium Rays and Viper Venom.

As a corollary to the results obtained by V. Henri and A. Mayer with the action of radium rays on ferments, C. Phisalix finds that they exert a similar influence on viper venom. A 1:1,000 solution of the venom was divided into four portions: one was not exposed; the other three were treated with radium rays for six, twenty, and fifty-eight hours respectively. The four solutions were then injected in the same dose into four guinea-pigs. That which received the unexposed solution died in ten hours; the solution exposed for six hours was fatal in twelve hours; the third, exposed for twenty hours, took twenty hours to produce death; and the fourth and longest exposed was without fatal effect even after a second dose of the exposed venom.—*Comp. rend.*, **138**, 526.

Non-Toxic Preparation of Iodine.

Dr. Wyatt Wingrave, being specially interested in the supplemental treatment of enlarged glands and adenoids with iodine, has made several experiments with preparations of that drug, with the object of finding one which could be given internally in large doses for considerable periods without causing any symptom of iodism, while exercising its specific effects on lymphatic enlargements. The following formula has been perfected for him by W. H. Martindale:—Formula—Syr. Iodo-Tannic: Iodine, 2·5 grammes; tannic acid, 4 grammes; alcohol (90 per cent.), 38 C.c.; syrup, 95 to 75 C.c. Dissolve the iodine in the alcohol, add the tannic acid and 30 C.c. of the syrup; heat to just below boiling-point until the solution affords no evidence of free iodine with the starch reaction (about twenty minutes). Cool and add the remainder of the syrup, with flavouring. Each drachm contains 2 grains of iodine. It may be given in doses of ½ to 2 drachms in water or wine before meals, according to age. The preparation is easily made and very palatable. The iodine is in loose chemical combination with tannic acid, since none can be demonstrated as free, yet it is sufficiently free to be readily given up to the tissues after absorption, and consequently there is no fear of any local intestinal or gastric irritation, so often associated with the administration of free iodine. Such combination is of a nature similar to that of oxyhæmoglobin.—*Med. Press*, **128**, 360.

Determination of Total Alkaloids in Pomegranate Bark.

E. Léger gives the following method for the determination of total alkaloids in pomegranate bark:—20 Gm. of the bark is powdered and passed through a fine sieve. The moisture is determined in 0·5 Gm. of the powder. A quantity of this, equivalent to 15 Gm. of dry powder, is intimately mixed, in a mortar, with 5 Gm. of magnesia and 10 C.c. of distilled water. The mixture is placed in a 500 C.c. flask, corked up and set aside for two hours; 150 C.c. of chloroform is then added, and the weight of the flask and its contents noted. The flask is then fitted to a reflux condenser and boiled for an hour. After cooling, the original weight is adjusted by the addition of more chloroform, and, after mixing, the whole is thrown on a filter, the filtrate being collected in a graduated 100 C.c. flask and the funnel being covered with a glass plate during filtration. The 100 C.c. of filtrate thus collected, equivalent to 10 Gm. of the dried bark, is distilled in two portions from a 125 C.c. flask until 80 C.c. of distillate have been collected. The residual concentrated chloroformic extract is transferred to a separator, the distillation flask washed out with 40 C.c. of neutral ether, employed in two portions, and added to the chloroform extract. To this ether chloroform solution 10 C.c. of N/10 hydrochloric acid is added, and the whole shaken out after adding about 20 C.c. of water. The acid aqueous extract is run out into a glass-stoppered 250 C.c. flask, and the ether chloroform extract again shaken out with two successive 30 C.c. of water, these washings being added to the first separated acid liquid in the flask. Sufficient neutral ether is then added to the acid aqueous extract to form a layer about 1 Cm. deep. Five drops of 0·2 per cent. alcoholic solution of iodeosin are then added, and the amount of free acid titrated back with N/10 potassium hydrate solution until, after vigorous shaking, the aqueous layer shows a pale rose tint. The number of C.c. thus used, subtracted from 10, the number of C.c. of N/10 hydrochloric acid solution first added, gives the amount of that acid used up by the alkaloids of the bark. The number of C.c. thus combined × 0·1475 gives the percentage of total alkaloids. This should not be less than 0·25 per cent. To obtain the neutral ether necessary for the determination, ether sp.gr. 721 is shaken out with water containing a little N/10 potassium hydrate, which is then neutralised with N/10 hydrochloric acid, using iodeosin as the indicator. The standard solutions, too, should be set by titration against each other with the same indicator.—*Journ. Pharm. Chim.* [6], **19**, 329.

NOTE ON THE INTERACTION OF SODIUM ARSENATE AND LEAD ACETATE.*

BY LEONARD DOBBIN, PH.D.

The existence of considerable divergence of opinion regarding the proportions in which sodium arsenate and lead acetate interact must serve as justification for reverting to a question which has already been the subject of a good deal of discussion.

According to the official quantitative test of the purity of sodium arsenate, "a solution of 1 Gm. of sodium arsenate with 1 of glacial acetic acid in 50 C.c. of water should require 2·03 Gm. of lead acetate for complete precipitation." It may be recalled that particular attention was first directed to this test by the note in the Students' Columns of the *Pharmaceutical Journal* [4], **9**, 324, to the effect that the stated quantity of lead acetate is incorrect, inasmuch as it is assumed that the precipitate which is produced consists of acid lead arsenate, $PbHAsO_4$, instead of normal lead arsenate, $Pb_3(AsO_4)_2$. The note states that 1 Gm. of sodium arsenate will require 3·05 Gm. of lead acetate instead of 2·03 Gm., the official figure. A similar opinion regarding the test was afterwards expressed by Barrie (*C. and D.*, **56**, 884); and this opinion having been controverted in one of the pharmaceutical text-books, it was recently re-asserted as substantially correct by the same author (*P.J.* [4], **18**, 85), who stated, however, that he omitted the addition of the acetic acid when carrying out the test. More recently still, Naylor has stated (*P.J.* [4], **18**, 363) that the apparent discrepancy observed by Barrie is due to acetic acid having been used in one case and not in the other.

As experiments in support of the statements just referred to were either not mentioned at all, or were only referred to in very general terms, it seemed desirable to investigate the matter further. For this purpose two solutions were prepared, each containing about 40 Gm. of lead acetate in the litre, but No. 1 contained a small quantity of added acetic acid, while No. 2 was simply an aqueous solution. The proportion of lead in each was then accurately determined. A third solution containing about 40 Gm. of ordinary sodium arsenate, Na_2HAsO_4, in the litre was also prepared, and in it the arsenic radical was accurately determined. By calculation it was then easy to ascertain what volumes of the respective solutions had to be employed in order that the sodium arsenate and the lead acetate might be mixed in any desired proportions. In carrying out the following experiments, one or two facts were noted which do not appear to have been recorded hitherto.

A. 2·03 Gm. lead acetate (sol. No. 1) was gradually added to a solution of 1 Gm. sodium arsenate, this being in the ratio Pb : AsO_4. On filtration, the filtrate was found to contain a large excess of the arsenic radical, showing that much of the lead had been used up in forming a precipitate which did not consist of $PbHAsO_4$.

B. The exact proportion was determined in which the lead acetate solution (No. 1) had to be mixed with the sodium arsenate solution so that no excess of lead or of arsenic radical remained. The quantity of the lead solution required for a given weight of arsenate was found to be intermediate between that necessary to form $PbHAsO_4$ exclusively and that required to form $Pb_3(AsO_4)_2$ exclusively, and it indicated that over 75 per cent. of the arsenic radical was used up to produce the former of these two salts.

C. 2·03 Gm. lead acetate (sol. No. 2) was gradually added to a solution of 1 Gm. sodium arsenate and 1 Gm. glacial acetic acid in 50 C.c. water. On filtration the filtrate contained a small but distinct excess of the arsenic radical. It was found, however, that 2·05 Gm. of lead acetate (instead of 2·03 Gm.) completely precipitated 1 Gm. of sodium arsenate, and this figure indicated that 1·7 per cent. of the arsenic radical was precipitated as $Pb_3(AsO_4)_2$, even in presence of the quantity of acetic acid officially prescribed.

D. 3·05 Gm. lead acetate (sol. No. 2) was gradually added to a solution of 1 Gm. sodium arsenate in 50 C.c. water, in absence of any added acetic acid, this being in the ratio 3Pb : $2AsO_4$. On filtering a portion almost immediately after the mixture was made, the filtrate, which was distinctly but not strongly acid, was found to contain a slight excess of lead; and as the proportions of the salts employed in this case were those required for the formation of normal lead arsenate, $Pb_3(AsO_4)_2$, it is apparent that it is mainly this salt which is at first formed, under the conditions of this experiment. When a second portion of the mixture was allowed to stand overnight and then filtered, the filtrate was found to contain lead in greatly increased quantity; from which it appears that the normal lead arsenate which is first formed is not in equilibrium with the somewhat acid solution, and that it gradually changes, partially at least, into the acid arsenate, with the simultaneous passing of some lead into solution again. When a third portion of the mixture was shaken up for a few minutes with a moderate quantity of dilute acetic acid and then filtered, the filtrate contained lead in large quantity, owing to the conversion of $Pb_3(AsO_4)_2$ into $PbHAsO_4$, with simultaneous formation of lead acetate, having been greatly furthered.

These experiments appear to warrant the following conclusions:—

(1) That when ordinary sodium arsenate and lead acetate interact in aqueous solution, normal lead arsenate is at first the chief product, despite the fact that the mixture becomes slightly acid owing to liberation of acetic acid.

(2) That in the presence of added acetic acid, even in comparatively small quantity, the formation of normal lead arsenate is so seriously interfered with that acid lead arsenate largely predominates in the precipitate.

(3) That the official quantitative test of purity of sodium arsenate is substantially, although not strictly, accurate.

No evidence of the solubility of acid lead arsenate in dilute acetic acid was obtained. On the contrary, when lead acetate was added to solution of sodium arsenate containing the proportion of acid laid down in the official test, but with the precaution that the sodium arsenate should remain in slight excess, there was no perceptible darkening of the filtrate when it was treated in the cold with hydrogen sulphide. It seems probable that the supposed solubility of lead arsenate in acetic acid, as noted by Barrie (*P.J.* [4], **18**, 85) was really due to the conversion of normal into acid lead arsenate with formation of lead acetate in solution, in accordance with the equation:—

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* Communication to the Pharmaceutical Society of Great Britain, read at a meeting in Edinburgh on Friday, April 22, 1904.

$$Pb_3(AsO_4)_2 + 2HC_2H_3O_2 = 2PbHAsO_4 + Pb(C_2H_3O_2)_2.$$

NOTES AND SUGGESTIONS ON THE BRITISH PHARMACOPŒIA, 1898.*

BY JOHN LOTHIAN, PH.C.

Glycerin Suppositories.

The Pharmacopœia directs ½ oz. of gelatin to be soaked in water for two minutes, 2½ oz. of glycerin added, and the mass evaporated to 1,563 grains, corresponding to 70 per cent. of glycerin. As a variable quantity of water is taken up in the soaking uniformity is secured by this method. The product contains 250 grains of water.

As evaporating down to a given weight is always troublesome, especially in the preparation of small quantities, it occurred to me that the process might be simplified by dissolving the gelatin in a definite quantity of water to begin with, no evaporation afterwards being required. I find the loss by evaporation in making the above quantity is about 120 grains, and suggest the following simplification:—

Distilled water	2 parts
Gelatin	1 part
Glycerin	5 parts

Dissolve the gelatin in the water on a water-bath, warm the glycerin to the same temperature, add and mix.

The percentage of glycerin in the finished mass is about 69. It is evident, however, as the mass requires to be kept on the water-bath while a number of suppositories are being filled, that the percentage of glycerin must vary slightly, so that the product is practically the same, and much more quickly obtained than by following the B.P. method.

Granular Effervescent Preparations.

The essential components of a granulating basis are citric acid, tartaric acid, and sodium bicarbonate. A partial reaction is initiated by the water of crystallisation in the citric acid, in which sufficient carbon dioxide and water are eliminated to form a mass of suitable consistence for granulation.

While it would not be possible to form a basis with tartaric acid and sodium bicarbonate alone (unless alcohol or moisture were added), citric acid and sodium bicarbonate alone would form a mass much too moist. An ideal mass—that is, one so pasty as to cause the granules, after having been separated by stirring the mass or passing it through a sieve, to unduly aggregate, and on the other hand not too powdery—is obtained by using certain definite proportions of these two acids.

The purpose of the present communication is to show that the proportions of citric and tartaric acids require in almost every case to be varied according to the nature and amount of the medicament to be incorporated.

I am, of course, speaking of an ideal mass, and that does not in any way prevent us having a general basis like the present effervescent sodium citro-tartrate, which would be suitable for prescription purposes where from 2 to 10 per cent. of medicament might require to be incorporated.

In the following table the relative proportions of citric acid, tartaric acid, and sodium bicarbonate used in the B.P. formulæ are tabulated:—

—	Citric Acid.	Tartaric Acid.	Sodium Bicarbonate.
Sodii citro-tartras eff.	1	1·5	17
Caffeinæ citras eff.	1	1·5	16·66
Sodii phosph. eff.	1	1·5	16·66
Sodii sulph. eff.	1	1·5	16·66
Magnesii sulph. eff.	1	1·52	16·66
Lithii citras eff.	1	1·48	19·33

It is with the ratio of the two acids I have to deal. It is to be observed that these are practically identical in every case. The result is obvious from the preceding remarks. The consistence of the mass (I mean by mass the heated mixture immediately before being separated into granules by a sieve or otherwise) varies in every case, in the case of effervescent sodium citro-tartrate being too moist and pasty, and in those cases—such as effervescent magnesium and sodium sulphates, etc., where a high percentage of an exsiccated salt is incorporated, too dry and powdery. This method, therefore, of using practically the same basis in every case is the fundamental error in the B.P. formulæ.

In a paper on this subject, contributed by Messrs. Lunan and Davidson (*P.J.* [4], **8**, 142), the authors point out that the temperature directed to be used in the B.P. (viz., between 93·3° and 104·4° C.) to which the mixture is to be heated, and which I shall call the granulating temperature, is much too high, and recommend that a temperature of 70° C. be employed for granulating and a temperature of 50° C. for drying. While agreeing with the authors that a temperature of approximately 100° C. is too high in many cases working with the B.P. formulæ, the fact remains that in practice this is the most convenient temperature at which to work, using on the small scale a water-bath, and on the large scale a steam jacketted dish.

The dish should be uniformly heated to this temperature before the mixture is transferred to it, and the granulation performed as quickly as possible. I find that, working with a properly adjusted basis, granules prepared at this temperature—100° C.—will effervesce better than those prepared at a lower temperature using the B.P. formulæ.

The granules can be quickly dried at even a lower temperature than 50° C. in a drying cupboard provided with a good draught, as by using a well-adjusted basis there is no excessive quantity of moisture to be got rid of, and therefore the effervescing quality of the granules is not deteriorated in the process of drying.

I have experimented on quantities of 500 grains, using a water-bath as a source of heating for granulating. I find in the case of effervescent magnesium sulphate, where almost 40 per cent. of a partially exsiccated salt is contained in the finished product, that equal proportions of citric and tartaric acids (using, of course, a total quantity of acid of equivalent neutralising power to that used in the B.P.) give the best results. In the case of effervescent sodium sulphate, where the finished product contains 25 per cent. of exsiccated salt, a good mass is obtained, using 1 part of citric acid to 1·2 parts of tartaric acid. In the case of effervescent sodium citro-tartrate the proportion of tartaric acid, on the other hand, requires to be increased. I regret, however, that I have not had time to determine in every case the most suitable proportions ; and, working on such a small scale, where, no doubt, the loss of moisture by evaporation is proportionately greater, I have refrained from placing before you formulæ to replace those of the B.P.

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I have, however, clearly indicated the lines upon which the B.P. formulæ require to be modified, and trust that someone working at least on a retail scale will be good enough to experiment and devise more suitable formulæ than those in the present B.P.

I ought to mention that on referring to the discussion on Mr. Lunan's paper I find Dr. Coull's observations exactly bear out my experience with regard to effervescent sodium citro-tartrate and effervescent sodium sulphate.

I agree with Mr. Lunan's note that a definite size of granule should be decided upon. The large makers of late years have set the fashion of putting out a very small granule. While such may be convenient for measuring purposes, it does not appear to me to differ materially from an effervescing powder in larger granules. In order to have a well-sustained effervescence, it is necessary to have a granule of at least a moderate size. I know in some pharmacies that large granules of effervescent lithium citrate are asked for by customers.

Melting-Points.

Cera Flava.—I find the "cooling curve" method answers well. A quantity of the wax is heated (a 2-oz. cylindrical tobacco tin, with a hole punched in the lid, through which a cork carrying a thermometer is inserted, forms a suitable vessel) to a few degrees above its melting-point. Readings are taken every half-minute or so, and a curve obtained measuring times horizontally and temperatures vertically. The horizontal portion of the curve corresponds with the melting-point, no apparent cooling taking place there, owing to the heat given out during solidification.

The actual observations are as follow :—

Time in Minutes.	Temp. °F.
0	149·8
½	148·9
1	148·1
1½	147·7
2	147·2
2½	147
3	146·7
3½	146·5
4	146·3
4½	146·1
5	146
5½	146
6	146
6½	145·8
7	145·6
7½	145·4
8	145·2
8½	145
9	144·8

This method is not so suitable for Paraffinum Durum, a number of stationary points on the curve being observed probably due to the different hydrocarbons of which the wax is composed. The best that can be obtained in this case is an average melting point, and this is most readily got by coating the thermometer bulb with the paraffin and suspending the thermometer in a beaker of water, making several determinations of the melting and solidifying points, and taking the mean.

Acidum Carbolicum.—The overcooling method works admirably in this case. A long test tube is filled with sufficient of the melted phenol to reach the probable melting point on the stem of the inserted thermometer, some cotton wool placed round the orifice and the test tube with thermometer clamped in a retort stand and kept perfectly still. The liquid will frequently overcool far below the melting point ; on agitating solidification takes place, the temperature suddenly rising to the melting point and remaining stationary for some time.

Of course, neither of these methods can be employed where the amount of material is limited.

Sapo Mollis and Sapo Durus.

The unsatisfactory and varying quality of the commercial olive oil (?) soaps induced me to make what I required for B.P. purposes, and I suggest that a formula for their preparation might with advantage be inserted in the next Pharmacopœia. I find the following formulæ, partly taken from the 'Pharmacopœia Helvetica,' satisfactory :—

Sapo Mollis.

Olive oil	100 parts
Solid potassium hydroxide	21 parts
Water	100 parts
Alcohol (90 per cent.)	20 parts

Boil by means of a steam bath until the oil is saponified, adding if necessary a little more spirit to assist the saponification. The resulting soap is approximately neutral.

Sapo Durus.

Olive oil	100 parts
Soda lye, sp. gr. 1·33	50 parts
Alcohol (90 per cent.)	30 parts

Heat on a steam bath until saponification is complete. The soap which is formed is dissolved in 300 parts of hot distilled water. The soap is salted out of this solution by adding a filtered solution of 25 parts sodium chloride, and 5 parts crystallised sodium carbonate in 80 parts of water.

An official solution of soft soap is much wanted. It has been pointed out before that such a solution would be useful for preparing Linimentum Terebinthinæ more expeditiously than by the present method. It could also be readily medicated, and used as a liquid soap for medicinal purposes.

I find also that oleates of a more uniform nature can be prepared by using a genuine olive oil soap instead of the castile soap of commerce.

Volumetric Determinations.

I have previously advocated the adoption of potassium permanganate as an official volumetric solution for oxidising purposes. While, no doubt, inadmissible where organic or other reducing substances are present, it might in many cases replace the potassium bichromate solution where, say, a considerable number of determinations of an iron salt have to be carried out, as the titrations can be much more rapidly carried out. This solution is best prepared by boiling the crystals with water, allowing to stand for a few hours, and decanting from any sediment. It is quickly verified before use by means of Moohr's salt.

Titration with permanganate might with advantage replace the present gasometric methods for the determination of solution of hydrogen peroxide and sodium nitrite. In the case of sodium nitrite Autenrieth recommends the titration to be carried out at a concentration of about 1 per 1,000. A measured quantity of the permanganate solution is placed in the flask, diluted as directed, and the sodium nitrite solution slowly added from a burette, keeping the contents of the flask constantly swirled until decolorisation is complete.

A SOLUBLE POTASSIUM FERRIC ARSENITE.*

BY LEONARD DOBBIN, PH.D.

In the discussion which followed the reading of a "Note on an Arsenic, Iron and Quinine Mixture," contributed by Miss Borrowman to this branch of the Pharmaceutical Society in February last, Mr. Rutherford Hill mentioned that the formation of the precipitate of ferric arsenite, which gradually separated from the mixture in question, was prevented by the addition of a small quantity of Liquor Potassæ (*P.J.* [4], **18**, 223).

This observation led the author to examine the behaviour of precipitated ferric arsenite towards a solution of potassium hydroxide, when it was found, as the result of a rapid experiment, that the precipitate, when freshly formed, dissolved in the alkaline solution with great readiness and yielded a dark reddish-brown solution.

On looking up the literature concerning ferric arsenite, it was found that Guibourt (*Journal de Chimie Médicale* [2], **5**, 314) had observed the complete solubility in sodium hydroxide of a sample of ferric arsenite which he had obtained as a dark yellow precipitate by the interaction of solutions of sodium arsenite and ferric sulphate, and for which analysis indicated the formula, $2Fe_2O_3$, $3As_2O_3$, $7H_2O$. The solution of this substance in sodium hydroxide was transparent and dark red, and was not rendered turbid by exposure to air nor by the action of carbonic anhydride. Guibourt only states further with respect to the solution that when it was evaporated to dryness a reddish material resulted which, although attacked with difficulty by water, was at length almost completely dissolved by it.

For the purpose of further investigation of the matter a quantity of ferric arsenite was prepared by the interaction of potassium arsenite and ferric chloride. The yellowish-brown precipitate so obtained was well washed with water, and then some potassium hydroxide solution was shaken up with successive portions of it till no more would dissolve—the quantity of precipitate which went into solution in this way being surprisingly large. The resulting solution had an intensely dark reddish-brown colour and was strongly alkaline. On evaporating a few drops of this solution to dryness on a watch glass a shining non-crystalline residue was obtained, which was of a rich reddish-brown colour, and closely resembled the various well known "scale" preparations in the readiness with which it broke up and parted from the glass. The remainder of the solution was then poured out in thin layers on glass or porcelain plates and evaporated to dryness by the aid of a very gentle heat, and in this way an abundant supply of a fine scale preparation was obtained. The substance so prepared remains quite dry, and appears to be unchanged, or very nearly so, by exposure to the air. It dissolves readily and completely in cold water, and forms a strongly alkaline solution. On treatment with dilute hydrochloric acid, the aqueous solution first yields a precipitate, which no doubt consists of ferric arsenite, but the precipitate dissolves easily when the acid is added in sufficient excess. Gently heated by itself in a dry tube the solution yields a considerable quantity of water, and the residue when heated more strongly fuses to a dark brown liquid, while a very slight sublimate of arsenious anhydride is formed.

Potassium, iron, and arsenium were determined in a weighed quantity, and the following results were obtained:—

K, 13·14 per cent.; Fe, 15·79 per cent.; As, 37·77 per cent.

These figures indicate that potassium and arsenium are present in the ratio 2K : 3As, and that iron and arsenium are present in the ratio 5Fe : 9As. This latter ratio is not the same as that found by Guibourt in his ferric arsenite (which had 2Fe : 3As), but no special significance need be attached to this fact, since ferric arsenites with widely varying proportions of iron and arsenium have been prepared by different methods.

The above proportions are not capable of representation by a quite simple formula, but they correspond closely to the formula $6K_2O$, $5Fe_2O_3$, $9As_2O_3$, $24H_2O$, which requires K, 13·08 per cent.; Fe, 15·65 per cent.; As, 37·73 per cent.

Only one specimen of the compound was prepared and analysed, but there appears to be no reason to suppose that, by observing the same mode of procedure on successive occasions, products of uniform composition could not be obtained. It remains to be seen whether a preparation of this description may find any useful application in medicine.

A portion of the original precipitate of ferric arsenite was dissolved in solution of sodium hydroxide, and the solution was evaporated to dryness. As stated by Guibourt, the residue was found to dissolve slowly and, eventually, almost completely in water.

The behaviour of a further portion of the precipitate of ferric arsenite towards solution of ammonia was also examined. Dilute solution of ammonia, in the cold, seemed to be almost without action upon it, but when the nearly saturated solution of ammonia was heated with it for a short time a large quantity dissolved. On evaporating the solution to dryness at a very gentle heat, a shining residue was obtained which was practically identical in appearance with the potassium compound described above. This substance, however, is insoluble in water. When heated with solution of sodium hydroxide, it gives off ammonia in considerable quantity. Ammonia is also given off, along with water, when the substance is very gently heated in a dry tube; and when the tube is more strongly heated an abundant sublimate of arsenious anhydride is obtained, while a dark reddish-brown residue, which does not fuse at a red heat, is left behind.

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* Communication to the Pharmaceutical Society of Great Britain, read at a meeting in Edinburgh on Friday, April 22, 1904.

THE OFFICIAL FORMULÆ FOR MAGNESIUM, LEAD, AND ZINC CARBONATES.*

BY J. G. FERRIER, PH.C.

Some years ago the official corbonates of magnesium received a considerable share of my attention, and at that time, while subjecting these salts to quantitative analysts, I observed a conspicuous want of uniformity in the results obtained. Since then I have had an opportunity to investigate the matter more particularly, with a view to accounting for the evident discrepancy existing between the actual composition of the chemicals in question and their formulæ in the Pharmacopœia.

Various commercial samples, presumably prepared at varying times if not by different makers, were estimated gravimetrically and volumetrically for comparison, and in no case was a purity of 100 per cent. obtained. Further, no two samples were alike, yet no appreciable trace of basic or acidic impurity was found. In every instance there was a shortage in carbonate and in hydroxide, the average deficit being 0·71 per cent. of the former and 0·57 per cent. of the latter.

I prepared small quantities of the light and heavy carbonates, following implicitly the pharmacopœial process throughout, but these were no nearer the standard than those previously examined.

The light carbonate of magnesium I made yielded 24·9 per cent. of total magnesium, or 0·508 per cent. less than that required by the official standard. The sample yielded 33·9 per cent. of carbon dioxide instead of 34·4 per cent. This amount of carbon dioxide being necessarily combined with 18·76 per cent. of the magnesium, it follows that 6·23 per cent. of the total magnesium existed as hydroxide. There was thus a deficit in hydroxide of 0·3 per cent. The weight of water in the salt was arrived at by difference, and proved to be in excess to the extent of nearly 2 per cent.

In the case of the sample of the heavy carbonate, carbon dioxide was short by 0·69 per cent., and magnesium hydroxide by 0·39 per cent., with water in correspondingly greater ratio.

On mixing solutions of magnesium sulphate and sodium carbonate the resulting precipitate, owing to the prevailing conditions being favourable to hydrolysis, consists not of normal carbonate but of a mixture of carbonate and hydroxide. Magnesium not being a particularly strong base and carbonic acid a relatively weak acid, hydroxide is produced hydrolytically with evolution of carbon dioxide. Magnesium hydroxide being but slightly soluble in water, its solubility product is quickly attained, and there is almost immediate precipitation, the hydroxide attaching itself to, or mixing with, the magnesium carbonate ($MgCO_3$) already thrown out. The relative quantities of carbonate and hydroxide is dependent on the concentration and temperature of the solutions of the reacting salts. Rise of temperature and increased dilution induce an increase of hydroxide with a corresponding loss of carbonate.

In view of these facts, therefore, the slight yet noticeable variation in different samples can be understood. The water of crystallisation is, however, also a fluctuating quantity. The Pharmacopœia fixes four molecules to three of carbonate and one of hydroxide, but all my experiments point to the presence of water in larger amount in the commercial article, both light and heavy. Exposing the salt at a temperature of 102° C. I found, in one experiment, brought the substance to practically official perfection. But it was not found practicable to reach the same result by repeating the experiment. Repetition of this treatment on successive portions, probably from the temperature and duration of exposure having varied, gave inconsistent results, the salt having undergone decomposition. 100° C. is a limit beyond which it cannot safely be desiccated.

That washing with water has an appreciable influence on the salt was demonstrated as follows:—A portion of the sample of light carbonate, placed on a calico filter, was washed at regular intervals with cold water during six weeks. One sample was removed at the end of a fortnight, another two weeks later, and these and the residue after six weeks' washing were dried at 100° C. and estimated.

Using as before the official formula for arithmetical purposes No. 1 indicated 99·1 per cent., No. 2 indicated 99·4 per cent., and No. 3 indicated 99·45 per cent. Normal carbonate ($MgCO_3$) had gradually disappeared, and at a diminishing rate, the greatest loss occurring during the first stage of washing, that decomposed after a month's time being almost negligible.

The chemical change being a function of hydrolysis the decrease in carbonate is met by a corresponding increase in hydroxide, sample No. 3 was richer in the latter than No. 2, and to a still greater degree than No. 1. From this it may be deduced that the fall in carbonate and simultaneous rise in hydrate, while theoretically continuous till change is complete, is in practice noticeable within narrow limits only.

Examination of No. 3 under a high power microscope showed it to be quite destitute of slender prisms, and microscopically indistinguishable from the heavy variety, while the so-called amorphous particles exhibited a decidedly micro-crystalline structure.

It may then be reasonably submitted that, in view of the internal changes to which this compound is so liable, it would be advisable that a note to this effect be attached to its monographs in subsequent editions of our Pharcopœia. No arbitrary formula seems justifiable, the number of molecules of carbonate, hydroxide and water should be indicated in terms of "X." The Pharmacopœia represents magnesium carbonate to be a definite chemical compound, whereas it is a variable mixture of carbonate, hydroxide and water. In view of the fact that the B.P. is frequently accepted as authoritative in proceedings under the Food and Drugs Acts, it is undesirable that in this, and similar instances, the standard should have the rigidity of a definite chemical formula.

In our Pharmacopœia are included two other carbonates whose formulæ for similar reasons are open to criticism. I refer to lead and zinc. The carbonates of these elements are also characterised by their proneness to hydrolyse, though not to the same extent as magnesium. Yet in the B.P. no indication of the fact is given, nor are we furnished with any working recipe whereby salts corresponding to the official formulæ may be produced. In the case of zinc we are directed to mix sodium carbonate with zinc sulphate. But in what volume of water are the two salts to be dissolved, and must the solvent be cold, warm or boiling, so that on mixing the solutions the precipitate is likely to be $ZnCO_3$, $2Zn(OH)_2$, H_2O? Clearly something is wanting as there is more than one so-called zinc hydrato-carbonate, the one precipitated wholly depending on the concentration of the interacting ions and the temperature.

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* Communication to the Pharmaceutical Society of Great Britain, read at a meeting in Edinburgh on Friday, April 22, 1904.

In the next B.P. these details will probably also find a place and receive due attention.

MANGANESE IN ZINC SULPHATE.*

BY D. B. DOTT, PH.C., F.I.C.

Manganese is not mentioned among the impurities probably present in zinc sulphate, as detailed in the official tests. In a sample received for examination the presence of manganese was suspected from the colour of the ammonium sulphide precipitate. On testing with the borax and carbonate of sodium beads, the amethyst and green colours respectively given, confirmed the presence of manganese. A portion of the salt was dissolved in water with a little acetate of sodium, and the solution, after addition of bromine water, was warmed. A dark brown precipitate quickly formed, consisting of manganese dioxide mixed with some oxide of iron. The amount was approximately determined by ignition of the precipitated oxide, and found equal to 4·06 per cent. of crystallised manganese sulphate.

It would, therefore, seem desirable to include manganese among the possible impurities of zinc sulphate, in the tests of the British Pharmacopœia. It is suggested that the final clause of the official characters and tests should read "It should yield. . . . only the slightest reactions with the tests for iron, manganese, or chlorides."

Manganese is a recognised constituent of several zinc ores, and probably exists in all of them. This may be the source of the contamination, or it may be due to permanganate used in the process of purification as described by Stolba (*A.J.P.*, 1877, 72) or the process described by Prunier (*Journ. de Pharm. et de Chim.* [5], V., 608).

Reported Inefficacy and Toxicity of Lithium Salts.—Good states that the therapeutic value of lithium salts has been greatly exaggerated; not only does their administration fail to increase diuresis, but in such dilute solutions as they must necessarily occur when taken, they have no solvent action on uric acid. The fact that they confer an alkaline reaction on the urine is no reason that they should be preferred to other alkalies. That they possess marked toxic effects was proved by the fact that cats, treated hypodermically with doses of 15 to 30 grains of lithium chloride, suffered from acute gastro-enteritis, to which they speedily succumbed. A further investigation demonstrated that lithium salts are eliminated very slowly and incompletely by the kidneys. After the administration of a single non-toxic dose, the presence of lithium in the urine could be detected for several weeks. The author therefore considers that the salts of lithium should not be freely prescribed.—*Nouv. Remèdes*, **19**, 354; after *Amer. Journ. Med. Sci.*

THE STUDENTS' COLUMNS.

THE DISPENSING OF MEDICINES (6).

Emulsions.

As mentioned in previous articles, emulsions are really mixtures, differing only from these in that special means have to be adopted in order to make the principal ingredients miscible with the vehicle, and, therefore, evenly distributable throughout it. There is no clear line of demarcation between mixtures and emulsions, but the former class are usually described as combinations of liquids and solids, which are miscible with the vehicle without the aid of any gummy or mucilaginous substance, whilst the latter require it. The word emulsion is derived from the Latin (*emulgeo*, *emulsus*, etc., to milk out), and was no doubt first applied to those preparations known to pharmacists as emulsions because of their resemblance in colour and consistence to milk. It would be interesting to know what were the originals of this class of medicinal compounds, but the subject may be left over meantime, with the single speculation that in all probability the class originated in the use of the gum resinous exudations of plants in the curative art, that the primitive drug-giver, in order to get the exudation into a liquid form suitable for drinking, rubbed it in water, possibly by means of two stones, and this causing the water to become white and milk-like gave rise to the term. Be this as it may, the present-day definition of emulsification is restricted to the rendering miscible with water of those substances of an oily or resinous nature which by themselves are either non-distributable or only partially distributable throughout it. This end is attained by breaking up the immiscible substance, which may be either a liquid or a solid, into extremely minute particles, and putting a covering of mucilage upon each of these, which covering prevents the particles coalescing with one another when they come in contact. Pharmaceutically, then, emulsification is the process just described, and an emulsion, the compilation of an insoluble substance, either entirely or partially of an oily nature, with an aqueous vehicle, by means of some agent such as mucilage. In the case of mixtures containing substances, in a fine state of division, which are insoluble in the aqueous vehicle, we have already noted the usefulness of mucilage in rendering the vehicle more viscid or thicker, thereby preventing the rapid falling or rising of the insoluble substance. In the case of an emulsion, the same end is attained in a different way—viz., by giving each of the minute particles a mucilaginous coating, thereby preventing their coalescence.

The student will now see that the distinction between an emulsion and a mixture is extremely small, and is not so much a manipulative difference as that of a difference in the nature of the ingredients. Some simple experiments, which the student is strongly advised to carry out, will aid in making this difference quite comprehensible to him. Let him put ½ oz. of oil of almonds and 2 oz. of water into one long narrow bottle, and the same quantities of heavy carbonate of magnesium and water into a similar bottle, shake them vigorously so as to mix the contents, and then carefully watch the individual separations. In the case of the magnesium salt, it, being of greater density (heavier) than the water, will gradually fall to the bottom of the bottle, whilst the oil, being lighter than the water, will gradually collect at the top. The student will note that in the case of the oil the vigorous shaking has caused it to be divided up into very small particles, and that these gradually join with other particles, forming larger aggregations, until the whole of the oil has separated into a distinct layer. These two substances should then be treated with mucilage of acacia in the following manner:—Put 2 drachms of mucilage into a mortar, and gradually incorporate with it, by constant trituration, 2 drachms of almond oil. During this process the mucilage will gradually assume a whitish appearance, which will be intensified when the 2 oz. of water are gradually added. Transfer to a bottle for after comparison.

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* Communication to the Pharmaceutical Society of Great Britain, read at a meeting in Edinburgh, on Friday, April 22, 1904.

In a dry mortar place the magnesium carbonate, and gradually add to it, with constant trituration, 2 drachms of mucilage and 2 oz. of water. Transfer to a bottle, and compare with the other three bottles at the end of half an hour. It will then be seen that while the treatment of the oil of almonds by means of mucilage has rendered it, comparatively speaking, completely miscible with the vehicle, the addition in the case of the magnesium salt has had practically no effect. Two other experiments will further elucidate this point. Repeat the two previous experiments, using 4 drachms of freshly-prepared mucilage of tragacanth instead of the 2 drachms of mucilage. Bottle as before and compare with the other results at the expiry of a few hours. The student will then perceive that the mucilages have not similar merits, and that each in turn can claim superiority over the other. For emulsification proper, acacia is superior to tragacanth by itself, but for suspension tragacanth is superior to acacia, since it renders the vehicle more viscid. Before commenting in detail upon the emulsification of substances individually, some general remarks upon manipulation will be made.

The usual emulsification agents are acacia (powder and mucilage), tragacanth (powder and mucilage), Irish moss (mucilage), yolk and white of egg (separately and together), and soap. Other substances are used, but the student need not trouble about those meantime, since their use is less frequent; moreover they are used in a manner similar to those mentioned. Acacia is perhaps the most frequently used agent, and may be utilised in two different ways, (a) by dissolving the gum in water and gradually adding to it with constant trituration the substance to be emulsified, (b) by mixing the acacia (in powder form) with the substance (*e.g.*, cod-liver oil, castor oil, etc.), then adding rapidly a quantity of water, and briskly triturating until emulsification be complete. Tragacanth may be used in a similar way by itself or in combination with acacia, or with yolk of eggs. By itself it is comparatively useless compared with acacia, but as an adjunct or ally it is of great value, especially with the yolk of eggs. Irish moss is always used in the form of mucilage, but nowadays it is neglected, especially in the dispensing-room. White of egg and soap are almost entirely restricted to those compounds known as embrocations, and are scarcely ever used for any other purpose. In making an emulsion by means of mucilage, the mucilage should always be put in the mortar, and the substance to be emulsified gradually added to it. If the reverse way were followed, the substance instead of being broken up into minute portions, and each coated with mucilage, would partially break up the mucilage into minute portions, and give each of these a coating of the substance, with the result that this mixture—to call it an emulsion would be a misnomer—on standing for a short time would separate. The student should verify this by experiment. In the next article of the series substances frequently dispensed in the form of emulsion will be treated of individually.

THE MEDICINAL USES OF PITTOSPORUM BARKS.

The natural order Pittosporaceæ is a comparatively small one, including about ninety species, and is nearly allied to the Polygalaceæ, but the plants have regular flowers with the clawed petals often cohering at the base, and a capsular fruit dehiscing loculicidally or indehiscent. The species extends from Tropical Africa to Tropical Asia and Australia, all the genera except *Pittosporum* being confined to Australia. Of the species used in medicine Rosenthaler mentions none except that *P. Tobira*, Ait., of China and Japan has a resinous bark. Hooker mentions nine species in the 'Flora of British India,' but says nothing about their medicinal use. Trimen, in the 'Flora of Ceylon,' mentions two species, but also does not refer to any medicinal use of the plants. Sir George Watt, in the 'Dict. Econ. Products of India,' vi., **1**, 283, mentions *Pittosporum floribundum*, W. and A., as having a bitter and aromatic bark, said by the natives of the Western Ghats to possess narcotic properties, and that it is used in doses of 5 to 10 grains as a febrifuge, and in doses of 50 grains is believed to be a specific for snake poisoning. A Brahmin practitioner, of Poona, found it to be a good expectorant in chronic bronchitis, in doses of 5 to 10 grains. In some cases in which it was tried in Bombay it is said to have given rise to dysentery and diarrhœa. In 'Pharmacographia Indica,' I., p. 154, the authors state that the bark of *Pittosporum floribundum* yields a similar principle to the glucoside pittosporin obtained by Rimmel from the bark of *P. undulatum*, with which species Graham believes *P. floribundum* to be identical, or at all events very near to it. The authors also state that the *P. floribundum* contains an aromatic yellow resin or oleoresin, having very tenacious properties. The occurrence of frothing of the decoction, noticed by Miss Hooper (*antea*, p. 361), seems to indicate that the glucoside present is a saponin, but it has not been found possible to obtain a reference to Rimmel's original paper. If so this would account for the usefulness of the bark in bronchitis. According to J. H. Maiden (*Pharm. Journ.* [3], **23**, 59, 79), who examined the exudations of several Australian species of the genus, the gum of *P. undulatum* consists of arabin, and the resin possesses remarkable healing properties when applied to wounds.

Liquid Leather Polish.

Sandarac, 2 drachms; shellac, 1 oz.; glycerin, 1½ drachms; castor oil, 2 drachms; oil of mirbane, ½ drachm; aniline blue, 10 grains; aniline black, 1 drachm; alcohol (methylated), 8 oz.—*Spatula*, **10**, 35.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN.

SCIENTIFIC MEETING IN EDINBURGH.

Friday, April 22, 1904, in the Society's House, 36, York Place, Edinburgh, Mr. D. B. Dott, in the chair.

The minutes of last meeting were read and approved.

Apologies for absence were intimated from Messrs. Bryce, Cowie, Cockburn, Davidson, Dunlop, Ewing, Glass, Jack, Lawrence, Lindsay, Spence, and Storrar.

Mr. Boa having taken the chair, Mr. D. B. Dott, Ph.C., F.I.C., read a communication on

Manganese in Zinc Sulphate.

The paper is printed in full at page 587. At the conclusion of his paper Mr. Dott demonstrated the facility with which manganese oxide could be precipitated from an aqueous solution of the sample by adding a little sodium acetate and bromine water and warming. He then asked Mr. Hill to give a demonstration of Dr. Marshall's test for traces of manganese.

Mr. Hill stated that in his research in which he discovered the persulphates Dr. Marshall noted that they furnished an exceedingly delicate test for manganese. He (Mr. Hill) had dissolved 1 part of Mr. Dott's sample in 2,000 parts of water, and on adding to this a drop or two of nitric acid and a drop or two of nitrate of silver, and then a small pinch of ammonium persulphate, and heating the liquid, it acquired a deep pink colour from the formation of permanganic acid. This was an improved modification of Crum's test. He had examined a large number of specimens of zinc metal, zinc ores, and zinc salts, and, with one exception, all of them indicated the presence of more or less manganese. The exception was a sample of acetate of zinc, but he was not yet sure whether the acetic radical had interfered with the development of the pink colour. On testing zinc oxalate a pink colour was not developed, owing, apparently, to the reducing action of the oxalic radical. On destroying the oxalic radical with sulphuric acid, the solution gave a distinct reaction for manganese. A specimen, probably forty or fifty years old, belonging to the Martius collection in the Museum, and labelled "Zincum carbonicum manganhaltig," gave marked evidence of manganese. There was also a specimen of zinc sulphate presented to the Museum in the early days of the North British Branch by John Mackay, and stated on the label to be made by oxidation of native sulphide of zinc, which contained a large percentage of manganese, resembling in many respects Mr. Dott's sample. He had never seen any other specimen which contained anything like so large a quantity as Mr. Dott's sample.

Mr. Boa said they were indebted to Mr. Dott for his contribution, and also to Mr. Hill for his demonstration.

Dr. Dobbin said many other salts besides those of zinc would be found to give reactions for manganese, and it was difficult to get specimens which were absolutely manganese free. He was beside Dr. Marshall when he was experimenting with this test, and he found extreme difficulty in getting anything almost which did not respond to it. It was only after considerable investigation that he felt satisfied that he was in possession of silver nitrate and ammonium persulphate that were manganese free. Oxalic acid or any other reducing organic matter would interfere. Mr. Dott's paper was very interesting, as showing to what extent impurities of this kind might be present and remain unsuspected for a length of time.

Mr. Barrie asked if the silver nitrate was an essential part of the test. It was necessary to get rid of chlorides in Crum's test.

Mr. Hill said Dr. Marshall recommended that the silver nitrate be always added, and in the case of chlorides it was necessary to add more than sufficient to precipitate all the chlorides, and then the pink reaction was obtained.

Dr. Leonard Dobbin, F.I.C., read a note on

The Interaction of Sodium Arsenate and Lead Acetate

and another on

A Soluble Potassium Ferric Arsenite.

The papers are printed in full at pages 582 and 585 respectively.

Mr. Barrie said he was much interested in listening to the way in which Dr. Dobbin had worked out this matter, showing that in a neutral solution tri-plumbic arsenate was formed, and that when acetic acid was present there was formation of mono-plumbic arsenate. In working out this test he (Mr. Barrie) found a considerable excess of sodium arsenate in the filtrate when it was applied in the B.P. manner. It appeared that Dr. Dobbin, working with very great care, got roughly 2 per cent. of a deficiency in a powerful preparation like sodium arsenate. It was easy to see that working in an ordinary way, and with rather less care, more sodium arsenate could easily be found in the solution. That was why in his first paper he condemned this test and reverted to the older method without acetic acid, by which he found he could get results more closely approximating to accuracy. His whole point was that at this time of day, when accuracy was resolved upon, and could be attained in regard to most things, such a test as the B.P. one for sodium arsenate should be replaced by another which would give more concordant results.

Mr. Hill said Dr. Dobbin had been good enough to take up these points raised in the course of their discussions during the winter. Their meetings hitherto had been useful in making practical suggestions in connection with the national Pharmacopœia, and it was of the utmost consequence that tests for powerful remedies should be carefully scrutinised by skilled and competent experimenters. In doing so Dr. Dobbin had done them a very distinct service, for which they were much indebted to him. With regard to the point raised in his remark about Miss Borrowman's mixture, he felt personally indebted to Dr. Dobbin for taking it up. He had shown them a very beautiful compound, which might be useful in medicine. It was freely soluble in water, and might be prescribed in mixture form. He thought it would be useful as well as easily absorbed. They had already ferrous arsenate as a therapeutic agent, but the relative activity of arsenious and arsenic compounds had been the subject of a very careful pharmacological research, which showed that the arsenious arsenium was about twice as active therapeutically as the arsenic arsenium, and, therefore, this compound was much more powerful than ferrous arsenate. It was also a convenient soluble form of a compound of iron and arsenic, the iron being present in a condition free from the strong objection to its astringent action in other forms. This was a preparation which might repay investigation, and he hoped someone would take it up.

The Chairman asked if it was soluble in an acid solution.

Dr. Dobbin said the solvent required to be neutral or alkaline. It was decomposed in presence of acids.

The Chairman said Dr. Dobbin had investigated these two points with his usual accuracy and skill. At the same time, he agreed with Mr. Barrie that the best thing would be to abolish this test from the Pharmacopœia and substitute something better.

Dr. Dobbin, in replying, said he also agreed with Mr. Barrie. The test was one he would never think of using, either in the form in which it was laid down in the Pharmacopœia or in any modification of it. If there was any importance in what he had done it was to show that in the absence of acetic acid the test was absolutely unreliable, because the non-acidulated solution gave a temporary precipitate of normal lead arsenate, which immediately began to change in the direction of acid lead arsenate. If the experiment was carried out on one day and the filtrate found free from lead, and then examined again on the following day, it would be found that an enormous change had taken place in the interval, and that the filtrate contained a large quantity of lead. The fact was that the mixture was not in equilibrium, and they did not know where they were at all, either at the beginning or after a time. The test was certain to give rise to the state of uncertainty which existed at present.

Mr. J. E. Ferrier, Ph.C., read a paper on

The Official Formulæ for Magnesium, Lead, and Zinc Carbonates.

The paper is printed in full at page 586.

Mr. Lothian said he had not regarded the formulæ for these basic salts as rigid, for no doubt the extent of the hydrolysis would vary with the exact conditions under which they were prepared. At the same time, according to Mr. Ferrier's results, no important deviation had been observed, and it appeared that the composition of these substances was still more nearly represented by these formulæ than by any other.

Dr. Dobbin said he agreed with what Mr. Lothian said.

Mr. Hill, in congratulating Mr. Ferrier on his first appearance before the Society, said what he pointed out was certainly not a very marked deviation. But he was correct in saying that these substances could not be guaranteed as definite chemical compounds as the definite formulæ inferred, but were really mixtures in varying proportions.

The Chairman said he agreed to some extent with what Mr. Ferrier said. The pharmacopœial formula did not represent the substance with absolute accuracy. There were many such compounds, which he thought could not be accurately represented by formulæ as was frequently done. It was better often to represent the metal as oxide and the acid radical separately, giving the relative proportions as Dr. Dobbin, for example, did in his paper. Sometimes in writing the formula of an ammonium compound it was better to represent the ammonia as NH_3 and not as NH_4.

Mr. Ferrier, in replying, said he did not mean to insinuate that the B.P. formula was very far away from the average composition of commercial samples. What he contended was that it was not a compound as the formula would lead one to suppose, but a mixture, the relative proportions of which depended wholly on the manner of making it, and no two samples were alike.

Mr. John Lothian, Ph.C., communicated

Notes and Suggestions on the Pharmacopœia, 1898.

The paper is printed at page 583.

Mr. Lunan said he was much interested in the work which Mr. Lothian had done in connection with effervescing granules. He had referred to the paper by Mr. Davidson and himself, in which they suggested that the citric and tartaric acid should be varied according to the medicament, and he agreed with Mr. Lothian that the proportion of citric acid was too small in the case of sodium sulphate and magnesium sulphate. The idea of Mr. Davidson and himself, working on rather larger quantities than Mr. Lothian, that granulation should be conducted at a lower temperature and drying at 50° C., was to retain the carbon dioxide. If Mr. Lothian examined samples made at 100° C. he would find them short in carbon dioxide. As to the surface temperature, it was true that it could not be easily controlled, but in the apparatus used by them a higher temperature could not be reached than the one they fixed. In making granules on a large scale a higher temperature might be necessary, but their idea was that retail pharmacists could make their own granules better than wholesale manufacturers. Considering the matter from the point of view of making granules in small quantities, this contribution would be very useful.

Dr. Dobbin said Mr. Lothian's communication on melting points was a useful and valuable one, and would come in handy in any further communications to the Pharmacopœia Committee. He agreed that the absence of a potassium permanganate volumetric solution, except incidentally as a test for oxalic acid, was a distinct flaw in the Pharmacopœia.

Mr. Mitchell asked if the potassium permanganate solution was stable. He understood it had to be adjusted every time it was used.

Mr. Currie accentuated Mr. Lothian's remarks in regard to the relative quantities of acid in making effervescent preparations. The B.P. quantities he had several times found unworkable, and it was necessary to alter the proportion of citric acid to get it into proper granular form. Sometimes he had to add water, which he preferred to spirit because it was less expensive. Mr. Lothian's remarks pointed to this, that the General Medical Council would be well advised to have the opinion of experts on all preparations included in the next edition of the Pharmacopœia.

Mr. Hill said in Mr. Chattaway's 'Digest' there was included a method of making liniment of turpentine which was suggested in the same number of the *Pharmaceutical Journal* in which a suggestion appeared made by him (Mr. Hill) that a solution of soap as recommended by Mr. Lothian should be used, but Mr. Chattaway had apparently missed the reference.

The Chairman said it was, perhaps, not a convenient thing to have a soft soap which contained spirit. It would be better if the B.P. gave tests for ascertaining the complete purity of these soaps. Regarding potassium permanganate, his experience was that potassium bichromate was better in some cases. Potassium permanganate could not be used to estimate iron in Blaud's pills and similar preparations. Everything that would oxidise would be oxidised by permanganate. He had used permanganate long ago for the estimation of sodium nitrite, but had given it up because so many substances caused reduction of the permanganate. It was better to employ a test in which only a nitrous oxide was evolved, as in the present official test for sodium nitrite.

Mr. Lothian, in replying, said the temperature suggested by Mr. Lothian was the proper one for preparations made with the B.P. basis, but he had suggested another, which allowed the employment of a higher temperature. There was no doubt the permanganate solution was unstable, but not more so than iodine or hyposulphite, and he had pointed out in his paper how it could readily be standardised. In cases where organic matter was present permanganate might be impracticable, but it could be used in a very large number of volumetric estimations.

Attention was directed to the additions to the Museum and Library, and, on the motion of the Chairman, votes of thanks were awarded to the authors of papers and donors of books and specimens.

PRIVATE CONFERENCE.

Afer an adjournment for luncheon, the members met in private conference, when a long and interesting discussion took place on (1) Prospective Legislation Affecting Pharmacy, and (2) The Medicine Stamp Acts. The discussion on the former was introduced by Mr. W. L. Currie, and that on the latter by Mr. C. F. Henry. At the conclusion of the conference, it was moved by Mr. **Giles**, seconded by Mr. **Kerr**, and unanimously agreed—

> That this meeting regards the prospective early introduction of a Government Poisons Bill in the House of Lords as a matter demanding the most watchful attention of the Council; renews its expression of concurrence with the Minority Report of Mr. Walter Hills as indicating the only safe lines for any amendment of poison legislation; and urges pharmacists in Scotland to take every opportunity of influencing members of both Houses of Parliament and Parliamentary candidates in favour of the policy of the Council as embodied in the Pharmacy Bill, and against the views in the Majority Report of the Departmental Committee on Poisons, which contravene those expressed by Mr. Walter Hills. Further, this meeting suggests that the Executive might consider the propriety of inviting the directors of the Scottish Chamber of Agriculture to formulate any objections they may have to the Pharmacy Bill, with a view to having them met and disposed of satisfactorily, if possible, and that a copy of this resolution be forwarded to the Council.

With regard to the latest phase of the Medicine Stamp Acts question, it was suggested by Mr. **Cummings**, and unanimously agreed—

> That the Council be asked to consider the concession made by Somerset House in favour of persons who have served an apprenticeship with a medical practitioner or chemist and druggist, though not qualified under the Pharmacy Acts, as described in the letter from Mr. E. E. Stoodley, of date February 9, 1904, and the similar concession made in favour of certain limited companies, as described in the *Chemist and Druggist* of April 23, 1904, page 652, with a view to safeguarding the statutory rights of duly qualified chemists and druggists, as defined in the Medicine Stamp Acts, and confirmed in the case of Farmer *v.* Glyn-Jones.

On the motion of Mr. **Thomson**, Lochee, a cordial vote of thanks was awarded to the Chairman at the close of the conference.

MEETING OF THE EXECUTIVE OF THE NORTH BRITISH BRANCH.

Friday, April 22, 1904, in the Society House, 36, York Place, Edinburgh, Mr. D. B. **Dott** in the chair. Present: Messrs. Boa, Cummings, Currie, Doig, Dott, Fisher, Giles, Gilmour, Kerr, Mitchell, Naysmith, Nesbit, Strachan, Tocher, and Wilson.

The minutes of last meeting were read and approved.

Apologies for absence were received from Messrs. Cowie, Dunlop, Maben, Spence, and Storrar.

In the absence through illness of Mr. Dunlop, Mr. W. L. Currie occupied the vice-chair, and was requested to convey to Mr. Dunlop the sympathy of his colleagues, and their hope that he would soon be restored to good health.

A letter was read from Mr. Thomas Maben intimating that, owing to his removal to London, he was unable to attend meetings of the Executive, and saying "good-bye" to the friends in Scotland with whom it had been his privilege to co-operate in the interests of pharmacy during the last twenty-one years.

On the motion of Mr. **Doig**, seconded by Mr. **Kerr**, it was unanimously resolved to record in the minutes an expression of their regret at losing Mr. Maben, and their appreciation of his services to Scottish pharmacy, and that a letter to that affect be sent to him.

Mr. J. P. **Gilmour**, as a Glasgow pharmacist, cordially supported the motion. They would greatly miss Mr. Maben in Glasgow and the west, where he had given valuable help in carrying on the work of the local Association.

Ventilation of Hall and Laboratories.

The report of the General Purposes Committee was read, dealing with several matters, of which the first was the remit from the October meeting of Executive with reference to a complaint from the Board of Examiners as to the urgent need for improved ventilation of the hall and laboratories. The Committee had considered the matter very carefully, and, after receiving sanction from the Council for an expenditure not to exceed £100, a Blackman fan and electric motor, with necessary shafting to connect with all three apartments and with the fume cupboards, had been fitted up, and it was intimated from the Board of Examiners that in the examinations just concluded the ventilation had been entirely satisfactory. It was expected that the cost would be well within the estimate.

The Benevolent Fund, and Collection of Subscriptions.

The next item referred to the special appeal on behalf of the Benevolent Fund, which had been brought under the notice of all the Divisional Secretaries in Scotland in a circular specially pointing out the reasons calculated to induce Scottish pharmacists to give a liberal response. The Committee, on the suggestion of Mr. **Currie**, had resolved to ask the Executive to consider the method of collecting subscriptions. He had suggested that the Council should revert to the former method of collecting all subscriptions through the Divisional Secretaries.

Mr. **Giles** said he believed that if the old method was reverted to there would be less difficulty about these subscriptions and the annual subscriptions, and that the membership of the Society would increase more rapidly.

Mr. **Currie** said the general opinion all over the country seemed to be veering round to the idea that the annual subscriptions to the Society and the Benevolent Fund should be collected by the Divisional Secretaries as formerly. If the Executive should be in favour of that idea, he would have great pleasure in moving a resolution to that effect at the Council.

Mr. **Boa** said it had sometimes been said that the difficulty was to get from the Divisional Secretaries the money they had collected.

Mr. **Mitchell** asked how they would do in the case of a member fifty miles away from the Divisional Secretary?

Mr. **Giles** said it might be desirable in some cases to appoint a canvasser.

Several members suggested that the post might be utilised in such instances, and the Assistant-Secretary said, in one case, the Divisional Secretary sent a letter to each chemist in his division and got, almost by return of post, a subscription from each one for the Fund.

The Executive unanimously resolved to recommend the Council to revert to the former practise of collecting the annual subscriptions, both for the Society and the Benevolent Fund, through the Divisional Secretaries.

Election of Annuitants.

The Committee also recommended the Executive to consider the question of the election of annuitants.

Mr. **Currie** said he had brought up this matter at the meeting of the Committee because it had been borne in upon his mind that there was considerable needless expenditure of money in printing and postages in connection with the existing system of electing annuitants by voting papers issued to all the subscribers. It seemed to him that when the chemists throughout the country gave the control of that money to the Council and the Benevolent Fund Committee to disburse, to a considerable amount annually, allowances other than annuities, they might also have confidence in the Committee, who knew all the particulars of each application in the case of annuities, and thus avoid wasting from £40 to £50 annually in postage stamps. His view was that he, or anyone throughout the country, could not possibly know all the details about persons desiring to be put on the list of annuitants. The Committee knew all the particulars, which could not be published. Locally, of course, some individuals knew particular candidates, and, naturally wishing to get them on the list, sent out cards asking friends to vote for them. But they did not know the circumstances of the other applicants. At the election in February there were four vacancies, and the case which, in the opinion of the Committee, was most deserving was quite out of it in the election. After considering the matter he mentioned his views to the Committee, and found they were entirely with him, but they seemed to think that the body of subscribers throughout the country would not be willing to forego the privilege of voting, on the principle that those who paid the piper ought to call the tune. In the case of other benevolent societies with which he happened to be connected, the directors simply looked out for the best cases, and were empowered by the general body of subscribers to elect those most fitted to the Fund. If that plan was adopted in regard to the Benevolent Fund, they would save as much in printing and postages as would be equal to the value of an additional annuity annually. That was an idea of his own, but he did not know whether it could be successfully carried out.

Mr. **Doig** said he thought Mr. Currie was perfectly right, though there might be difficulty in taking the power out of the hands of the general body of subscribers. He was afraid there might be some objection to that.

The **Chairman** suggested that as their time was limited it might be well to leave this matter over till next meeting if there was a desire to have a discussion on it.

Mr. **Currie** said he thought it might be left to the new Executive. If they were in favour of it he would not hesitate to bring it before the Council.

Mr. **Boa** said it would save stamps if the circular for the annual subscriptions and the one for the Benevolent Fund election were sent together. He received the circular for the annual subscription one day, and the one for the Benevolent Fund election a few days later.

Mr. **Currie** said the last election of annuitants cost £46 5s.

Mr. **Giles** asked if the proposal of Mr. Currie would involve alteration of the Bye-laws.

The Executive agreed unanimously to approve generally of Mr. Currie's proposal, and resolved to leave it for further consideration by the new Executive.

Evening Meetings.

The Executive instructed the Assistant-Secretary to send a letter of thanks to all who had assisted in carrying out the scientific meetings of the Winter Session.

The Pharmacy Bill.

A letter from the Secretary was read conveying the thanks of the Council to the Executive for securing the names of two Scottish members of Parliament to back the Pharmacy Bill—namely, Messrs. George McCrae, M.P. for East Edinburgh, and James Reid, M.P. for Greenock, also that the Council desired its special thanks to be conveyed to Messrs. C. F. Henry and A. McNaught, the respective Divisional Secretaries, for their assistance in this matter. It was also reported that Mr. Storrar had obtained the consent of Mr. Munro Ferguson, M.P. for Leith Burghs, to place his name on the back of the Bill, but by some inadvertence this had not been done in printing the Bill for the House of Commons.

New Library Cases.

The Committee reported that the Council had recently transferred a large number of useful books from the London Library, and these and other additions to the Library had necessitated the provision of new bookcases, which had been furnished at a cost of about £12.

University Scheme and the B.Sc. in Pharmacy.

The Committee reported that, along with the Committee of the Board of Examiners, they had a satisfactory interview with a Committee of the Senatus of the University of Edinburgh. The Senatus had expressed a wish to have some guarantee that graduates would not use their degree in any offensive way for trade or advertising purposes, and would not transgress in the matter of counter-prescribing. Mr. Tocher had drafted a proposed undertaking to be signed by all graduates, and this had been accepted as satisfactory. Mr. Currie and Mr. Tocher had also had a highly satisfactory interview with Professor Gray, Dean of the Science Faculty in the University of Glasgow, and it was believed that agreement had now been reached on all essential points. The Draft Ordinance, as the result of these negotiations, had been adjusted by certain merely verbal alterations designed to secure greater explicitness, and a revised copy had been submitted to the Senatus of each of the four Scottish Universities on February 20, requesting them to give approval to it for the purpose of having it formally sanctioned. The matter was not one that could be hurried, and they were now awaiting the reply of the four universities. As soon as the approval of the universities and the legal procedure necessary to complete the sanction was obtained, the degree would be open to pharmacists in all the Scottish universities.

Mr. **Doig** asked if holders of the degree were not to be allowed to advertise.

The **Assistant-Secretary** said that did not follow. The university asked the Committee to furnish them with some assurance that graduates would not use their degree in any offensive way, and in the declaration which Mr. Tocher had drafted graduates promised not to offend in that way.

Mr. **Kerr** asked if they could not put it on their labels.

The **Assistant-Secretary** said that would be regarded as a professional, and not an advertising use of the degree.

The Annual Report to the Council.

The Executive went into Committee to consider the draft annual report to the Council.

On resuming it was moved by Mr. **Giles**, seconded by Mr. **Doig**, and agreed that the draft annual report be approved and remitted to the Chairman for final adjustment and transmission to the Council.

The Election of Executive.

It was moved by Mr. **Giles**:—

That the next election of Executive take place on Friday, June 17, 1904, and that the Chairman and Vice-Chairman be appointed scrutineers of the voting papers, with power to add to their number.

Mr. **Tocher** seconded the motion, and it was unanimously adopted.

Proposal to Introduce the Telephone.

The **Assistant-Secretary** intimated that he had been requested by a large number of members to suggest to the Executive that they should introduce the telephone into the Society's office in Edinburgh. In reply to questions he stated that while it would undoubtedly save a good deal of running about and be frequently convenient, he thought it would also bring in a good deal of additional business.

After some conversation, in which the suggestion was favourably received, it was agreed to delay the matter in the meantime.

Pharmacy Athletic Club.

A letter was submitted from the Secretary of the Edinburgh Pharmacy Athletic Club thanking the Executive for the privilege of holding meetings in the Society's house.

Poor-law Medical Relief and the Supply of Medicines.

A letter was submitted from Mr. Spence, Linlithgow, regretting his inability to attend the meeting, and drawing attention to the Report of the Departmental Committee appointed by the Local Government Board for Scotland to inquire into the System of Poor-law Medical Relief, and into the Rules and Regulations for the Management of Poorhouses. The relevant passages were (1) "Rules should be drawn up in terms of Section 66 of the Poor-law Act, 1845. Medicines should as far as possible be obtained under contract at scheduled prices. The medical officer should be responsible for the stock of medicines kept in the poorhouse. A visiting or a resident dispenser should be appointed in some of the largest poorhouses." (2) "The supply of medicines under either of the following methods should be discontinued. (1) By the medical officer in respect of his salary, (2) by the medical officer or by a druggist in respect of a fixed annual payment." Parochial depôts for medicines should be established in outlying districts; school premises might be made available for this purpose." Mr. Spence, in his letter, said: "It appears to me that a favourable opportunity occurs to try and influence the Local Government Board in favour of having dispensing done by qualified chemists in poorhouses instead of as at present by the visiting medical men." He also asked if some such resolution as the following might not be adopted: "That a special committee of the Executive, consisting of Messrs. Boa, Dott, Cowie, and Hill be appointed to interview the Local Government Board, and point out to them the advisability of having visiting or resident dispensers, other than the appointed medical officer, for all poorhouses irrespective of size or number of inmates."

Mr. Kerr asked if the report referred to poorhouses in Scotland only.

The Assistant-Secretary said the report was issued about a week ago by the Local Government Board for Scotland, and it was a purely Scottish subject. It was rather an important report, and the point for them was to see that the dispensing of medicines should be done as far as possible by chemists, and that visiting or resident poorhouse dispensers should be qualified chemists.

The Chairman said it was apparently recommended that qualified chemists should do the dispensing as far as possible.

Mr. Doig said it should be almost possible to do that universally.

Mr. Gilmour said that in all the poorhouses in Glasgow the resident dispensers were qualified and proved men. For the outdoor patients they had erected fully-equipped district dispensaries on a very elaborate scale, and the chief dispenser in each of these institutions was a qualified chemist.

Mr. Giles said that in Aberdeen the poorhouse dispensing was given to a chemist in the town, who got all the prescriptions and bottles from the poorhouse in the forenoon at his own shop, where they were made up and called for in the afternoon. He had sub-contracts with other chemists in the outlying districts, who supplied those living far away. This was done for a lump sum per annum.

The Assistant-Secretary pointed out that that was to be put a stop to, if the recommendations of the Departmental Committee were accepted.

Mr. Doig proposed that this matter be remitted to the General Purposes Committee, to consider and bring up a report at next meeting. There would be plenty of time, as these things were allowed to lie on the shelf for years before being carried into practice.

This suggestion was adopted, and the meeting then closed.

EXAMINATIONS IN LONDON,

April, 1904.

MINOR EXAMINATION.

Candidates examined.................. 279
„ failed....................... 165
„ passed 114

Aldridge, Frank S.; Ipswich
Armitstead, John; Whitefield
Armstrong, George B. N.; London
Baker, Henry; Didsbury
Banham, Albert E.; London
Barrett, Rees; London
Baxter, James R.; Whitby
Betten, Hugh; Sherborne
Boon, F. W.; Kirton-in-Lindsey
Boultbee, Charles E.; Dulwich
Boys, Marion Lucy; Epsom
Bratley, Arthur L.; Pontefract
Brown, Richard R.; Padiham
Bufton, William R.; Hereford
Burr, William W.; Southboro'
Caulton, John S.; Marehay
Chapman, Frederick T.; Crowle
Cherrington, George E.; Newark
Clark, Herbert H.; Leeds
Clarke, Harry A.; Skipton
Cope, Arthur G.; Congleton
Cornell, Jas. R.; Ipswich
Crookall, Lawrence; Wigan
Cross, William G., jun.; Shrewsbury
Curtis, Herbert N. R.; Brighton
Davidson, Andrew; Bristol
Davies, Frank; Oldham
Davies, Morgan R.; Cardiff
Deacon, Walter; New Swindon
Derrington, Nellie; Birmingham
Draper, Thomas; Uppingham
Evans, Frederick L.; Abergavenny
Evans, Percy; Carnarvon
Evans, William; Llanelly
Flood, Arthur; London
Forbes, John P.; Leigh, Lancs.
Gabb, Leslie; Birmingham
Giles, Francis J.; London
Goldsworthy, George H.; Brighton
Gray, Percy; Cambridge
Griffith, Leonard J.; Bournemouth
Hague, Samuel W.; Lincoln
Hambling, Jane; Eltham
Harding, Trevor L.; Shaftesbury
Harris, Frederick E.; Cambridge
Harrison, Arthur; Horncastle
Harrison, Clement; Horncastle
Hartley, Tom H.; Burnley
Highley, Herbert; Rochdale
Hilton, Norman R.; Honiton
Hodges, Edward H.; Southsea
Hodges, Fras. S.; Bristol
Holmes, Ernest G.; Clapham
Hopkins, F. G.; Leighton Buzzard
Hopkinson, Alfred J.; Canterbury
Hudson, Reginald A.; Cranbrook
Hutchinson, Omer T.; Kennington
Jenkins, Henry W.; Brecon
Leeson, Leonard J.; Solihull
Lowe, Wilfrid; Salford
MacGregor, John F. S.; London
Mann, George S.; London
Manners, Samuel; Montrose
May, Frederick B.; Manchester
Meyer, William H.; Garstang
Morrison, John; London
Morton, William E.; Huntingdon
Needham, Arthur; Stalybridge
Nelson, Charles T.; York
Nicholas, George; Clapham
Nicholson, Thomas B.; Farnworth
Norris, George; Ely
O'Dea, John; Nottingham
Oldham, John B.; Burslem
Palmer, G. W. B.; Princetown
Patterson, Joseph M.; Manchester
Pearce, Stanley L.; Tavistock
Pickering, John J.; Langwathby
Pugh, Richard J.; Porthcawl
Ransford, Leonard; Folkestone
Raper, George; Liverpool
Reed, Percy S.; Birmingham
Richards, Chas. S.; Wolverhampton
Riley, Walter; Derby
Rixen, Ernest A.; Teddington
Roberts, Hugh; Plaistow
Robertson, William A. S.; Plymouth
Robinson, William G.; Grimsby
Salter, Joseph E.; London
Sandwith, Rowland; Bracknell
Sawdon, George W.; Barking
Searle, Frederick W.; London
Sheasby, Herbert; Kidderminster
Simmons, Stanley J.; Letheringsett
Smith, Ernest W.; Lincoln
Smith, Herbert A.; London
Snow, Harris C.; Winchester
Stiles, Henry W.; Doncaster
Stopforth, William H.; Wigan
Stroud, Vivian B.; Dagenham
Taverner, Joseph S.; Liverpool
Thomson, Samuel T.; Lerwick
Tice, Lennox, Norwich
Tout, William H.; Plymouth
Waslin, William C.; Hull
Wassall, Alice; Kidderminster
Webster, John W.; Oldham
Weddle, William G.; Liverpool
White, Henry P.; Bournemouth
White, William H.; Cheltenham
Wicks, Frederick C. G.; London
Williams, William R.; Cardiff
Woolf, Francis W.; Redruth
Wynne, Edward W.; Aberystwith

COUNCIL PRIZES EXAMINATION QUESTIONS.

CHEMISTRY.

(Time allowed, three hours.)

Only four questions to be attempted.

1. Discuss the reactions which occur when a solution of sodium hydroxide is treated separately with solutions of Chlorine, Bromine, and Iodine. Suggest a method of studying these reactions so as to compare the quantitative relations of the products obtained in the case of each halogen.

2. Give a general account of the study of the optical properties of substances in relation to its value (*a*) in analysis, (*b*) in the investigation of the chemical structure of bodies.

3. Give a detailed description of the method you would adopt for the separation and quantitative determination of the constituents of a soap powder containing soap, sodium carbonate, and sodium silicate.

4. Give a general account of the present state of our knowledge of the constitution of the group of compounds known as the sugars.

5. How would you examine a water to ascertain (*a*) its total hardness, (*b*) to what the hardness is due, (*c*) the best method of softening the water?

6. Fully describe all you would do to examine a material to ascertain if it were made of (*a*) all wool, (*b*) all cotton, (*c*) all silk, (*d*) a mixture of wool and cotton, (*e*) a mixture of silk and cotton, and suggest methods of determining the proportions of the constituents in the case of the mixtures.

7. Write a short account of the facts which are known so far about radium

in relation especially to its sources, its chief properties and its chemical nature.

BOTANY.

(Time allowed, one and a-half hours.)
Only four questions to be attempted.

1. What evidence can you give in support of the following statements?
   (*a*) Sea currents serve as agents in plant dispersal.
   (*b*) Parasitism leads to degeneration,
   (*c*) Plants possess the power of receiving, and responding to, stimuli.

2. How would you prove experimentally that a green plant derives all its carbon from the air?

3. Describe the physical, chemical, and physiological characters of chlorophyll.

4. Give an account of apospory and apogamy in ferns.

5. The fruit is a physiological adaptation of certain parts of the flower or inflorescence for certain purposes.

What are these purposes? What parts of the flower branch system may be affected? and show how such adaptations fulfil the functions you have indicated.

MATERIA MEDICA.

(Time allowed, one and a-half hours.)

1. Give the characters of the official Aconite Root. What is the general ratio of active to inactive alkaloids? How is Crystalline Aconitine prepared, and by what tests would you identify it?

2. What are the characters of (*a*) the fresh and (*b*) the dried Root of Taraxacum? Give the principal constituents. How would you distinguish the dried root from that of (1) Pellitory, (2) Gentian, and (3) Liquorice?

3. Give the botanical and geographical source and mode of collection of Balsam of Tolu. Enumerate the chief characters and tests. What are the most frequent adulterants? and state how you would detect them.

4. What part of the Henbane Plant is official? Give the diagnostic characters of the leaves, showing how they may be distinguished from those of *Digitalis purpurea, Lactuca virosa, Atropa belladonna*, and *Datura stramonium*. How would you distinguish (*a*) Hyoscyamine from Atropine, and (*b*) Hyoscyamine from Hyoscine?

◆

REGISTRATION AS APPRENTICES OR STUDENTS.

Certificates by approved examining bodies were received from the undermentioned persons desirous of being registered as Apprentices or Students:—

Baird, Herbert F.; Kennington
Barlow, Ethelburga M.; Blackheath
Barlow, Walter; Pocklington
Bates, Ernest O.; Halifax
Bayliss, William A. S.; Tewkesbury
Beadon, William N.; Wellington
Bennett, Donald; Bath
Bostock, Sydney M.; Leftwich
Boyd, Charles L.; Edinburgh
Brittain, Ernest H. F.; Grantham
Brown, Alexander C.; E. Dereham
Bryant, Ernest G.; Idle
Calderbank, Fred; Carsington
Callow, Herbert J.; Horley
Cannon, John W.; Kendal
Carr, Bertram O.; Newmarket
Challengar, Wyndham R. B.; Bristol
Chapple, Leonard; Beckenham
Clark, Herbert E.; Kennington
Clark, William E. A.; Bristol
Clarke, Gladys Elizabeth; Hereford
Clarke, Thomas W., jun.; Hereford
Cottman, Robert A.; Dorchester
Cropper, William E.; Altrincham
Crummack, George C.; Doncaster
Cuttiford, William F.; Pendleton
Dain, Reginald; Crewe
Daniel, George B.; Wood Green
Davies, Sidney B.; Bristol
Elder, John; Bensham
Evans, John R.; Maesteg
Featherstone, Thomas P.; Carlisle
Findlay, James; Strathspey
Freshney, Herbert W.; Hull
Gann, John H.; Peterborough
Gorton, Ronald; Whitechapel
Greensill, Edward; Normanton
Gregson, E. T.; Berwick-on-Tweed
Harris, Percy T.; Chelsea
Hatfield, Herbert H.; Deptford
Hay, John; Hull
Hayward, Horace David; Bloxwich
Hill, Edgar; Bradford
Hoare, Herbert B.; London
Holloway, Ernest F.; Gosport
Horbury, Norman E.; Southport
Houston, James; Markinch
Hume, Robert; Cramlington
Isaac, Jonas R. R.; Basingstoke
Jarvis, David E.; Grantham
Jones, Wallis; Norwich
Kay, Edward S.; Lytham
Langton, Richard H.; Carnarvon
Lloyd, Edward M.; Ferndale
Lowrance, Harold F.; Grantham
Lumb, Wilfred; Sowerby Bridge
Macintosh, J. W. F.; Cricklewood
McNeil, Neil; Greenock
Martin, Frank C.; Sidcup
Mathewson, John; Golspie
Milne, James A.; Comers
Moffatt, Walter G.; Wallsend
Morse, Rowland B.; Totnes
Moss, George; Loughborough
Mountain, Arthur; Eastbourne
Mutyala, Dorasawmy N.; Edinburgh
Newson, Thomas E.; Barnes
Nicoll, Joseph R.; Perth
Noble, William D.; Harlesden
O'Brien, Charles; Edinburgh
Owles, Thomas R.; Birmingham
Perry, Sydney J.; Congleton
Peters, Harold; Leigh
Purcell, John A.; Audlem
Rees, William H.; Carmarthen
Sheldon, Walter H.; Elsecar
Sidebottom, C. W. H.; Huddersfield
Stevens, William A.; Downton
Taylor, John P.; Rochester
Thurman, James E.; Chester
Unsworth, Elijah; Liverpool
Varley, John W.; York
Waddington, Gilbert; Lockwood
Walker, Herbert C.; Keswick
Watson, Edwin L.; Wandsworth
White, John S.; Spalding
Wilkinson, John; Redcar
Wills, Harry S.; London
Wood, Ernest; Elland
Woodman, William A. G.; Malvern
Worsley, Frederick; Stalybridge

SOME PRACTICAL NOTES.*

BY HORACE FINNEMORE, PH.C.

Liniment of Mercury.

This liniment is a mixture of ointment of mercury, strong solution of ammonia, and liniment of camphor, and is meant to be a suspension of the first substance in the soap formed by mixing solution of ammonia with liniment of camphor. In its preparation the Pharmacopœia directs the strong solution of ammonia to be added to sufficient liniment of camphor to produce a certain quantity of liquid, the ointment of mercury to be triturated with another portion of the liniment of camphor, and the two liquids to be mixed. No special directions are given as to the order of mixing, and probably most people would add the mixed liniment of camphor and ammonia to the ointment of mercury and the remainder of the liniment of camphor in a mortar.

Whether this be done, or the liniment and ointment be added to the liniment and ammonia, the result is the same, and the resulting liniment separates into two layers, which are exceedingly difficult to mix by shaking.

In order to produce a more satisfactory preparation various ways of mixing were tried, but all resulted in failure.

To try to learn what was the cause of this the effect of different quantities of ammonia on liniment of camphor was next studied.

	Strong Solution of Ammonia.	Liniment of Camphor.	Product.
1	1 part	1 part	A thin poor emulsion.
2	1 part	2 parts	Very thick emulsion.
3	1 part	3 parts	Ditto.
4	1 part	4 parts	Not creamy.
5	1 part	6 parts	Ditto.

As the proportion of ammonia decreases, the product becomes more unfit for use as an agent of suspension.

The proportion of ammonia in the official liniment is less than any of these (1 in 7½ of the liniment of camphor).

WITH DILUTE SOLUTION OF AMMONIA.

	Dilute Solution of Ammonia.	Liniment of Camphor.	Product.
1	1 part	1 part	Very thin emulsion.
2	1 part	2 parts	Satisfactory emulsion.
3	1 part	3 parts	Satisfactory emulsion.
4	1 part	4 parts	Separates.
5	1 part	6 parts	Separates not creamy.

Nos. 2 and 3 were most suited to use to suspend the ointment of mercury. The following were therefore made up:—

	(A)	(B)
Mercury Ointment................	1 Ounce.	1 Ounce.
Solution of Ammonia	5 fl. Drachms.	400 Minims
Liniment of Camphor	15 fl. drachms.	800 Minims.

Mix the solution of ammonia with the liniment of camphor in a bottle, and with the product triturate the ointment of mercury. The product measures three fluid ounces. These formulæ yield liniments which are of a nice creamy consistence, which thicken to some extent on keeping. B contains one-sixth less than the quantity of ammonia in the official preparation.

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* Read before the Chemists' Assistants' Association, on Thursday, April 21, 1904.

Thalleioquin Test.

The Pharmacopœia states that when "aqueous solutions of quinine are first treated with solution of bromine or of chlorine, and afterwards with solution of ammonia, they become of an emerald green colour."

Having from time to time met with some difficulty when testing for quinine in obtaining this emerald green colour, even in known quinine solutions, I determined to try to find the conditions necessary for its formation. A 1 per cent. solution of quinine sulphate was made by using the smallest possible quantity of dilute sulphuric acid, to this solution bromine water was added gradually by drops, and after every few drops portions of the liquid were poured into test tubes and ammonia added. A series of tubes was obtained, the colour of which went up to a maximum shade, and then gradually faded until no colour at all was formed. The effect of bromine water on such a solution causes a yellow precipitate soluble to some extent in the quinine sulphate solution, but the limit of this solubility is soon reached, and it is found that if ammonia be added before the precipitate becomes permanent, the colour is not so intense as when the permanent precipitate is present. The above experiments also showed that if excess of bromine be present the colour is not obtained.

In solutions of this strength the danger of adding excess of bromine is slight, but in solutions of strength 1 in 1,000 and 1 in 10,000 this danger is very great; using 5 C.c. of the latter strength with 1 drop of bromine water a distinct green colour could be obtained; with 2 drops to another 5 C.c. only a faint green colour was formed, while with 4 drops no colour at all was seen.

The effect of acids was tried by using dilute hydrochloric, hydrobromic, and sulphuric acid—in these the colour subsequently obtained on neutralisation with ammonia was not so decided as with solutions tested side by side with the same quantity of bromine water without the acid.

The points to avoid are therefore excess of bromine and excess of acid.

In 1881 (*Chemical News*, XLII., 107) Zeller pointed out that bromine water was to be preferred to chlorine water on account of the fact that the test is more delicate, and that the reagent can be more easily made.

Test for Bromides in Iodides.

A well-known test for bromides in iodides (although not included in the British Pharmacopœia) is carried out by adding to the solution chloroform or carbon disulphide and chlorine water in excess—the iodine and bromine are liberated and are dissolved in the chloroform, forming a pink solution; further addition of chlorine water causes the disappearance of this, and if bromides be present the yellow colour due to the liberated bromine persists.

As this is a test which can be easily and rapidly performed, it seemed quite worth while to try if it were capable of detecting small quantities of bromide in presence of an iodide. 0·5 C.c. of a solution containing 0·25 Gm. of potassium iodide and 0·0025 Gm. potassium bromide (*i.e.*, 1 per cent. KBr in KI) was used with 10 C.c. chloroform and chlorine water in excess; a faint yellow colour due to the bromine was observed. 2 per cent. of potassium bromide in potassium iodide gave a very distinct colour.

Mucilage of Tragacanth.

In the British Pharmacopœia of 1867 this preparation was made by simply shaking the powdered tragacanth with water —a process which left much to be desired. It was the late Mr. Martindale, I believe, who, prior to the 1885 edition, introduced the present method of first moistening the tragacanth with rectified spirit—a decided improvement. A disadvantage of the present mucilage is that it soon deteriorates, and in looking about for a liquid which would dissolve tragacanth and be capable of dilution to form a mucilage, one found 90 per cent. alcohol to be most suited for the purpose.

One part by weight of tragacanth, when mixed with 95 per cent. alcohol to form 4 fluid ounces, forms a liquid in which a portion of the tragacanth is dissolved and the remainder suspended; this remains permanently fluid, never deteriorates, and can be used in place of the present mucilage; 4 to 8 minims to each ounce of mixture is sufficient to suspend any of the insoluble substances usually given in mixtures.

Test for Guaiacum Resin in Scammony Resin.

Under the characters and tests for scammony resin it is stated that the alcoholic solution should not give a blue colour with ferric chloride or with solution of hydrogen peroxide (absence of guaiacum resin); we must therefore assume that the British Pharmacopœia recognises hydrogen peroxide as a test reagent for guaiacum resin, although not given as such under that substance. As the test stands this is somewhat unfortunate, for unless the precaution is taken to add enough alcohol to keep the resin in solution or to use an alcoholic solution of peroxide of hydrogen, no blue colour is formed. While it is quite possible to obtain a faint blue colour with this reagent, the chances against its formation are great, and the ease with which guaiacum resin can be identified by means of ferric chloride, chlorine or bromine water renders the use of hydrogen peroxide in this connection somewhat superfluous.

Compound Syrup of Glycerophosphates, B.P.C.

When this syrup has been kept about fourteen days it will be found to deposit a white powder, which on analysis proves to be calcium citrate.

Inspection of the formula shows that among other substances there are present a soluble calcium salt and citric acid. The above result is, therefore, not surprising. The presence of the alcohol and chloroform also tends to help in the formation of this precipitate, for it is found that the addition of these to a solution of citrate of calcium has this effect. The formula may be improved by directing the calcium glycerophosphate to be dissolved in the cold, since this salt —like other calcium salts—is more soluble in cold than in hot water, and, further, the sugar should be dissolved in the cold to avoid the precipitation of the salt.

At the time of writing my experiments are not complete, but it is hoped to publish a formula in a short time.

STROPHANTHUS GRATUS.

An important paper on this species of *Strophanthus* has been contributed to the *Berichte der Deutsches Pharmaceutischen Gesellschaft*, 14, **3**, 90, in the form of a careful research, worked out on the botanical side by Dr. E. Gilg, on the chemical by Dr. H. Thoms, and on the pharmacological by Dr. H. Schedel. The results obtained point to the recommendation of the seeds of this species of *Strophanthus* for use in medicine in preference to any other.

Dr. Gilg emphasises the fact that *Strophanthus kombe* seed is not easily obtained pure in commerce, and remarks on the very great difficulty that there is in distinguishing the seeds of different species—by histological examination—in the present state of knowledge, the external macroscopical characters of colour, shape, and degree of hairiness being also of little use for that purpose. But he finds that the seeds of *Strophanthus gratus* can be distinguished from all other known African species by the eye alone. The plant occurs in the coast districts of Sierra Leone, extending to the mouth of the Congo River, in Gaboon, as well as in the Cameroons, so that it is procurable on English, French, and German territory. He has definitely ascertained that the seed of *S. tholloni*, from which the seed known also as Ineé, or "*Strophanthus glaber*," was supposed to be partly obtained, is easily distinguished from that of *S. gratus*. The seed of the latter is broadly spindle-shaped, more or less rounded at the base, of a light yellow-brown colour, and hairless, 11 to 19 Mm. long, 3 to 5 Mm. broad, and 1⅓ Mm. thick. The shaft of the awn is ½ Cm. long, and the hairy part 4 to 5 Cm., whilst the seeds of *S. tholloni* are very long and narrowly spindle-shaped, tapering above and below, and moderately covered with tiny yellowish-brown hairs. The shaft of the awn is only 5 to 7 Mm. long, and the hairy part 9 to 12 Mm. The only other smooth strophanthus seeds at present known are found in Indo-Malaya, and these are of a darker brown or blackish colour.

Dr. Thoms has extracted the strophanthin from the seeds of *Strophanthus gratus* and compared it with an authentic specimen of the ouabain of Arnaud, sent to him by that chemist as obtained from the woody stems of *Acokanthera schimperi*, and is able to confirm the absolute identity of the two active principles. He gives the formula, $C_{30}H_{45}O_{12}9H_2O$.

Arnaud has indicated that the strophanthin of *S. kombe* differs in the presence of a methyl group from ouabain, and Dr. Thoms believes that the strophanthins of different strophanthus seeds differ in the presence of water of constitution, or of an alkyl group, and, therefore, prefers to drop the name ouabain, as likely to lead to confusion if used in medicine, and to distinguish the different kinds of strophanthin by the initial letter of their specific names—thus, that of *S. kombe* would be k-strophanthin, of *S. gratus* g-strophanthin, of *S. emini* e-strophanthin, and of *S. hispidus* h-strophanthin.

For the k-strophanthin, a crystalline specimen of which he received from Arnaud, he quotes the formula $C_{31}H_{48}O_{12}$. The pseudo-strophanthin of Feist being extracted from seed not botanically authenticated, appears to Dr. Thoms of doubtful value.

In the seeds of *S. kombe*, as well as in those of *S. hispidus*, Dr. Thoms finds choline and trigonelline; these are separated from the aqueous solution of strophanthin by the use of ammonium sulphate, which causes the strophanthin to separate out in flakes, which unite to form a sticky mass. (*Ber. d. D. Chem. Ges.*, **31**, 273).

The strophanthin of *S. hispidus* he did not obtain crystalline, but only as an amorphous powder, and for this strophanthin he gives the formula $C_{31}H_{48}O_{12} + \frac{1}{2}H_2O$.

The g-strophanthin was obtained from the seeds of *S. gratus* by first removing the fat by means of petroleum ether, then extracting with absolute alcohol in a Soxhlet apparatus for three days, distilling off the alcohol, and extracting the residue with warm water. The aqueous solution was allowed to stand, then filtered, and the filtrate evaporated and set aside to crystallise. The yield proved to be 3·615 per cent. of a crystalline product. Dr. Thoms suggests that the following description might serve as a monograph for the description of g-strophanthin in the Pharmacopœia:—

> G-Strophanthin Crystallisatum.
>
> $C_{30}H_{46}O_{12} + 9H_2O$.
>
> A crystalline glucoside obtained from the seeds of *Strophanthus gratus*, Franchet, in colourless, satiny, quadratic tables, easily soluble in hot water, in about 100 parts of water at 15° C., in 30 parts of absolute alcohol, 30 parts of amyl alcohol, difficultly soluble in acetic ether, ether, and chloroform. The solution of 0·01 Gm. in 1 Gm. of water poured on concentrated sulphuric acid gives it a rose or red colour, whilst the watery solution assumes a dirty green colour. It loses 20 per cent. of moisture when dried at 105° C., and the dried glucoside melts at 187°-188° C. When burnt it does not leave any residue. It must be very carefully used.

Messrs. E. Merck, of Darmstadt, have undertaken to introduce it into commerce under the name of g. strophanthin, cryst., Thoms. The solubility is elsewhere stated to be 1 in 3,000 parts acetic ether, 3,000 of chloroform, and 52,000 of ethyl ether. The sugar set free when g-strophanthin is hydrolysed by warming with dilute hydrochloric or sulphuric acid proved to be rhamnose.

According to Dr. Schedel's experiments, strophanthin is useful in all valvular diseases and those depending on muscular degeneration and a weak condition of the heart.

It has a favourable influence in the acceleration of the heart's action and breathlessness; it raises the blood pressure, increases diuresis and removes œdema. By reason of the lesser action on the peripheral vessels it is more useful than digitalis in diseases of the aortic apertures. As compared with digitalis, it acts more quickly, improvement taking place in a few hours. It can be used subcutaneously; it produces less unpleasant symptoms, even after a week's administration. The cumulative action appears later, and by virtue of its quicker absorption, the more quickly appearing slowness of the pulse affords an earlier warning for the discontinuance of the remedy. The dose is best given in a 1 per cent. watery solution, up to 5 drops; more than 10 drops are rarely required to produce the desired effect. The enormous variation in the strength of strophanthus tincture, and the impossibility of using it subcutaneously, render the use of a definite crystalline stropthanthin a form of administration on which more reliance may be placed.

PURE DRUGS AT BIRMINGHAM.

The annual report of Mr. J. F. Liverseege, F.I.C., Ph.C., public analyst for the City of Birmingham, is interesting not only because it shows that drug adulteration is a scarcely appreciable quantity in the Midland capital, but also because it contains a criticism of the B.P. test applied to spirit of sal volatile. During the year fifty-one samples of drugs were analysed, made up of ten of camphorated oil, ten of Friars' Balsam, five of sodium bicarbonate, four each of tincture of iodine, cod-liver oil, and Epsom's salt, three each of wood charcoal and spirit of sal volatile, two of tincture of arnica, and one each of sodium carbonate and spirit of camphor. Of these only four were adulterated—two samples of sodium bicarbonate, and one each of wood charcoal and spirit of sal volatile. It is pointed out that this is a very similar proportion of adulteration to that found in the two previous years. The vendors of the four adulterated samples were cautioned. As to the camphorated oil, Mr. Liverseege points out that the last four years have shown a great improvement in the quality of this drug, only three out of forty-five samples being adulterated, whilst in 1899 ten out of thirty-two were wrongly prepared. None of the ten samples of Friars' Balsam were adulterated. The quantity of solid matter present varied from 166 to 210 Gm. per litre. During the past three years thirty-three samples of this tincture have been examined, and only one found to be adulterated. The quantity of iodine varied from 24·9 to 25·5 Gm. per litre, and the quantity of iodide of potassium from 23·0 to 25·8 Gm. per litre. Four of the six samples bought under the names of bicarbonate of soda or carbonate of soda were genuine, but two were composed of pure borax, which, as the report points out, is a more expensive article than bicarbonate of soda. The vendors explained that an error had been made in the casks from which the article was taken, and they were let off with a caution on promising to advertise the fact that a mistake had been made, and to compensate anyone who had been served with the wrong article. The B.P. requires that wood charcoal shall not yield more than 7·5 per cent. of ash. The three samples received contained 5·2, 5·8, and 10·0 per cent. of ash, and the last-mentioned was certified to be adulterated. A letter was sent to the vendor informing him of the unsatisfactory quality of the article, and he undertook to destroy it. Mr. Liverseege has the following instructive paragraph relative to tests for spirit of sal volatile:—"This drug is required by the British Pharmacopœia to be prepared from ammonia, ammonium carbonate, alcohol, water, and essential oils. The ingredients ordered are equal to 3·08 Gm. of normal ammonium carbonate and about 1·10 Gm. of free ammonia in each 100 cubic centimetres of the spirit. Two of the three samples analysed last year gave 3·00 and 3·04 Gm. of normal ammonium carbonate per 100 cubic centimetres, while the average of the previous eighteen samples was 3·02 Gm., and I consider that 3·00 is a reasonable standard for carbonate. The two samples before mentioned contained 1·08 and 1·18 Gm. of free ammonia per 100 cubic centimetres, and the average of the previous eighteen samples was 1·08 Gm. Sample No. 124, as the result of three determinations, was found to contain 2·15 Gm. of normal ammonium carbonate per 100 cubic centimetres, while the ammonia amounted to 1·31 Gm. I certified it to be 'deficient of about one-quarter of the proper quantity of normal ammonium carbonate, while the quantity of ammonia was somewhat in excess.' I did not use the Pharmacopœia test for carbonate, as my experience and that of other analysts has shown it to be untrustworthy, and the quantity of the sample received was not sufficient to allow me to waste it on useless tests. The Committee decided to caution the vendor, and when this was done he produced a certificate from another analyst, who stated that the sample satisfied the tests of the British Pharmacopœia, and, therefore, could not be considered to be adulterated. At my request the third sample was sent to another public analyst, who reported that the quantity of carbonate in it was 32 per cent. below the strength of British Pharmacopœia spirit, this result being somewhat less favourable to the vendor than my own. The reason why the second analyst did not agree with me was evidently due to the defective Pharmacopœia test. I consider that a public analyst may use any suitable test to ascertain if the drug is 'of the nature, substance, and quality of the article demanded by the purchaser,' whether such test is contained in the official volume or not. My analytical results suggest that the sample had been unskilfully prepared, and that when the makers found it deficient in alkalinity they added a little strong ammonia instead of ammonium carbonate."

OPTICAL ORGANISATION.

A PROPOSED OPTICAL CONVENTION.

Tuesday, April 26, 1904, at the rooms of the Society of Arts, John Street, Adelphi, London, W.C. A meeting was held under the chairmanship of Mr. R. T. Glazebrook, President of the Optical Society, and director of the National Physical Laboratory, to consider the advisability of organising an optical convention in this country. There was a large attendance of members of the wholesale and retail optical trades, as well as of those interested in the science of optics.

The Chairman, in explaining the objects of the meeting, said the need for co-operation had been realised for some time back by those interested in optics. Germany had seen the importance of such combination many years ago; as far back as 1879 a movement was set on foot in that country which resulted in the foundation of a National Optical Society in 1891. This organisation was composed both of scientific and practical men. Some years later France also saw the advantages of combination, and a Society of Opticians had been organised there. They recognised what great benefits the optical trade in the two countries he had mentioned had derived from these national associations, and it was really essential that the various branches of the optical trade of Great Britain should be brought closer together.

Mr. Woolf, in submitting a resolution to the effect that a convention should be held, said it was remarkable that so important an industry had not seen the necessity for holding a convention before. The optical industry was a unique industry—it was both a science and a trade, and the scientific part of it was as essential to the commercial side as the commercial side was essential to the scientific side. He referred to the remarkable success which had attended the Boston convention of opticians, and expressed the belief that a British convention would be equally successful. In connection with the convention he strongly advocated an exhibition of optical instruments of every variety.

Mr. Beck, in seconding the motion, said the days of rule and thumb were over as far as the optical trade was concerned, and the sooner everyone interested realised this the better it would be. Speaking of the relationship between science and trade, he said the academic world was called upon to assist in the practical application of science. No trade depended on science for success like the optical trade.

A number of gentlemen having spoken in support of the resolution, the Chairman put it to the meeting, and it was carried unanimously. A committee was subsequently appointed to make the preliminary arrangements.

SOCIETY OF CHEMIST-OPTICIANS.

On Monday, April 25, 1904, a meeting was held at the Holborn Viaduct Hotel, Holborn, London, E.C., under the chairmanship of Mr. C. J. G. Bunker, to consider the advisability of forming an association of chemist-opticians. A resolution to the effect that such a society should be organised was carried, and a committee was appointed to draw up the rules.

POISONING CASES AND INQUESTS.

The deaths by poisoning reported during the seven days ended Wednesday, April 27, 1904, numbered nine.

Poison.	Accident.	Suicide.
Carbolic Acid	—	1
Chloral Hydrate	1	—
Chloroform	1	—
Hydrocyanic Acid	—	1
Laudanum	1	1
"Machine Oil"	1	—
Nicotine Insecticide	1	—
Potassium Cyanide	—	1
Total	5	4

Carbolic Acid.—A mason's wife at Brecon committed suicide by taking carbolic acid, bought on the pretext that it was wanted for killing rats, and at the inquest on Monday, Mr. Wm. Tudor, the chemist who supplied it, called the attention of the coroner to the danger of the law which allowed such young children to be served with poisons.

Chloral Hydrate.—Mr. Montague Palmer, surgeon, of Newbury, was found dead, apparently as a result of taking an accidental overdose of chloral hydrate.

Chloroform.—A woman died at the Warneford Hospital under chloroform, administered as an anæsthetic.

Hydrocyanic Acid.—The wife of a veterinary surgeon's assistant at Wrexham committed suicide by taking prussic acid, which she had herself taken from the surgery.

Laudanum.—Two deaths from laudanum are reported—a labourer at Greenock and a woman at Edinburgh.

"Machine Oil."—An Exeter labourer, it is reported, died as a consequence of drinking "machine oil."

Nicotine Insecticide.—A young married woman at Sheffield was in the house of a neighbour, and noticing a bottle labelled "Dandelion Beer," took a drink before her friend could interfere. The bottle contained "pure" nicotine, which had been obtained from a gardener, and it was stated in evidence that it could be obtained from any seedsman. The woman, who drank about a tablespoonful, died a few minutes later.

Potassium Cyanide.—A photographer at Walthamstow committed suicide by taking a quantity of potassium cyanide.

LEGAL INTELLIGENCE.

Sale of Food and Drugs Acts.

Cod-liver Oil.

On Wednesday, April 27, 1904, at Southwark Police Court, before Mr. Cecil Chapman, three cases were brought by the Bermondsey Borough Council against two herbalists and the proprietor of a fish shop for selling as cod-liver oil a substance which the Borough Analyst subsequently certified contained not more than 10 per cent. of cod-liver oil, and the remainder some other oil, probably fish oil.

Mr. Muir appeared for the Borough Council, and Mr. Kirby for the two herbalists.

Edward Lardent, herbalist, of 347, Southwark Park Road, S.E., was the first defendant.

Mr. Muir, having stated the case for the Borough Council, evidence of the purchase on March 4 from defendant of 8 oz. of cod-liver oil, for which 1s. 6d. was paid, was given, and the Sanitary Inspector was about to mention that on the same day five other samples of cod-liver oil were purchased from local chemists and found to be genuine, when

Mr. Kirby objected to the statement.

The Magistrate, however, expressed the opinion that the statement was relevant, as it showed that an article known to commerce as cod-liver oil was procurable which was of the nature and quality demanded.

Dr. R. King Brown, Medical Officer of Health, gave evidence as to the medicinal properties of cod-liver oil, and the probable injurious effects of fish oil on children, but

Mr. Kirby again objected, on the ground that defendant was not charged with selling an article which was injurious to children—that charge would have to be brought under another section of the Act.

The Magistrate said the medical evidence was relevant if it showed that the article asked for was beneficial to health, while the article supplied was injurious.

Mr. Kirby, for the defence, did not dispute the analyst's certificate so far as it stated that the oil was not genuine cod-liver oil, but he contended that the certificate should have stated what the adulterant was.

The Magistrate said the analyst had done his best. He found that the oil was not genuine cod-liver oil, but contained some other oil, probably fish oil. That was not, perhaps, as satisfactory as they could wish, but if the analyst could not definitely state what the adulterant was, he did not see that it affected the facts of the case.

Mr. Kirby then put in an invoice which was received by the wholesale firm who supplied defendant with the oil. The invoice stated that what was supplied was genuine cod-liver oil. The bottle sold by the defendant was also produced, and defendant stated that he sold it in the same condition as received from the wholesale house. The bottle bore the words, "Finest selected cod-liver oil."

Defendant, who gave evidence on his own behalf, said the oil cost him 1s. 1d. a bottle, and he sold it at 1s. 6d.

Mr. Muir said it was the duty of the persons who supplied the oil to ascertain that it was genuine; also, if a guarantee was given, to ascertain whether it was accurate.

The next case was then heard against Joseph Lardent, herbalist, of 120, Tanner Street, Bermondsey (father of the first defendant).

The evidence was much the same as in the previous case, except that 1s. was charged for 8 oz. of oil, which was sold from bulk, and was labelled "Pure cod-liver oil."

The Magistrate said there was no doubt that the defendants were guilty of an offence against the Food and Drugs Acts in having sold something to the prejudice of the purchaser. He did not think defendants were guilty of tampering with the oil, and it seemed to him that the blame must subsequently be found in the wholesale firm who supplied the oil. He thought that people in business ought to obtain guarantees that the goods they sold were genuine. Addressing defendants, the magistrate said they would be fined 20s., with £5 5s. costs in each case, and, he added, "You must recover it from those other people if you find out that they are to blame."

In the next case, Jessie Whittaker, fish dealer, of 232, Southwark Park Road, S.E., had sold an 8 oz. bottle, labelled "Overall's Cod-liver Oil."

Mr. Wm. Crage, manager of the wholesale firm of Messrs. Overall and Co., Limited, who supplied defendant with the oil, stated that the oil in question was part of a small lot of five barrels that they purchased direct from Norway, and the invoice stated that it was "Norwegian Cod-liver Oil." The contract under which the oil was purchased also guaranteed to supply pure oil.

The Magistrate said he wished to point out that where persons of the witness's responsibility and position were in business for the sale of articles like cod-liver oil it was all-important that they should test those articles, and make quite sure that they were genuine.

Mr. Crage said the purchases were made by contract, and the wholesale firms depended on the guarantee, though in this case the oil was examined and passed by an expert as being pure.

A fine of 20s., with ten guineas costs, was imposed.

LONDON GAZETTE NOTICES.

PARTNERSHIPS DISSOLVED.

T. R. Jones and H. G. F. Dawson, physicians and surgeons, Birkenhead, under the style of Jones and Dawson.

T. M. Carter, M.R.C.S., L.R.C.P., and R. C. Martin, M.R.C.S., L.R.C.P., physicians, surgeons, and apothecaries, Bristol, under the style of Carter and Martin.

J. K. Brigham and G. C. Thomas, general medical practitioners, West Hill, Sydenham, S.E., under the style of Drs. Brigham and Crewdson Thomas.

RECEIVING ORDER.

Owen, Edward, Newtown, Montgomeryshire, chemist.

NOTES IN PARLIAMENT

Misdescription of Goods.

The Secretary of the Treasury, on Monday last, made an interesting reply to a question by Mr. MacVeagh, as to whether the officers of Excise and Customs are compelled by their regulations to allow German spirit to be labelled as brandy, and English spirit as Scotch whisky. He explained that the primary duty of revenue officials is to see that there is no fraud upon the revenue. It is not possible for them, in the execution of their duty, to safeguard the consumer—who has his own remedy and is otherwise protected against fraud or misdescription of goods sold to him. Any attempt on the part of the Inland Revenue authorities to regulate the trade description of goods in bond would be useless, because they have no means of enforcing a similar regulation after the goods have passed out of bond. It would be misleading to create an impression that the fact of goods being dutiable is equivalent to a Government guarantee of their quality.

Fees of Professional Witnesses.

The Lord Advocate, in reply to Mr. W. F. Lawrence, has stated that the regulation in regard to medical fees in the sheriff courts in Scotland is as follows:—Medical men when cited to give professional evidence from a distance of more than one mile from the towns in which they reside, if detained above four hours, are allowed, not exceeding, per day, £2 2s., besides fares, but nothing additional for maintenance; if in town they are allowed, not exceeding, per day, £1 1s. The fee of a guinea, therefore, is not a fixed sum. The Procurator Fiscal may exercise his discretion and give less than that sum, according to circumstances.

Illicit Trade Commissions.

The Prevention of Corruption Bill, the object of which is to prevent the payment of illicit trade commissions, has been read a second time in the House of Lords, on the motion of the Lord Chancellor. His Lordship explained that he has in this year's Bill embodied the amendments made in the House of Commons Grand Committee last year, with one exception. The exception relates to the veto of the Attorney-General on the institution of prosecutions. The Lord Chancellor desires to retain this veto, more especially as a safeguard against blackmailing proceedings, holding that the blackmailer would be checked if before he could get publicity for charges—which publicity is his chief weapon—he had to face the Attorney-General and show that he had a *bonâ-fide* case.

Early Closing.

In the House of Commons on Tuesday last Mr. Cochrane (Under Secretary, Home Office) presented a Bill for the Early Closing of Shops. It was read a first time. The full text of the Bill is not yet available, but the Bill is substantially the same as that introduced on several occasions by Lord Avebury. It proposes to authorise any county council or borough council to fix an hour not earlier than 7 p.m., on specified days of the week, and not earlier than 1 p.m. upon one day of the week, when either all retail shops or all shops of a certain class or trade within the area of the local authority must be closed to the public. The local authority does not take the initiative in the matter, but may be moved to action by at least two-thirds of the occupiers of shops in the district affected. When the local authority is satisfied of the requisite majority it may issue an order, which, before it comes operative, has to be approved by the Home Secretary, who may, if he thinks fit, order a local inquiry into the subject. Chemists and druggists and pharmaceutical chemists are to be allowed exemption from the above conditions for the sale of medicines and surgical requisites.

Strychnine and Tea.

One of the champions of the tea tax was Mr. Wylie (the member for Dumbartonshire), who resorted to the novel argument that it was not in the interests of the public health to encourage the drinking of tea. The component parts of tea, said the hon. member, were the same as strychnine. Strychnine killed by stimulating the action of the heart so much as to knock it out of gear, so to speak. Tea, on the other hand, operated more slowly, but it operated also injuriously, the heart being stimulated from the same causes, but in less degree.

FRENCH NEWS.

(*By Our Paris Correspondent.*)

In a previous issue of the Journal considerable prominence was given to an article dealing with the absurdity of a certain class of French chemists who style themselves "English chemists," and no pains were spared to point out the danger which might accrue from the thoughtlessness of English-speaking people confiding their English or American prescriptions to such unscrupulous members of the profession. Unfortunately, however, pharmaciens are not the only sinners, for there are a few medical men with a mere smattering of English who will not hesitate to minister to the wants of Anglo-Saxons, even though the latter speak no French. I dare venture to say that there is not an English pharmacy in Paris which cannot furnish an amusing instance of a French doctor's attempt to air his restricted knowledge of English when prescribing for an Anglo-Saxon patient.

Passing along the Rue Scribe the other day, I turned into the British-American Pharmacy. Mr. Green had just received a French doctor's prescription for an English patient staying at the Grand Hotel opposite. Thinking it might interest and amuse readers of the Journal, I obtained permission to take a copy of it. It ran as follows:—

Queues de cerises (cherry stalks) ... Un paquet
For a great bootle of infusion.

You can drink as often as you want any drinking, but not very cold. Wash the mouth out with minerale water every time you will be pleased.

Teint. de Gentiane	2·0
Teint. de Coca	20·00
Teint. de Kola	20·00
Teint. de Digitale	xl. gouttes
Teint. d'Ec. orange Am.	3·00

One coffee-cupful three times in the daily, morning, 12 noon, and evening. This is for giving "strongness." You can drink it pure or middled with wine.

Needless to remark, Mr. Green made the necessary correction, and substituted "spoonful" for "cupful." But suppose a French chemist with no knowledge of English had copied upon his label the directions according to the prescription, the poor chemist would have earned for himself an unenviable reputation for carelessness, though through no fault of his own. True, he would be more likely to put no directions at all, but simply a number corresponding to that on the prescription, letting the patient solve the riddle alone.

This client had evidently had palmed upon her the pet medico of the hotel employee, whereas, had she but taken the trouble to inquire at an English pharmacy, she could have obtained the addresses of many English and American doctors.

BRITISH PHARMACEUTICAL CONFERENCE.

MEETING OF EXECUTIVE COMMITTEE.

Tuesday, April 19, 1904, at 16, Bloomsbury Square, London, Mr. E. M. Holmes, Vice-President, in the chair. There were also present Messrs. Naylor, Newsholme, and Ransom (Vice-Presidents), J. C. Umney (Hon. Treasurer), Peck and White (Hon. Gen. Secs.), and Messrs. Antcliffe, Bird, Boorne, Gadd, Matthews, G. Squire, and Wright.

The Pharmaceutical Society's Compendium.

Mr. Bird and Mr. Umney presented the report of the Sub-Committee appointed to confer with the Compendium Committee of the Pharmaceutical Society. The Sub-Committee recommended that a special general meeting of the members of the Conference be called to consider the advisability of disposing of the results of the work of the Formulary Committee to the Pharmaceutical Society. The report was accepted on the motion of Mr. Ransom, seconded by Mr. Peck.

Mr. J. C. Umney thereon moved "that a special general meeting of the members be called for this purpose for four o'clock on May 17, 1904, at the house of the Pharmaceutical Society." This was seconded by Mr. Bird, and carried. It was also decided not to circularise each member, but to ask the editors of the *Pharmaceutical Journal* and certain other journals to draw special attention to the meeting a week or so before the above date, and to state explicitly the object of the meeting.

Sheffield Arrangements.

The deputation from Sheffield (Messrs. Antcliffe, Newsholme, and Squire) then submitted the following draft programme for the annual meeting, which was unanimously accepted :—Monday, August 8, 8.30 p.m.—Reception by the Lord Mayor of Sheffield (Councillor J. R. Wheatley), at the Town Hall. Music and Refreshments. Tuesday, August 9, 10 a.m.—Opening of Conference in the Lecture Hall of Sheffield University College. Address of welcome by the Principal of the College (Dr. Hicks, F.R.S.). 1 p.m.—Luncheon at Royal Victoria Hotel. 2 p.m.—Sessions resumed at University College, followed by inspection of certain electro-plate and cutlery works. 8 p.m.—Dance and Smoking Concert at Royal Victoria Hotel. Wednesday, 10th, 10 a.m.—Sessions resumed. 10.30.—A short drive for ladies. 1 p.m.—Luncheon. 2 p.m.—Sessions resumed and concluded. Afterwards, tea and visit to works of Messrs. Cammell, Laird and Company. Thursday, 11th, 9.30 a.m.—Drive by Fox House, Froggatt Edge, to Bakewell. 1 p.m.—Luncheon at Bakewell Town Hall, 2.30 p.m.—Proceed to Haddon Hall by carriages, or walk through meadows. Visit Hall, afterwards drive to Chatsworth Park and visit Chatsworth House (the seat of the Duke of Devonshire). 6 p.m.—High tea (Chatsworth or Baslow Hydro). 7.30 p.m. —Return to Sheffield by Owler Bar. Friday, 12th, 9.45 a.m. —Annual Meeting of the Federation of Local Associations at the Royal Victoria Hotel.

Mr. Antcliffe gave particulars of the negotiations with the railway companies, which resulted in their concession of the old terms of a fare and a-quarter for the double journey; and mentioned that the Conference were under special obligation to the Great Central Railway Company for their action in the matter.

The Chairman moved, and Mr. Naylor seconded (emphasising in his remarks the desirability of as many members as possible taking advantage of the special terms granted by the companies) a hearty vote of thanks to the deputation for their attendance. This was carried by acclamation.

Mr. Peck reported the receipt of further communications from Brighton in reference to the meeting in 1905, and was directed to reply that the invitation was favourably received by the Executive.

Mr. Gadd called attention to the importance of abstracts of papers to be read being in the hands of members before the meetings so as to enable them to join more intelligently in the discussions.

The Hon. Secretaries promised to see what could be done in the matter, and expressed a hope that authors of papers would send in their MSS. as early as possible. They also stated that they hoped that advance copies would again be supplied by the Editor of the *Pharmaceutical Journal*, as at the Bristol meeting.

Mr. Peck suggested that more corresponding secretaries should be appointed, and he was requested to draw up a list and submit it at the next meeting of the Executive.

Eighteen gentlemen, having been duly nominated, were elected to membership.

LINCOLN AND DISTRICT CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Thursday, April 21, 1904, Mr. Battle in the chair.

The question of doctors dispensing and their supplying proprietary goods was discussed. Later in the year an evening will be devoted to a discussion, based on the remarks made by Mr. Watson at the meeting held in February last.

A letter was read from Mr. Glyn-Jones, referring to the co-operative buying of P.A.T.A. articles for resale to other chemists at less than the P.A.T.A. minimum wholesale prices. It was decided to fall in with the views of the Association, and discontinue buying protected articles.

Messrs. Elmitt and Birkbeck were asked to call on the absent members and solicit subscriptions for the Benevolent Fund.

Letters were presented from several candidates for the Council, and after consideration it was decided to support all the old members and Mr. Gibson, in place of Mr. Allen, who is retiring.

The Shop Hours Bill was mentioned, but it was thought to be so unlikely to pass as to be unworthy of consideration.

CHEMISTS' ASSISTANTS' ASSOCIATION.

ORDINARY MEETING.

Thursday, April 21, 1904, at 73, Newman Street, London, Mr. A. B. Britton, President, in the chair.

There was a good attendance of members, interested in practical pharmacy, to hear a paper read by Mr. Horace Finnemore, Ph.C., pharmacist to Guy's Hospital, entitled

Some Practical Notes.

Mr. Finnemore, in the course of his notes, dealt with the official liniment of mercury, which he did not consider a very satisfactory preparation, the "thalleioquin" test, a test for bromides in iodides, mucilage of tragacanth, a test for guaiacum resin in scammony resin, and compound syrup of glycerophosphates, B.P.C. The full text of the paper is printed at page 594.

The President said the official mercury liniment was not satisfactory, and Mr. Finnemore's formula seemed to give a much better preparation. He should be interested to have Mr. Finnemore's formula for compound syrup of glycerophosphates when his investigations were completed.

Mr. Garsed said Mr. Finnemore's experiments had left no ground for criticism or misunderstanding. He could confirm his remarks on the determination of bromide in potassium iodide. From the point of view of saving time, it was easier to perform the test referred to in the paper than to go the length of volumetric titration; he had felt the need of a similar test for the presence of chloride.

Mr. Lownsbrough thought that the sample shown by Mr. Finnemore was certainly an improvement on the official preparation.

Mr. Finnemore, in reply to a question as to whether the use of a smaller quantity of ammonia would not render the seller liable to prosecution, said he did not think one need fear the result of using less than the official quantity of ammonia in preparing mercury liniment. How was an analyst to know what quantity of free ammonia was present in the preparation, and how much had been taken up?

A hearty vote of thanks was accorded to Mr. Finnemore.

HARTLEPOOLS AND DISTRICT CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Wednesday, April 20, 1904, at the Grand Hotel, West Hartlepool, Alderman Thomas Clarkson, President, in the chair.

The ordinary business was first transacted, which included letters from the Brighton, Cardiff, and Leeds Associations with respect to the various candidates for Council election. It was decided to leave each member to vote according to his discretion.

The Pharmacy Bill.

Mr. Glyn-Jones thanked the Association for its invitation. He congratulated the members upon having formed a local association, and said the work of the Pharmaceutical Society was much advanced by the existence of such associations. Speaking on the Pharmacy Bill, Mr. Glyn-Jones said the Bill would probably remain a Bill for some time, and he was afraid there was little chance of any Bill becoming law unless it was introduced by the Government. Negotiations were proceeding between the Pharmaceutical Society and the Privy Council, but as to the contents of the Government Bill he was unable to give any information. Dealing with Clause 7 of the Pharmacy Bill, the speaker pointed out the difference between a qualified assistant or manager and a qualified owner. The owner was the man who actually kept open shop, and this was the man who should be qualified. Therefore, Clause 7 was of the utmost importance.

Medicine Stamp Duty Problem.

Mr. Glyn-Jones next dealt with the Medicine Stamp Duty problem, and said he would like to see full advantage taken of the exemption gained by the ammoniated quinine case, by fully advertising and recommending the various galenicals of the B.P. and other formulæ, to which the exemption now applied. The question of the public becoming acquainted with the formulæ was scarcely worth considering.

The P.A.T.A. and the C.D.A.

Mr. Glyn-Jones then referred to the various excuses offered as reasons for not joining the Pharmaceutical Society and local associations, and said although they might say they could see no personal advantage in joining, that argument did not apply to the P.A.T.A. Any chemist could, with very little trouble, count up the advantage he received from the articles on the P.A.T.A. list in £ s. d. He next dealt with the question of co-operative buying, and explained the reasons for the recent action of the P.A.T.A. With regard to the C.D.A., he thought the Association was at present giving too much for the subscription, and if the work was to be continued on the present lines it was necessary to have much greater support from chemists. He went on to point out the advantages to be gained by belonging to the C.D.A.

Mr. G. R. Troupe proposed "That the best thanks of the Hartlepools and District Chemists' Association be tendered to Mr. Glyn-Jones for his address." He congratulated Mr. Glyn-Jones upon his recent legal success. Mr. G. A. Watt seconded the resolution, and Mr. Glyn-Jones briefly replied.

SUPPER.

At the conclusion of the meeting the members adjourned to supper, at which function Alderman Thomas Clarkson again presided.

Mr. G. A. Watt proposed the toast of

The Pharmaceutical Society.

Mr. Watt mentioned that he had been a member of the Society for over thirty years, and he thought it was important that every chemist should join the Society.

Mr. Glyn-Jones, in replying, thanked the members for the cordial reception given to the toast. With regard to the Pharmaceutical Society, he often felt it was prejudicial to the interests of the Society that it should have to conduct the examinations, because a person who had been "ploughed" once or twice did not, upon qualifying, start with the best of feeling towards the Society. Still, he thought the duty was far better performed by the Society, thus ensuring that men who had an intimate knowledge of the trade were the examiners, than for it to be conducted by a Government Department which had no personal acquaintance with the trade.

Mr. Glyn-Jones then proposed the toast of

The Hartlepools and Kindred Associations.

He wished the Association every success, and said he felt sure it would have a long period of prosperity, especially so long as they had at their head such a capable man as Alderman Thos. Clarkson. He had always found, wherever he went, that those men who had the greatest calls upon their services were those who gave the most time to Association work.

Mr. A. Timmins responded.

Vote of Thanks.

Mr. R. Leithead proposed a vote of thanks to Alderman Thomas Clarkson for presiding. He said the Association was extremely fortunate in having as its President such a prominent citizen as Alderman Clarkson.

Mr. Clarkson thanked Mr. Leithead for his extremely kind remarks. Referring to local politics, he expressed the opinion that it was of the utmost importance that chemists should be represented upon public bodies.

BLACKPOOL AND FYLDE CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Friday, April 22, 1904, at the Palatine Hotel, Mr. Turver, President, in the chair. There was a good attendance of members to receive a deputation from Leeds furthering the candidature of Mr. Pilkington Sargeant. Mr. Hollingsworth introduced the candidate, and Messrs. Preston and Castle also spoke strongly on his behalf.

The Council Election.

Mr. Sargeant addressed the meeting on pharmaceutical topics, strongly advocating Clause 7 of the Pharmacy Bill, and supporting Mr. Lord Gifford's suggestion that an Organising Secretary of the Pharmaceutical Society be appointed.

Mr. Turver thanked Mr. Sargeant for his address and the deputation for its visit. He also spoke in support of Mr. Gifford's suggested Organising Secretary.

Messrs. Laurie, Taylor (St. Anne's), Ashton, and Carey

Taylor joined in the discussion, all advocating reforms, and eventually the meeting passed unanimously a resolution pledging itself to use its utmost influence to secure Mr. Pilkington Sargeant's election to the Council of the Pharmaceutical Society.

Mr. Sargeant thanked the Association for its promised support, and expressed the opinion that the Pharmaceutical Council ought to have greater control over registered chemists, and have power to strike a person off the Register for unprofessional conduct.

Councillor Laurie, in proposing a hearty vote of thanks to Mr. Sargeant and the deputation, said for candidates to visit districts was the only practical way of getting in touch with chemists and of hearing their grievances.

Mr. Jackson seconded the vote of thanks, which was carried unanimously.

The Hon. Secretary, Mr. Sankey, read letters from Mr. Hagon and the Cardiff Chemists' Association; Mr. Gibson and the Brighton Chemists' Association, soliciting support for the Council election. Further consideration was postponed until other candidates had issued their addresses.

The P.A.T.A. List.

A letter was read from the Anglo Drug Co., stating that Winslow's Syrup and Brown's Troches had been added to the P.A.T.A. list, in response to the appeal of chemists' associations.

NORTH-EAST LANCASHIRE CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Monday, April 25, 1904, at the White Bull Hotel, Blackburn. The only business was the consideration of matters relative to the forthcoming

Council Election.

Mr. R. Lord Gifford, as one of the retiring candidates seeking re-election, was asked to make a statement. He said the Pharmacy Bill and the attitude of the Government were the chief questions at present occupying the attention of chemists. Negotiations were in progress with the Government, and if some compromise resulted which did not affect principle, it would be well. If they were asked to accept some change in dealing with poisons on the lines of the Poisons Commission's report, and in return they could get the dispensing of prescriptions restricted to qualified persons and secure Clause 7, they would have arrived at a basis for agreement. Without Clause 7 the Bill was simply an enabling Bill for companies to practise pharmacy. Clause 2 placed capital in a supreme position, and all freedom was extended to the soulless company, while all restriction was upon registered individuals. Clause 4 made companies statutory owners of pharmacies to practise by Act of Parliament for evermore. In face of the great fact of the time, that all professions were alive to the evil of impersonal encroachments on individual qualification, he maintained that they could not at any price give away the principle embodied in Clause 7. According to Clause 6, a company could own a thousand pharmacies. Clause 10 meant a curriculum. But for this there was to be one justification only—preclusion of the unqualified from practice—for what was the use of these stringent requirements if the exercise of them became impossible? Clause 11 would not secure but kill titles, for it destroyed their meaning. The very essence of the whole argument was that title constituted practice. Sir Michael Hicks Beach had focussed an essential matter. Enabling companies and disenabling responsible persons was surely the most preposterous proposition of this gold-ridden age. There were two alternatives which alone deserved attention: free trade in the practice of pharmacy or professional qualification, which meant restricted practice. It ought to be made plain that what was sought by companies was preferential legislation, and that ought to be too absurd for consideration. If Clause 7 were given up, companies would practically be relieved of harassing restrictions, interference, and regulations, such as fell upon the qualified person. In such event, also, companies would inevitably capture the Pharmaceutical Society's organisation, administer the Acts of Parliament, and conduct the examinations. In his opinion, exploitation of personal qualification in pharmacy meant exploitation of the public interests where their protection was most needed. It was fair to say that the policy of assertion and effective organisation advocated by that Association years ago was now the accepted policy of the Council. Good results had followed, and they would be proportionate to the vigour and completeness of the organisation. He was committed to even greater efficiency, and after careful consideration the Council was of opinion that that efficiency was coming. If it did not come about at an early date he might expect reconsideration of his suggestions for completing the present admirable organisation by making the Council directly responsible for efficiency and ear-marking an officer for the carrying out of every phase of organisation.

The Hon. Secretary (Mr. Jos. Hindle) said he felt that the situation was getting very acute, and that unless they exercised their prerogative of voting and voted in accordance with the principles which they had held for some years past, persons would creep in as members of the Council who had not a strong backbone. Personally he was opposed to anyone who compromised on Clause 7. He moved that notices be forwarded to the members of the Association advising them to vote for the six retiring candidates, and to use their own discretion as to who to vote for to fill the seventh seat.

This resolution was duly carried.

HUDDERSFIELD AND DISTRICT CHEMISTS ASSOCIATION.

ORDINARY MEETING.

Tuesday, April 26, 1904, Mr. Buckle in the chair.

A deputation, headed by Mr. J. H. Beacock, attended to ask for support for Mr. Pilkington Sargeant in connection with the election of Council of the Pharmaceutical Society. Mr. Beacock, Mr. Johnson, and Mr. Sargeant having addressed the meeting,

Mr. Sykes proposed: "That this Association pledges itself to do all in its power to secure the return of Mr. F. Pilkington Sargeant to the Pharmaceutical Council."

The motion was seconded and adopted with unanimity.

Mr. F. Pilkington Sargeant thanked the meeting for their expression of support.

BOURNEMOUTH PHARMACEUTICAL ASSOCIATION.

ORDINARY MEETING.

Thursday, April 21, 1904, at the Albert Restaurant, Bournemouth, Mr. E. Worth in the chair.

Formal business having been taken, the members proceeded to discuss the forthcoming Council election. The Secretary read letters and addresses. After consideration and some criticism of the policy of the Society in general, it was decided to suggest to members that they should support the candidature of Mr. Gibson, of Brighton.

The Secretary asked what was the wish of the members in respect to the annual outing of the Association, and it was decided to leave the matter entirely in his hands to make what arrangements he thought fit.

Mr. Bingham raised the question of the liability of chemists to claims under the Workmen's Compensation Act. He stated that one of the members had received a claim from an errand boy, who was run over while delivering medicine on a bicycle. This statement caused some surprise, as it was generally considered that retail chemists were exempt from the provisions of the Act—not being a "factory" or "workshop"—but the Secretary was requested to make inquiries and find out if, or to what extent, chemists are liable to such claims, and to report at the next meeting.

FEDERATION OF WEST RIDING CHEMISTS' ASSOCIATION.

HALF-YEARLY MEETING.

Tuesday, April 26, 1904, at the White Horse Hotel, Wakefield, the President, Mr. W. Pollard, Wakefield, in the chair.

The correspondence read included letters in reference to the Shop Hours Bill, the work of the Proprietary Articles Trades Association, and the Pharmacy Bill.

Revision of Rules.

The Chairman stated that the sub-committee appointed to revise the rules of the Federation had completed its labours, and acknowledged the indebtedness of the Committee to Alderman Dunn for the assistance he had rendered in the work.

Alderman Dunn explained the most notable changes which had been made in the old rules. The most important was the re-drafting of Rule 4, which practically abolished the Council and provided for a modification in the representation of associations. The new rule reads:—"The constituent associations shall be represented by their presidents (*ex-officio*) and other elected members as follows:—Associations with a membership of twenty-five or under, two representatives; membership of twenty-five to fifty, three representatives; membership of over fifty, four representatives. All members shall retire annually and be eligible for re-election." Distinctions between members of Council and delegates were thus blotted out. Another amended rule provided that members of affiliated associations may attend the ordinary meetings of the Federation, and may, with the permission of the Chairman, take part in the proceedings, but not vote. A rule which had been amended set forth that "no action shall be taken in the name of the Federation on any matter involving questions of policy without a definite resolution of the Federation."

After a brief discussion the revised rules were adopted, on the motion of Alderman Dunn, seconded by Mr. Hanson.

Halifax and the National Federation.

Mr. Hebden stated that at the recent meeting of the Halifax Association there was a general opinion expressed that it was unnecessary to belong to two federations—the National and the West Riding. It was practically decided to drop one of them, and that the National.

During the subsequent discussion Mr. Gledhill explained that the Dewsbury Association had withdrawn from the National Federation because a representative could not be obtained to attend the meetings.

Mr. Hebden was of opinion that the best plan would be for the West Riding Federation to elect delegates to the national Federation.

Other members took part in the discussion.

The Pharmacy Bill.

The Chairman, in introducing a discussion upon the Pharmacy Bill, said that if Clause 7 was dropped from the Bill it would be as well to drop the Bill itself.

Mr. Pickard was of opinion that it would be a mistake to enter into any compromise upon this point.

Alderman Dunn pointed out certain difficulties which were in the way, and said he thought it would be a mistake to do anything further than to ask the Council of the Pharmaceutical Society to endeavour to get the Bill through in its entirety.

Mr. Broadhead was of opinion that if the Bill was accepted without Clause 7, legislation in the interests of chemists would be postponed for an indefinite period. If the Bill was to be mutilated it would be preferable to fall back upon the old Act of 1868, and endeavour to induce the Council of the Pharmaceutical Society to make the best of it, for this had not, in his opinion, been done hitherto.

After some further discussion, Mr. Billington moved a resolution to the effect that the West Riding Federation urge upon the Council of the Pharmaceutical Society the desirability of the Pharmacy Bill now before Parliament being passed into law as drafted, and pledging the Federation to render all possible assistance in this direction.

The resolution was seconded by Mr. Pickard and carried unanimously.

Other Business.

A resolution expressive of sympathy with Mr. Walshaw, of Huddersfield, in the loss he had sustained by the death of his father, was passed, and Mr. Hadfield was requested to convey the expression of the Federation's sympathy.

The Council election was then discussed. It was decided that the Federation should support Mr. Sargeant.

The Secretary read a letter from Mr. Pickering urging his claims as a Council candidate and briefly summarising his address.

Bradford was chosen as the next place of meeting.

SOCIETY OF ARTS.

EVENING MEETING.

Wednesday, April 27, 1904, in the rooms of the Society, John Street, Adelphi, London, Colonel Sadler, M.P., in the chair.

Mr. Thomas Tyrer read the substance of an exhaustive paper on

The Need of Duty-free Spirit.

The production of alcohol from British-grown materials must very shortly, he believed, come to the front. Now, the British distiller for the most part uses foreign materials. Whereas in Germany there are some 6,000 distilleries, in England and Scotland there are only 191. The German distilleries may be smaller in some cases, but they are actually on the spot where the potatoes or other materials are grown. With regard to the demand for untaxed spirit, it is hopeless to ask for more facilities simply with reference to varnishes or to pharmaceutical preparations. "Grog-shops" would spring up in every quarter. It is with regard to the large industries, considered in a broad spirit—industries where the ethyl and methyl groups are now an essential factor, or may become so—that the demand must be made. Reference in particular must be made to the chemical industry, to the great advantages over petrol which alcohol possesses as a source of power for automobiles, and to the equally great advantages and possibilities of alcohol as an illuminant. In Germany light railways and agricultural machines are driven by the power derived from spirit distilled practically on the spot from materials grown on the very ground over which the engines pass. "Potential whiskey" may surely be disregarded by the Customs and Revenue officers when choosing a denaturing agent for alcohol which is to be used as a source of motive power.

Mr. Tyrer showed conclusively, by means of tables, the enormous loss to British industry occasioned by alcohol duties. He urged that more encouragement should be given to research, particularly research on the different denaturents which might be used. By figures, statistics, spirit lamps, and lantern illustrations, he demonstrated most effectually the many advantages of alcohol as a source of motive power and as an illuminant.

Colonel Sadler, M.P., in complimenting Mr. Tyrer on his paper, said that a meeting of members of Parliament was to be held on Thursday, April 28, to consider how they might best attack the Finance Bill in order to get something done on this most important question.

An interesting discussion followed, which want of space precludes us from reporting at any length. Mr. Helm, as an old Revenue officer, remarked that the officials were alive to the desirability of untaxed alcohol, if, as Mr. Tyrer suggested, the use of it were placed under proper restrictions.

Mr. Tyrer, in replying to the congratulations and thanks of the meeting, said that there was at last a prospect of something being done. The President of the Board of Agriculture, Lord Onslow, was in communication with him on the subject of the agricultural produce of different kinds which might be used in the manufacture of spirit.

THAMES VALLEY AND DISTRICT CHEMISTS' ASSOCIATION.

ANNUAL MEETING.

Wednesday, April 27, 1904, at Nuthall's Banqueting Hall, Kingston-on-Thames, Mr. Alfred Higgs, J.P., in the chair. The Hon. Secretary, Mr. F. Harvey, read the annual report, which was received and adopted. The financial statement which was also presented, showed a gross income of £17 2s. expenditure amounting to £14 14s. 5d., and a balance of £2 7s. 7d.

Rule 5 Amended.

Mr. Woolcock moved that Rule 5 be amended to read that the officers of the Association be appointed by the members of the Association, instead of by the Committee. Mr. Bunker proposed an amendment to this motion to the effect that the Committee should elect officers consisting of President, two Vice-Presidents (one of whom should be the retiring President), Treasurer, Secretary, and Auditor, no President to remain in office for more than three years in succession. This amendment was seconded and carried. A motion to amend Rule 6 found no seconder.

ANNUAL DINNER.

Subsequent to the annual meeting, the first annual dinner of the Association was held in the Banquetting Hall of the same building, Mr. Alfred Higgs, J.P., presiding. Among those present were Mr. Walter Hills, Mr. Albert Cooper, Mr. Richard Bremridge, Mr. Thos. Skewes-Cox, M.P., Mr. W. H. Gibson, Mr. J. W. Bowen, Mr. R. B. Betty, and Lieutenant-Colonel Preston.

The loyal toasts having been given from the chair, Mr. Higgs proposed

The Houses of Parliament.

No constitution, said the Chairman, had a better representative assembly than we had, and there was some satisfaction in appealing to such an assembly. He humorously explained the position of pharmaceutical legislation by pointing out that it was illegal for him (Mr. Higgs) to enter into partnership with the hon. member for the Richmond Division of Surrey, and to call the firm "Higgs and Skewes-Cox, Chemists." On the other hand, it was perfectly legal for Mr. Skewes-Cox, together with his mother-in-law, his cook, his housemaid, his gardener, his coachman, and his office boy to open a pharmacy under the title of "Skewes-Cox, Limited, Chemists." The chemists of that district had the satisfaction of knowing that in their representative in Parliament they had a man who keenly appreciated the anomalous condition of pharmacy, and he felt sure that when the Pharmacy Bill came up for debate Mr. Skewes-Cox would be in the House of Commons to see that justice was done.

MR. ALFRED HIGGS, J.P.

MR. THOS. SKEWES-COX, M.P.

Mr. Skewes-Cox, M.P., in replying, raised a laugh by saying that very few M.P.'s received justice, and very few M.P.S.'s received justice Referring to the measure introduced by Mr. Lough, he said there was very little hope for it during the present session, unless it reached a second reading before Whitsuntide. Such was the obstruction that private Bills had little prospect of passing unless they could be carried after twelve o'clock with little opposition. The Pharmacy Bill was meeting with a deal of opposition from those whose own pockets were likely to be affected. Had the Bill been introduced in 1880, immediately after the "London Provincial Supply Association" decision, it would probably have passed with little difficulty. After dropping the observation that all measures were the result of a compromise, Mr. Skewes-Cox left the subject of legislation, and concluded his speech in lighter vein.

The next toast was

The Pharmaceutical Society,

given from the chair. Mr. Higgs concisely and in an interesting manner traced the history of the Society. He was unable to understand why so many chemists withheld their support from the Society. It stood to reason that the greater number of supporters the Society had the more influential it would be, and, therefore, the better would it be for the individual chemist and the craft as a whole. He regretted that Mr. Michael Carteighe was unable to be present; that gentleman, however, had wired his good wishes, and expressed his regret at his inability to attend the function.

Mr. Walter Hills replied for the Pharmaceutical Society. In spite of the fact that he had been "billed" for another toast, and was called upon quite unexpectedly to respond for the Society, Mr. Hills made an admirable speech, which was frequently interrupted by the applause of those present. After an apt introduction, the speaker plunged into the thick of the present political position of pharmacy. Not only, he said, was there a Pharmacy Bill actually before the House of Commons, but it had been announced that the Government was preparing a measure which, it was expected, would shortly be presented in the House of Lords. Under these circumstances it behoved the Thames Valley Chemists' Association, and, in fact, all local associations, to watch developments with very great care. The principle underlying the Act of 1868 was the safeguarding of the public. With this object in view, the Legislature decreed that every person who kept open shop for the sale of certain poisons should be qualified by a specific examination, and should be registered as a chemist. What was there to do now but to emphasise that principle which, at the time of the passing of the Act, was emphatically received by the Legislature? The only course was to embody the principle in the draft Bill. This had been done, and the result was the celebrated Clause 7, which had been so much talked about. And that clause must stand, at any rate, until they knew what the Government proposed to put in its place. Mr. Hills brought his speech to a close by emphasising the views he had so admirably laid down in his Minority Report.

The Thames Valley District Chemists' Association was proposed in a brief speech by Mr. W. H. Gibson, who spoke enthusiastically of the value of local organisation, and congratulated the Association on the remarkably rapid manner in which it had grown.

Mr. W. J. U. Woolcock replied.

"The Chairman," proposed by Mr. Feaver Clarke, was the last toast on the programme.

During the evening some very excellent musical items were provided.

HARROGATE AND DISTRICT PHARMACEUTICAL ASSOCIATION.

ORDINARY MEETING.

Friday, April 22, 1904, at the Salisbury Hotel, Harrogate, Mr. C. E. J. Eynon, President, in the chair.

Mr. W. S. Glyn-Jones explained the growth and the success of the P.A.T.A. movement. He then gave some illustrations of the value of the C.D.A. He referred to the Pharmacy Bill, and to the probability of the Government shortly introducing a Poisons Bill.

A discussion took place, in which the President, Messrs. Atkinson, Wilson, and Handford took part, and several questions were put to Mr. Glyn-Jones and answered by him.

A hearty vote of thanks was accorded to Mr. Glyn-Jones for his instructive address.

The Secretary brought before the meeting circular letters he had received from the Brighton and Cardiff Association, asking for support for Messrs. W. H. Gibson and Hagon respectively.

PUBLIC DISPENSERS' ASSOCIATION.

ORDINARY MEETING.

Wednesday, April 27, at St. Bride's Institute, Ludgate Hill, E.C., Mr. Noad Clarke in the chair.

Pharmacy Bill.

The Secretary read letters from Mr. Walter Long, M.P., the British Medical Association, the Pharmaceutical Society, and the General Medical Council, bearing upon this matter, with particular reference to the employment of qualified dispensers in public institutions.

The Recent Exhibition and Concert.

The Chairman said that the smoking concert had been a success financially, though he would have liked to have seen it better supported. The Exhibition, he thought, was an unqualified social success.

Votes of thanks were accorded to the Chairman and Messrs. Hewitt and Leadbeater for the work they had done in regard to the Exhibition.

It was suggested that at the next meeting a "whip round" be made for the Benevolent Fund of the Pharmaceutical Society.

Council Election.

Members, without dissent, pledged themselves to support Mr. R. A. Robinson, Mr. C. E. Pickering, and Mr. R. B. Betty.

MISCELLANEOUS NEWS.

Divisional Secretaries and other Members of the Pharmaceutical Society are requested to assist the Editor by sending local newspapers containing items of interest to chemists and druggists.

Grimsby and District Chemists' Association.—In consequence of the sudden death of Mr. R. M. Hearne, the annual dinner of the Grimsby and District Chemists' Association, which was to have been held at the Oberon Hotel on Thursday, April 28, 1904, has been postponed indefinitely.

Sight-Testing in Manchester.—So strong is the determination of the members of the Manchester and North of England Optical Society to secure the diploma of the Spectacle-Makers' Company, that they are meeting every Wednesday afternoon and evening for a month for sight-testing practice, in preparation for the examinations.

Radium Testing.—In sending, as a donation to the Benevolent Fund of the Pharmaceutical Society, the sum of 5s., being the amount received by him for testing radium, Mr. F. H. Glew, of Clapham Road, points out that the block illustrating his article on radium testing, at page 549 of last week's issue, was inverted. The mistake, which we regret, was due to inadvertence on the part of the printer.

Leeds and District Chemists' Association.—A whist drive was held on Wednesday, April 20, in the Rooms of the Leeds College of Pharmacy, kindly lent for the occasion by Mr. F. Pilkington Sargeant. A large party of members and their friends assembled, and a most enjoyable evening was spent. In the unavoidable absence of the President, the prizes were presented to the winners by Mr. F. W. Hollingworth.

Australian Customs Vagaries.—The latest in extreme decisions by the Federal Customs is one to regard typewritten market reports as advertising matter, and thus liable to a duty of 3d. per pound on entering the Commonwealth. The Birmingham Chamber of Commerce has brought the matter before the Colonial Secretary. Mr. Lyttelton, however, showed little sign of interest, referring the Chamber to a quarter from which no help can be expected.

Newcastle Chemists and the Council Election.—A representative meeting of members of the Pharmaceutical Society was held on the 27th inst., in the Hôtel Métropole, Newcastle-on-Tyne, to consider the qualifications of candidates for the forthcoming Pharmaceutical Council election. It was decided to recommend the members of the Pharmaceutical Society in the district to support the following:—Messrs. Currie, Newsholme, Gifford, Robinson, Sargeant, Hagon, and Betty.

Alcohol Determination.—Prizes of 5,000, 3,000, and 2,000 francs respectively have just been announced by the French Government for the best "Compteur" or reckoner for the determination of the strength of alcohol as it is produced. The internal revenue tax levied upon alcohol in France is calculated upon the volume of pure alcohol contained in a liquid at 15°. The compteur wanted is one which will accurately determine the strength of the liquid as it comes from the still. Competitors require to give notice before December 1, 1904.

Pilfering from a Chemist's Counter.—At Hove, on April 19, Flora Wellby, a woman of good position, was charged before the Borough magistrates with stealing two bottles of scent, value 3s., the property of Messrs. H. Long and Son, chemists, 65, Western Road, Hove. Evidence was given to the effect that the accused, while being served with two articles which necessitated the assistant's temporary absence from the counter, took two bottles of scent and put them in her pocket. When accused of stealing the articles it was stated that the woman offered to give Mr. Long a sovereign if he would not give her in charge. A fine of 10s. and costs was imposed.

"An Appeal to the Citizens of London" is the title of a booklet issued by Sir William P. Treloar, of 69, Ludgate Hill, E.C., chairman of the special committee appointed to collect funds for the reconstruction of St. Bartholomew's Hospital. £500,000 is required, the object being to give the City of London a completely modern hospital perfectly equipped and abreast of the latest advances in specialised scientific knowledge. Sir William points out that this is the first appeal which has been made to the public for 150 years, and that contributions may be paid, either in one sum or spread over a period of five years.

A Horticultural Exhibition.—The Royal Botanic Society of London is making arrangements for a horticultural exhibition to be held at its gardens in Regent's Park from June 6 to June 11. The exhibits will be classified in six divisions, these being again sub-divided. The botanical division will include an exhibition (1) of experimental research work, (2) of scientific apparatus, microscopes, and the like, and (3) of plants, seeds, etc., used in medicine. Prizes will be awarded for the best exhibits. Communications respecting the exhibition should be addressed to the Hon. Secretary, Educational Section of the Horticultural Exhibition, Royal Botanic Society, Regent's Park, N.W.

A Doctor and a Chemist, both practising in Paris, have been sentenced to imprisonment for one month and six days respectively, and fines of £4 each, for carelessness which nearly caused loss of life. M. F. de la Calle, the prosecutor, obtained a prescription from the doctor for pills containing arsenic and strychnine. The prescription read as follows :—Arseniate of soda, 10 Cgm. ; sulphate of strychnine, 5 Cgm. ; send twenty pills. It appears that the physician meant the quantity he had written to be divided into twenty pills, but he did not put this, and the chemist, who was equally careless, dispensed the full quantity in each pill. The patient, who suffered severely in consequence of having taken the pills, was awarded £20 damages.

The Use of a Professional Title by Limited Companies.—The Court of King's Bench, Dublin, has refused an application by an unregistered person named S. G. Roswell, who sought a mandamus directing the Registrar of Joint Stock Companies to register a company under the name of "S. G. Roswell, Dentists, Limited." The Lord Chief Baron, with whom two other justices concurred, held that as neither Roswell nor the company was a registered dentist, the title proposed would convey a false representation, and that therefore the company should not be registered under that name. The Irish Branch of the British Dental Association is to be heartily congratulated on its success in obtaining so important a decision. Chemists will not have much difficulty in recalling instances of the use of the title "chemists" by companies composed of and managed by persons who could not use the title as individuals.

Edinburgh Chemists' Golf Club.—All the ties in the first round of the Hole and Hole Tournament have now been played. The following is the order of play in the second round :—

Handicap Holes.				Handicap Holes.
3	W. C. Baker	against	T. F. Morley	3
2	W. M. Manson	,,	D. N. Wylie	3
2	Thos. Miller	,,	D. S. Philp	0
1	H. D. Alexander	,,	Jas. Anderson	6
6	H. Jackson	,,	W. G. McNab	4
6	Geo. Baxter	,,	W. B. Cowie	6
7	John Bowman	,,	Robt. Butchart	2
2	Jas. Finlay	,,	J. C. Laird	3
5	C. F. Henry	,,	Jas. Finlayson	5

False Certificate of Character.—At Cheltenham, on April 26, Alexander Robinson Dodds was charged with obtaining a situation by use of a false certificate of character. Mr. J. Stewart, chemist, of High Street, Cheltenham, had advertised for an assistant, and prisoner replied, enclosing a testimonial purporting to have been given by Mr. D. T. Smith, of 16, Kingsmead Terrace, Bath, as follows :—"Mr. Dodds has been with me for over twelve months as assistant. During that time I have always found him honest, obliging, and trustworthy. He is an accurate dispenser, and has also a thorough knowledge of patents, etc." On this he was engaged, at 30s. a week, Mr. Stewart's letter to "Mr. Smith" having elicited a postcard reply confirming the character. From something that happened later on, Mr. Stewart made inquiries in Bath, and it was then ascertained that there was no such person as Mr. D. T. Smith carrying on business as a chemist in that city, and that the Bath address given by prisoner was the house he had himself been lodging at.—The Bench fined prisoner £5 and costs, or a month's hard labour.

Drug Inspection in London.—The Public Analyst of Deptford, reporting to the Borough Council on Tuesday, wrote that during the past quarter fourteen samples of cod-liver oil had been examined by him. All were genuine, and in accordance with the requirements of the B.P., 1898.—The Public Analyst of Chelsea, reporting to the Borough Council on Wednesday, wrote that of six samples of liquefied carbolic acid B.P. examined by him during the past quarter two were 5 per cent. deficient in strength, and one was 6 per cent. in excess of B.P. strength. Of six samples of perchloride of mercury lotion, 8 grains to 8 ounces of water, four were of the prescribed strength and two were 30 per cent. in excess of the prescribed strength.—The Public Analyst of Lewisham, reporting to the Borough Council on Wednesday, wrote that during the past quarter he had examined three samples of lime water and one of tincture of iodine. All were genuine.—The Public Analyst of Wandsworth, reporting to the Borough Council on Wednesday, wrote that during the three months ending the 31st ult., he had examined two samples of lime water, two samples of cream of tartar, one sample of lead and opium pills, and one sample of compound tincture of rhubarb. All were in accordance with the requirements of the B.P.

Alleged Bogus Chemists' Traveller.—At Worship Street Police Court on Tuesday, April 26, 1904, William James Barnes, 21, clerk, of Gladstone Buildings, Willow Street, Finsbury, was charged with obtaining £3 10s. 6d. by fraudulent pretences from William James Green, chemist, of Lower Marsh, Blackfriars.—Evidence was given to the effect that the prisoner represented himself as a traveller employed by Messrs. Ismay and Sons, wholesale chemists and druggists, Newcastle-on-Tyne, and he waited upon Mr. Green for orders. Mr. Green ordered blood mixture and pills, and paid the prisoner £3 10s. 6d. in post-dated postal orders payable to Messrs. Ismay and Sons. No goods arrived, and communication with the firm exposed the fraud. It was also stated that the postal orders were cashed soon after they were issued. By means of chemicals, the note across them that they were not to be paid until after a certain date was erased, and London was substituted for Newcastle as the place of payment. Two bottles of "chemical eradicator" had been found at the prisoner's lodgings, and complaints against him had been received from Maidstone, Grantham, and other parts of the country.—The magistrate directed a remand, and suggested that the postal authorities should take up the case.

PERSONALITIES, BUSINESS CHANGES &c.,

Sir Herbert Maxwell, M.P., who has represented Wigton in Parliament for the last twenty-four years, it is reported, has intimated his intention of retiring at the next election.

Mr. J. Wynne Williams, M.P.S., of Wrexham Street, Mold, was unanimously elected Chairman of the Mold Urban District Council on Tuesday last, April 19.

Mr. Fredk. Robinson, chemist and druggist, 14a, Bradshaw Street, has purchased the business of Mr. T. Lacey Hewitt, druggist, 71, Embden Street, Hulme, Manchester.

Miss May Burt, chemist and druggist, has been appointed by the Bolton Board of Guardians as dispenser at the Workhouse, in place of Miss J. M. Dale, who has resigned that post.

Mr. C. J. Wathes, chemist and druggist, of Long Eaton and Sandiacre, intimates that Mr. Herbert Jackson, M.P.S., who has for three years managed his business at Sandiacre, is now a partner in the business.

Mr. W. Shadforth, pharmaceutical chemist, has purchased the dispensing and photographic business so successfully carried on for over thirty years by Mr. T. F. Hudson, chemist and druggist, at 63, Grove Road, Bow, E.

Mr. Percy Knott, M.P.S., has been reappointed Chairman of the Workhouse Committee of the Bolton Board of Guardians for the ensuing twelve months; and at a recent meeting of the Board he was elected on the Union Assessment Committee.

Mr. R. Thomas Clarke, of 131, Milton Road, Gravesend, points out that in the report of the North Kent and District Chemists' Association's annual meeting, his initials were wrongly given as "R. F." in the list of members of the new Committee.

Mr. Harry Stout, M.P.S., has been taken into partnership with the firm of S. Gill and Son, 57, Broad Street, Pendleton. This pharmacy was established in 1835, and now has branches at 247, Ellor Street, Seedley, and 180, Bolton Road, Irlams-o'-th'-Height. The business will still be carried on under the old name of S. Gill and Son.

Mr. P. Naylor, of Church Farm House, Angmering, Worthing, is editing a book, entitled "India and Her Commerce." From a prospectus of the book, it would seem likely to be of value to manufacturers, and Mr. Naylor will be happy to send the prospectus to anyone interested in Eastern trade who may apply for a copy.

Mr. G. T. W. Newsholme has been unanimously re-elected chairman of the Hospital Committee of Sheffield Union, a position he has held for nine years. Mr. Newsholme has also been re-elected vice-chairman of the Children's Scattered Homes, having served six years in that capacity. These homes were the first of the kind started in this country.

Mr. W. S. Glyn-Jones has received from Mr. C. J. G. Bunker, President of the Proprietary Articles' Trade Association, a letter congratulating him on his recent success in the Final Examination of the Council of Legal Education. Mr. Bunker has intimated to the Editor that the Council of the P.A.T.A. and the Directors of the Chemists' Defence Association, Limited, will take an early opportunity to promote a testimonial to Mr. Glyn-Jones in recognition of his work on behalf of those organisations.

Mr. J. H. Maiden, F.L.S., director of the Botanic Gardens, Sydney, and a corresponding member of the Pharmaceutical Society of Great Britain, who is well known as an authority on eucalyptus trees, is the author of an interesting article on "The Largest Trees in the World," which appeared recently in the *Sydney Morning Herald.* The greatest height that has been claimed for any tree was 525 ft., which was given in 1889 by Mr. David Boyle as the height of a tree seen by him in Melbourne. That "measurement" was afterwards disproved, and Mr. Maiden thinks, in view of the actual measurements of Professor Sargent, who found in California a redwood tree (*Sequoia sempervirens*) 340 ft. in height, and of other observations, that no taller tree anywhere exists.

BANKRUPTCY INTELLIGENCE.

Re **Bernard Kuhn**, 16, Rood Lane, Agent in Chemicals and Drugs, trading as the Chinosol Hygienic Company.

At the London Bankruptcy Court, on Wednesday, the creditors met under the receiving order recently made against this debtor upon the petition of Mr. H. H. Mason, Croydon, creditor for £904 10s. 3d. The Chairman stated that the debtor, in 1892, started again in business after paying his creditors, under his failure the previous year, a composition of 10s. in the £. His capital of £890 was borrowed from his wife and his cousin. In 1896 he became sole agent for the sale of "Chinosol," in connection with which he asserted he had spent £5,000 in six years in pushing the sale of it. In 1901 he brought an action against Messrs. Fritsche and Company, of Hamburg, the proprietors of chinosol, to restrain them from selling to his customers—which failed. After which he continued the agencies, paying cash for the goods supplied. He had also been engaged for the past six years selling betol-ol liniment and colchi-sal capsules, two good specifics, the property of Mr. H. H. Mason, the petitioning creditor, to whom, in 1901, he owed £900. He continued the agency to August last, when, being pressed for the payment of the old debt, he gave two acceptances in payment of the same. One of these he met, but on failure to meet the other one the present bankruptcy proceedings were instituted. He attributed his failure to want of capital and loss over the chinosol agency. No accounts had been prepared, but the liabilities were roughly stated at £1,500, with assets—consisting of cash, stock, book debts, etc.—£1,300 odd. The proofs having been dealt with, the debtor asked for an adjournment to enable him to make an offer of 7s. 6d. in the £. This was not accepted by the creditors, and resolutions were passed for adjudication of bankruptcy, with Mr. F. H. Izard, C.A., as trustee, and a committee of inspection.

MARKET REPORT.

The quotations given below are the lowest prompt cash prices for bulk quantities, to which other charges have to be added. It is important that this should be borne in mind in making any comparison between the prices quoted and those of the wholesale drug trade.

The Drug Sales.

London, Thursday, April 28, 1904.

At the fortnightly drug auctions held to-day, new goods only were offered, the offerings comprising fourteen catalogues, none of which were heavy. The demand was, on the whole, very slow indeed. A large quantity of Cardamoms was catalogued, and the length of time taken up by the sale of these goods led some of the wholesale druggists to urge what has more than once been previously suggested—namely, that Cardamoms should be placed either at the commencement or at the end of the sales. After a short discussion it was decided to consider the matter privately. The only difficulty which would seem likely to stand in the way of such a desirable arrangement is in the case of catalogues which include other articles besides Cardamoms. The particular feature at to-day's sales was, perhaps, the low price at which 5 cases of pressed Formosa Camphor were disposed of. These were catalogued without reserve, and were knocked down at 190s., being a drop of about 100s. on the price paid when this was last offered. The position of Camphor has, of course, been weakening during the last week or so; possibly the report that Japan is expected to ship Camphor towards the end of the summer may, to some extent, account for it, but it would not be possible to buy in the private market at anything like the price paid in auction. Cape Aloes were bought in at much dearer rates, it being stated that the article is very scarce. Socotrine sold at 70s. for good in kegs. For Curaçao 20s. 6d. to 25s. 6d. was paid, according to quality, for dark liver. Cardamoms were slightly weaker, selling at 1d. to 2d. lower; the best lots were all bought in at firm prices. A small quantity of bold round Canton spongy Rhubarb sold at 1s. 6d. Small dark Veronica Orris Root was held for 17s. 6d. Very common black Civet sold at 2s. 3d. to 2s. 9d.; good fair quality was bought in at 5s. 3d. There was little demand for Ipecacuanha; a few bales sold at 5s. to 5s. 1d. for Rio, and 3 bales Minas at 4s. 6d. to 4s. 9d. for good fair. Nux Vomica fetched 8s. for small dark Calcutta. Sticlac sold at £8 to £9. Ceylon Coca Leaves sold for full prices; good green leaf, 1s. 3d.; fair green, 11d.; brown, from 8d. to 10¼d.; and brown country damaged, 7½d. Truxillo were bought in at 1s. for broken green. Senna was in small supply; small spotty leaf sold at 1½d. to 2d. No new stuff is likely to come before August. Jalap sold after the sale at 5d. for good. Crown Bark sold at high prices. Eighty packages of bright Loxa fetched 11d. to 1s. 1d.; Huanoco was slightly cheaper, 4 serons selling at 1s. for bright. Flat cultivated Calisaya sold at 1s. 2d. for sound; damaged, 9½d. to 1s. Annatto Seed realised 3d. to 3½d., according to quality. China Camphor Oil sold at 40s. for yellow. Small washed Columba Root sold without reserve at 15s. Senega Root, also offered without reserve, sold at 2s. 8d. A part of the offerings of Cubebs realised 32s. 6d. for medium slightly staly. Wax sold as follows:—Madagascar, up to £7 2s. 6d.; Zanzibar, £6 10s.; Australian, £7 2s. 6d.; Jamaica, £7 5s. Gamboge was held at firm rates, the bulk being good fair block. Siam Gum Benjamin was knocked down at 82s. 6d. for unsorted Saigon, rather barky. Two cases of unbranded Menthol sold at 15s.; these were dark, small crystals. Ambergris sold at 85s. for good grey. For Jamaica Honey 18s. 6d. to 24s. was paid. Sarsaparilla sold at 1s. for Jamaica, and 1s. for Honduras. Kobayashi Peppermint Oil was bought in at 6s. 6d. to 6s. 9d. For West Indian Kola Nuts 6d. was paid. The bulk of the offerings of Buchu Leaves were bought in, but some packages of yellow and stalky sold at 7¼d. and 7½d., and drossy at 8d.

General Markets.

ARROWROOT.—Of the 576 packages of St. Vincent offered at the sales on Wednesday 68 sold, good bright, in tins at 3¾d., and good manufacturing, in barrels, at 1¾d.

CAMPHOR.—The market here is undoubtedly weaker. It is reported from New York that American refined camphor has declined at the rate of about 8 cents per lb. This decline is said to be due to the fact that moderate supplies of crude camphor are to be shipped by the Japanese Government. These shipments are not likely to be large, and a further drop is not likely at present.

CARBOLIC ACID.—Crystals, 39-40°, 6⅝d.

CASCARA SAGRADA.—A small quantity of three-year-old bark has been sold at 90s., and some new at 77s. 6d. A shipment arrived this week, but the bulk has been re-shipped to the United States.

CASTOR OIL.—Belgium 1sts spot £19 15s. to £20.

CHLORAL HYDRATE.—The advanced price is 3s. 3d. per lb. in bulk packages.

CITRIC ACID.—1s.

CLOVES.—At the Spice sales 105 cases Penang sold, good bright picked, at 9½d. 100 bales Zanzibar were bought in at 8⅝d. for fair. In the private market sales of Zanzibar have been made at 8½d. for early delivery, and 8 9-16d. for June-Aug. delivery.

COCAINE.—12s. 8d. to 13s 3d. per oz. for the hydrochloride, according to quantity.

CODEINE.—8s. 4d. per ounce.

COD-LIVER OIL.—Very quiet, but lower since last week, 225s. being quoted for Norwegian and the same price for Newfoundland.

CREAM OF TARTAR.—98 per cent. foreign powder, 87s.

GINGER.—Cochin met a slow demand at the spice sales. Good bright washed sold at 26s. Jamaica, 210 barrels sold at an advance of 1s. for good qualities, and full prices were obtained for common.

INSECT POWDER.—Foreign ground Dalmatian is offering at 7½d. to 10d. per lb., c.i.f., according to quality.

IODIDES.—Sodium Iodide, 11s. 10d. to 12s. 1d.; Potassium Iodide, 10s. 3d. to 10s. 9d.

MENTHOL—Kobayashi is nominally 16s. 9d.

MERCURIALS.—The decline in Quicksilver has not affected prices.

MORPHINE.—4s. 5d. per ounce for the hydrochloride.

PEPPERMINT OIL—Comes strong from America, owing to the reports of a poor crop. There is little demand here, and prices are unchanged.

QUICKSILVER.—£8 2s. 6d. per bottle

QUININE—Is dull, the price of the German Sulphate in the second-hand market is 11¾d.

SHELLAC.—The spot demand is quiet, but prices are dearer.

TARTARIC ACID.—1s. 1½d. for English.

SERVIAN CHEMICAL IMPORTS.—The total value of drugs, chemicals, and colours imported into Servia during the year 1902 was £79,144. The United Kingdom contributed £3,194 of this total. Under the heading of unmade-up medicines (*vide* Vice-Consul's report), drugs and chemical products, the largest item was calcined soda, £3,178; refined saltpetre, £3,001; sulphate of zinc and verdigris, £2,906; lime and cement, £2,913. Made-up medicines and drugs were valued at £20,623; unprepared substances for the preparation of colours, £6,212; prepared colours, £14,592, the largest item being colours prepared from pitch and oils, £5,877; all other colours chemically prepared, £5,937. During the first nine months of 1903 the value of this class of imports was £136,033.

COTTON-GROWING IN THE BRITISH EMPIRE.—In his report to the Board of Trade, Professor Dunstan, Director of the Imperial Institute, shows that in the British Central Africa Protectorate, Uganda, the West African Colonies and Protectorates, the West Indies, Fiji, British North Borneo, and Cyprus, there exists indigenous cottons, yielding, even in a wild or semi-wild state, fibres of fairly good quality, which could, without doubt, be greatly improved. He recommends the establishment "in each colony of one or more experimental stations, and in many cases seed farms, at which agricultural experiments on cotton cultivation and improvement may be carried on, and where selected seed may be grown for distribution to growers."

PATENTS AND TRADE MARKS.[*]

New Patent Applications.

APPARATUS FOR INTRODUCING MEDICAMENTS INTO CERTAIN PARTS OF THE BODY (No. 675 of 1904).—H. Müssigbrodt, 2a, Wallstrasse, Madgeburg, Germany. Relates to an apparatus by means of which a local treatment of the inside parts of the body—for instance, the trachea and intestines—as well as wounds or channels caused by bullets or stabs, can take place, for the purpose of applying remedies in a powder or liquid form. Consists of a basket-like headpiece fastened to a ring of larger diameter, the latter being bored through the middle in order that the mouth of the central tube—for introducing the medicaments—may be securely fixed thereto. To this ring is also fixed a long open tube, which encloses the central tube above mentioned. The said ring has holes bored in its outer circumference which communicate with the enclosing tube and serve as a means of outflow for the medicaments, where liquids are used, after they have been introduced through the central tube. The basket-like headpiece referred to consists of wires bent against each other at their points, whereby the instrument can be introduced without doing any injury.

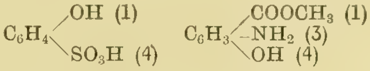
Note.—Opposition to the grant of the above-mentioned application should be filed at the Patent Office on or before May 24, 1904.

LOTION FOR THE RELIEF OR CURE OF ECZEMA AND OTHER SKIN DISEASES (No. 11,479 of 1903).—J. Bleackley, Plough Inn, Rainsough, Prestwich, near Manchester. Consists essentially of the following ingredients in or about the following proportions:—Neatsfoot oil, 1 gill; spirit of tar, ½ gill; carbolic oil, 1 gill; paraffin oil, 1 pint; and flowers of sulphur, ½ lb.

MANUFACTURE AND PRODUCTION OF DERIVATIVES OF THE ANTHRAQUINONE SERIES (No. 13,808 of 1903).—H. E. Newton, 6, Bream's Buildings, London, W.C. (Communicated by Farbenfabriken vormals Friedrich and Co., of Elberfeld, Germany.) Relates to (1) a new process for producing anthraquinone alpha-sulphonic acid, which consists in treating anthraquinone with fuming sulphuric acid in the presence of mercury or mercury compounds; and (2) a new process for producing the alpha$_1$-alpha$_3$ and the alpha$_1$-alpha$_4$ anthraquinone disulphonic acids, consisting in first treating anthraquinone or an anthraquinone-alpha-monosulphonic acid with fuming sulphuric acid in the presence of mercury or mercury compounds until the di-sulphonation is completed, and then separating the two resulting disulphonic acids from each other; and (3) a process for replacing in the anthraquinone alpha-mono and di-sulphonic acids the sulphonic groups by the amido or the alkylamido groups, which process consists in heating the anthraquinone alpha mono or di-sulphonic acids or salts thereof with ammonia or aliphatic mono-or-dialkylamines. Example:—A mixture of 10 parts of the potassium salts of anthraquinone-alpha-monosulphonic acid in 100 parts of a 20 per cent. solution of ammonia is heated in an autoclave during eight hours from 180 to 190° C. After cooling, the crystalline alpha-amido-anthraquinone precipitated during the reaction is filtered off and washed with hot water. Other examples are given.

Note.—Opposition to the grant of any of the above-mentioned applications should be filed at the Patent Office on or before May 30, 1904.

MANUFACTURE OF MEDICAL ANAESTHETIC COMPOUNDS (No. 8,095 of 1903).—E. Ritsert, 75, Gutleutstrasse, Frankfurt a/Main, Germany. Consists in manufacturing above compounds as solutions or solid substances by causing an aromatic sulphonic acid, or a salt thereof, to act upon an aromatic amido-carboxylic acid ether, or a salt thereof respectively. Example:—Meta-amido-para-oxybenzoic-acid-methyl ether + para-phenol sulphonic acid. This compound is obtained by dissolving 150 grammes of meta-amido-para-oxybenzoic acid-methyl-ether in a hot solution of 175 grammes of para-phenol-sulphonic acid in 750 cubic centimetres of water. The product,



$$C_6H_4\begin{cases}OH\ (1)\\ SO_3H\ (4)\end{cases}\qquad C_6H_3\begin{cases}COOCH_3\ (1)\\ NH_2\ (3)\\ OH\ (4)\end{cases}$$

is in the form of white needles, which melt at from 219° to 221° Centigrade.

Note.—Opposition to the grant of above application must be filed at the Patent Office on or before June 7, 1904.

New Trade Mark Applications.

CRESCENT device, for alkalies used in manufactures, photography or philosophical research, muriate of ammonia, sodium hypochlorite, etc., etc., by Brunner, Mond, and Co., Limited, Winnington, Northwich, Cheshire. 261,594.

"**PISCAROL,**" for (1) pharmaceutical products employed in medicine for animals, and (2) pharmaceutical products employed in medicine for man, by Lüdy and Co., 42, Hohengasse, Burgdorf, Canton de Berne, Switzerland. 261,209-10.

"**WYLIENE,**" for (1) chemical substances used for agricultural, horticultural, veterinary, and sanitary purposes, and (2) perfumery, etc., by Wylie and Co., Limited, Bridge Works, Brentford. 261,839 and 261,842.

HEART, CROSS, LEAVES, etc., label, for an ointment for skin diseases, by H. S. F. Brown, 69, Bryant Road, Strood, Kent. 260,605.

"**MAZIT,**" for a patent medicine, by L. C. Grouse, 55, Dyne Road, Brondesbury, N.W. 261,804.

Note.—Opposition to the registration of any of the above trade-mark must be filed at the Patent Office on or before May 27, 1904.

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[*] These abridgments of new patent applications and particulars of new applications for trade marks have been specially compiled from official sources, for the *Pharmaceutical Journal*, by Mr. Reginald W. Barker, agent for procuring patents and registering trade marks and designs, 56, Ludgate Hill, London, E.C., from whom any information on the subjects may be obtained. Mr. Barker will also send copies of his 'Trade Mark Notes' and 'Patent Notes for Inventors' free on application.

TRADE NOTES.

The 'Camera House Journal' for April, 1904, is the first number of a monthly publication which will in future be issued by Messrs. W. Butcher and Sons, of Farringdon Avenue, E.C. It is intended for the photographic dealer only, and will deal with the various novelties produced by the firm from time to time.

Sweet Pea Blossom Perfume.—A very fragrant and delicate perfume is supplied by Messrs. Atherton Rudd and Co., Norwood Junction, S.E., at 8s. 6d. per lb., post free. This perfume (sweet pea blossom) has a very natural odour, and should sell well. With each pound twenty-five gold embossed labels are supplied.

A Booklet on Mineral Waters.—An interesting little work dealing with mineral waters and their uses is issued by Messrs. Bratby and Hinchliffe, Limited, Ancoats, Manchester. The book contains interesting chapters on the invention of soda water, the influence of "Aëration" of water on living organisms, as well as much information concerning the therapeutic action of the various waters. The firm will be pleased to supply the booklet to their customers, and printed with their own name for distribution.

Marking Ink.—We commend to the notice of chemists "Jetoline," which, it is claimed, possesses the quality of complete indelibility, and is quite unalterable by the action of various chemicals that obliterate ordinary marking inks. It is a fine and permanent black, requires no heating, stands any amount of washing, and can be used with steel or quill pens. Sold in 6d. and 1s. boxes. The makers and patentees are Messrs. Blackwood and Co., 18. Bread Street Hill, London, E.C., and they also manufacture a red marking ink at same prices.

P.A.T.A. List Additions.—The most recent additions to this list include the following preparations of James H. Stedman, 125, New North Road, London, N.:—Stedman's Powders, Worm Powders, Cough Tincture, Materfamilias Pills, Helverton Paint, and Stedman-Phillips' Tonic Drops. Messrs. Blyton, Astley, and Company add "XTR" Health Salt; Messrs. Meggeson and Co., Limited, added Meggeson's Delectables; "Uricura" Liniment, and "Uricura" Drops are additions made by The Hammond Remedies Company. Loubet Frères' Sweet Pea Blossom is placed on the list by Messrs. T. F. Bristow and Co., Limited; and Messrs. Mandall and Co., Limited, add "Licoricine."

Prizes Worth Competing For.—As announced in the Journal of April 9, Messrs. Atherton Rudd and Co., Norwood Junction, London, S.E., are offering prizes to the value of £50 in cash to their customers. The first prize, of £25, will be awarded to the chemist who makes the greatest number of purchases from the firm before a certain date; the second prize (£15) will be given to be second on the list; and the third (£10) to the third. It should be mentioned that the size of the order makes no difference in competing for these prizes, and a weekly order for a pound of perfume is, from the point of view of the competitor, twice as advantageous as a fortnightly order for two pounds. Each purchase made from this firm, also, during a certain period, means a contribution to the Benevolent Fund of the Pharmaceutical Society, and in this case, of course, the larger the purchase the higher the contribution. Readers will realise that these prizes are worth competing for, and full particulars will be sent by the firm with the invoice of the first order.

LETTERS TO THE EDITOR.

All Communications for the *Pharmaceutical Journal* must be addressed to the Editor, 17, Bloomsbury Square, London, W.C., and, if intended for publication in the current week's issue, should reach the Office not later than Wednesday, unless specially arranged for in advance. The matter should be written clearly and concisely on one side of the paper only and must be authenticated by the names and addresses of the writers, as no notice can be taken of anonymous letters. Articles submitted for the Editor's approval should be accompanied by stamped addressed envelopes, otherwise no guarantee can be given that they will be returned if not found suitable. Reprints of articles cannot be supplied unless the authors communicate with the Editor before publication. The right to reproduce all original matter and illustrations published in the Journal is strictly reserved.

The Council Election.

The number of gentlemen who have allowed themselves to be nominated for a seat on the Council of the Pharmaceutical Society, together with the enthusiastic interest manifested by the local associations throughout the country, is a matter of sincere gratification. Will you accord me the favour of a few lines in which to help to swell the increasing volumes of recommendation on behalf of one of the candidates whose qualifications are well known to me? While to be held in high esteem by the Association of which he is a useful member is a strong commendation, it may be alleged that it is not necessarily a proof of Mr. Hagon's all-round fitness for the high position of a Councillor of the parent Society. To the Cardiff Association the responsibility attaches of having put forward Mr. Hagon, and the pharmacists of gallant little Wales have endorsed the action, as shown by the generous support they are giving him. Apart from the thorny question of territorial representation, a good case could be made out for the return of a candidate resident in the land of the Cwmry. Wales is to be congratulated on its choice. Mr. Hagon possesses qualifications of mind and disposition which eminently fit him for the post he seeks. He is, first of all, a man of affairs, and is accustomed to take a broad and comprehensive view of things. He has pronouncedly, what is understood by the phrase, a judicial mind, and carefully refrains from generalising on insufficient data, his conclusions being reached only after the cautious balancing of facts and probabilities. He is a ready debater, and his utterances are characterised by liquid clearness and precision of thought. In addition, he has the gift of true perspective and the power of discrimination. He is not the man to part with what is permanently valuable under a pressing temptation of securing a temporary advantage. He may be relied on to support all that is worthiest in the traditions of the Society, and to maintain its prestige. At the same time, he would bring to the Council Chamber an experimental knowledge of the drug business of a kind that would be exceedingly valuable in the consideration of questions relating to the administration of the Pharmacy Acts and affecting the welfare of chemists and druggists. May I remind those who are qualified to vote that the grounds on which Mr. Hagon bases his appeal for liberal help are succinctly stated in his address, a copy of which has appeared in the trade journals? Assuming that the leading Councillors who retire by rotation will be re-elected, I desire, for the reasons given, to ask for Mr. Hagon from the English and Scotch members of the Society a measure of support sufficient to ensure his election.

London, April 26, 1904. W. A. H. Naylor.

Having been nominated by several members as a candidate for the Pharmaceutical Council once more, I ask for the votes and influence of electors in securing my return. On former occasions I have stood as an assistant, in the assistants' interests. Now I am an employer, in business in Paddington. Previously, no doubt, many members did not vote for me because, being an assistant, it seemed doubtful to them whether, if elected, I might be able to carry out the duties. The apparent difficulty is now removed, and I confidently look for their support. My views on pharmaceutical politics have so often been before you that it is scarcely necessary to more than briefly summarise them. Although pronounced opinions in a candidate are an essential requisite, I am of opinion he can best serve the electors when a councillor by keeping throughout his three years of office in close touch with them and the rest of the trade. For that purpose it is the duty of any member who desires to have certain matters which he considers important brought before the Council to write to the member or members of the Council he has helped to elect. That member of the Council, after properly weighing the matter, should be a mouthpiece of the electors, and bring the subject under notice at its next meeting, or after proper notice has been given, should he decide to bring it forward as a motion. At the same time he should possess a definite opinion on most things pharmaceutical, and not be afraid to pronounce them. By these he is judged, and trusted, or found wanting. Having had engagements in numerous provincial districts, besides several important positions with London firms, I claim to have made full use of my opportunities to learn and appreciate the difficulties and grievances of my fellow-craftsmen throughout the land. This may be a qualification worthy of your vote. If elected, I expect you to keep me well posted, and I promise not to be a silent member, but an active worker on your behalf. I shall support the division of the Minor Examination, compulsory membership, and the limitation of the practice of pharmacy to the qualified. Unprofessional conduct, such as assisting unqualified corporate bodies to keep open shop, display titles, or dispense poisons, will always receive my censure, and should merit removal from the Society's Register of members. With respect to the draft Pharmacy Bill, it will receive my heartiest support, particularly Clause 7. This is its main feature, and without it the present anomaly cannot be overcome at all. On this point I will admit of no compromise. No title must be recognised unless acquired by right of diploma. In conclusion, the only way to elect new members to the Council is to vote for them only, for it must be obvious that each vote given to an old member helps to keep a new one out. So vote for the new candidates.

London, April 15, 1904. C. E. Pickering.

Having been again nominated for a seat on the Council of the Pharmaceutical Society, I have great pleasure in intimating my willingness to act, should I have the honour of being returned. I consider the present a most momentous time in the history of pharmacy. Our existence is menaced on every hand, and the privileges conferred upon us in 1868 by the Legislature, both as regards our professional status and our statutory rights as sole retailers of poisons, are threatened with extinction. I am opposed to the proposed third subdivision of the Poisons Schedule, and strongly uphold the principle that the education of the vendor is the only safeguard in the sale of poisons. The central principle of the Pharmacy Act, 1852, and one of the main objects of the Pharmacy Act, 1868, is to secure public safety in the dispensing of all prescriptions by restricting the use of certain titles, indicating special experience and education, to duly qualified individuals. Being strongly opposed to the present evasion of these restrictions and the unwarranted assumption of such titles by incorporated bodies or companies, I am, on public and professional grounds, strongly in favour of the Pharmacy Bill now before the House of Commons. Being a retail chemist, my sympathies are entirely with them in any endeavour to conserve their rights and privileges, and all my efforts in the future, as in the past, will be directed towards the end. My knowledge of pharmaceutical affairs gained during a long experience in many public capacities I willingly place at the disposal of retail pharmacists. As Chairman of the Federation of Local Pharmaceutical Associations, I have had exceptional opportunities of acquiring an intimate knowledge of the value of organisation, and my great aim would be to cement still more firmly the cordial relations at present existing between local associations and the Pharmaceutical Society. While local conditions may vary, the interests of English and Scottish pharmacists are essentially the same. I am, therefore, strongly of opinion that there should be perfect unity of action among pharmacists North and South of the Tweed. If my views meet with the approval of members, may I solicit their vote and support? Should I be honoured by election it would be my endeavour to cordially co-operate with my colleagues on the Council in maintaining and promoting the interests of pharmacists as a whole.

Glasgow, April 26, 1904. William L. Currie.

I should like to urge, through the Journal, that gallant little Wales ought to be represented on the Council of the Pharmaceutical Society. Surely the present is the time for doing justice to our country, as there is a vacancy by the retirement of Mr. C. B. Allen, our worthy Vice-President. "Union is strength." I hope that our English and Scotch friends will remember, and help us to have a member for Wales on the Council. Wales is fortunate in having an excellent candidate in the person of Mr. Hagon. He is energetic, progressive in his views, and well versed in all pharmaceutical matters. I trust that our English, Scotch, and Welsh friends will vote for Mr. Hagon.

Llanelly, April 26, 1904. John Gower.

The 'Pharmaceutical Journal Formulary.'

I had been looking forward to the arrival of the 'P.J.F.,' and immediately upon receipt put it to profitable use. I think that is the most convincing testimony I can give to the usefulness of your valuable book, and speaks for itself.

Durban, South Africa, March 26, 1904. Fred Firth.

MARRIAGES.

Crockart—Silversides.—On April 17, at Acomb, Yorkshire, by the Rev. T. P. T. Tennent, William Crockart, chemist and optician, Montrose, N.B., to Margaret Ann, youngest daughter of the late Mr. John Silversides, Riccall, Yorks, and granddaughter of Mr. T. Rhodes, of Burstwick Hall.

Smith—Selby.—On April 27, at St. Cyprian's, Brockley, Frederick Alfred Upsher Smith, pharmaceutical chemist, Briarfield, Chatsworth Road, Chesterfield, to Edith Grace, only daughter of the late Richard Selby, of Dulwich.

Winter—Lewis.—On April 19, at St. Mary-at-the-Walls, Colchester, by the Rev. Greville T. Hales, Rector, assisted by the Rev. J. Evans, Harry Stanley Winter, M.P.S., chemist and druggist, Manningtree, Essex (only son of the late John Billingsley Winter, of Manningtree, chemist and druggist for forty-six years), to Alice Maud, youngest daughter of the late William Partridge Lewis, of Colchester.

REPLIES TO CORRESPONDENTS.

Information required by readers will be published in this column as early as possible, but the Editor cannot undertake to reply by post, even though stamped addressed envelopes accompany the queries. Replies will, in all cases, be referred to the sender's initials, and the registered number added in each instance should be quoted in any subsequent communication on the same subject. When formulæ are given without definite weights and measures, it should be understood that the solids are to be weighed and liquids measured. Plants for recognition should be addressed to the "Curator, 17, Bloomsbury Square, London, W.C.," accompanied by a stamped, directed envelope for reply. No notice can be taken of anonymous communications.

Fruit Salt (G. S. B. R.—111/1).—We believe it contains a small proportion, but cannot say how much.

Family Pills (W. F.—1/41).—Such work should be undertaken by analysts. We can do nothing in the matter.

Decoct. Simarub. Comp. (R. M.—111/3).—We have no formula for this preparation. Perhaps some reader can oblige.

Copies of Prescriptions (C. G. H.—111/2).—You are not obliged to furnish copies to anyone, but it is sometimes inadvisable to refuse to do so.

New Remedies (W. H. B.—111/5).—The handiest book on the subject is Coblentz's 'Newer Remedies' (Blakiston, Philadelphia, U.S.A. Price 1·00 dols.), which can be ordered through H. Kimpton, 13, Furnival Street, London, E.C.

'P.J.F. Supplement' (E. P. L.—111/6).—It will depend upon circumstances whether any further supplements are published after the one now in course of preparation. In any case, it seems somewhat premature to discuss the matter at present.

Intensifying Solution (E. W. P.—110/33).—Our contributor, "A Pharmacist Photographer," has on several occasions expressed the opinion in the Journal that Wall's formula for intensification is much too strong, and that the weaker solution, as used for toning bromide prints, is much better adapted for the intensification of negatives. You may, however, find that prolonged washing in running water will remove the whole of the uranium deposit, leaving the negatives as they were originally.

DEATHS.

Hearne.—On April 24, Robert Moore Hearne, Chemist and Druggist, Grimsby. Aged 46. Mr. Hearne, who had been a member of the Pharmaceutical Society since 1899, died suddenly on Sunday afternoon last. At an inquest held on Tuesday it was stated that Mr. Hearne had complained of a pain in his chest, which he attributed to indigestion, and had been taking medicine prepared by himself. On Sunday, about six o'clock in the morning, he complained of pains in his chest and he got up, but retired to bed again. At half-past four he had a cup of tea, and a dose of mixture. He then retired to the back-yard. When he came back he took a chair, and his head fell forward. The medical evidence showed that death had been caused by syncope. The jury returned a verdict in accordance with the medical evidence.

Mann.—On April 21, Thomas Mann, Chemist and Druggist, New Hampton. Aged 84.

Moore.—On April 25, Edward Henry Moore, Pharmaceutical Chemist, Brighton. Aged 74. Mr. Moore was among the first fifty who passed the Major Examination of the Pharmaceutical Society, the number of his certificate being 40. He was a native of Brighton, and for many years carried on the business of a chemist and druggist in Preston Street. On the passing of the Sale of Food and Drugs Act he was appointed Public Analyst to the Corporation of Brighton, a position which he held until a few years ago, when failing health necessitated his giving up the duties of that office. He also held a similar position under five other public bodies, including the East and West Sussex County Councils, but the state of his health compelled him to give these appointments up about the same time, and the only official position he has held in recent years was that of Gas Analyst to the Brighton Town Council. Mr. Moore leaves a widow, one son (Mr. Henry Moore, of Preston Street), and six daughters (Mrs. Pertwee, Miss Ada Moore, Madame Bertha Moore, Mrs. Cairns James, Miss Eva Moore, and Miss Decima Moore).

Rump.—On April 22, Robert Russell Rump, Chemist and Druggist, Wells, Norfolk. Aged 74.

Smith.—On April 17, at Broadstairs, Harold James Smith, Pharmaceutical Chemist, Beechdale, Wellowgate, Grimsby. Aged 29.

Timpson.—On April 23, at Plymouth, John Timpson, of Blackheath and Golden Lane, E.C. Aged 50. Mr. Timpson was born on the high seas between New York and England on January 30, 1854, and since then has made over forty voyages across the Atlantic. He left England for Australia when seventeen years of age, and remained in that colony for about six years, his business experiences being of a varied character during that time. From Australia he went to America, and in the year 1882 he became connected with Messrs. Johnson and Johnson, and remained with them for ten years in America. Finally in 1892 he came to England to manage the firm's business in London. In 1896 he formed the well-known firm of Messrs. John Timpson and Co., Limited, of 104, Golden Lane, London, E.C., of which he became managing director, representing Messrs. Johnson and Johnson, of New York, and other firms, as their sole agents in Europe and the colonies. Mr. Timpson was unmarried, but leaves friends all over the world who will always think of him with respect and admiration for his marvellous business capacities and knowledge of every little detail, but above all for his upright and generous disposition.

Calendar for the Week (May 1—7, 1904).

Days of		Events of the Week.	Sun	
M	W		Rises	Sets
1	S	**Fourth Sunday after Easter.**	4.34	7.20
2	M	Dewsbury and District Chemists' Association, Church House, at 8.45 p.m.—Ordinary Meeting.	4.32	7.22
		Society of Chemical Industry, Burlington House, Piccadilly, at 8 p.m.—Ordinary Meeting.		
3	Tu	Royal Photographic Society, 66, Russell Square, London, at 8 p.m.—"Gum Bichromatic Printing." By J. C. S. Mummery.	4.30	7.24
4	W	Pharm. Soc. G.B., 17, Bloomsbury Square, London, at 11 p.m.—Meeting of Council.	4.29	7.25
		Pharm. Soc. of Ireland, 67, Lower Mount Street, Dublin, at 3 p.m.—Meeting of Council.		
		Stockport Chemists' Association, Albert Hall, at 9 p.m.—Ordinary Meeting.		
5	Th	Chemical Society, Burlington House, Piccadilly, W., at 8 p.m.—Ordinary Meeting.	4.27	7.27
		Burnley and District Chemists' Association, Empress Hotel, at 8.30 p.m.—The Forthcoming Council Election.		
		Great Yarmouth Pharmaceutical Association, 156, King Street, at 8 p.m.—Ordinary Meeting.		
		Peterborough and District Chemists' Association, Grand Hotel, at 6.30 p.m.—Annual Dinner.		
6	F		4.25	7.28
7	S	☾ Last Quarter, 11.50 a.m.		

LETTERS, NEWSPAPERS, QUERIES, and other COMMUNICATIONS have been received from Messrs. Birkbeck, Benson, Bott, Bunker, Butcher, Clarke, Dowdy, Fearn, Fentiman, Finnemore, Gadd, Gill, Glew, Glyn-Jones, Goldby, Hartwich, Harvey, Hazelby, Higgs, Hill, Homan, Hudson, Kerr, Knott, Lawrence, Leadbeater, Livesley, Lyon, McCowan, Madgwick, Maiden, Marsden, Morgan, Naylor, Orton, Palmer, Partington, Plowright, Robertson, Rose, Sankey, Sinclair, Sumner, Surfleet, Symes, Taylor, Timmins, Tomlinson, Treloar, Walker, Ward, Wardle, Wathes, Williams, Winter, Wood.

Telegrams: "PHARMACEUTICAL JOURNAL, LONDON."
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CHANGES OF ADDRESS.

Instructions from Members of the Pharmaceutical Society, with reference to the transmission of the Journal, should be sent to the SECRETARY, 17, Bloomsbury Square, London, W.C.

The Pharmaceutical Journal Office.

THURSDAY, MAY 5, 1904.

A NEW EDITION OF "MARTINDALE" will be published on May 9, and a pocket edition of Squire's 'Companion' will also be issued shortly.

THE VOTING-PAPERS for the coming Council Election should be in the hands of the electors by the end of this week. It is expected that the most important question the new Council will be called upon to consider will be the proposed Government Pharmacy Bill.

AT THE ANNUAL DINNER of the Pharmaceutical Society to be held at the Whitehall Rooms on May 17, the vocal music after dinner will be furnished by the Lynton Quartette. It is also hoped that opportunity may be found during the evening for hearing two lady soloists—Miss NELLIE WHITE and Miss BRET HARTE—whose presence will, we feel sure, materially add to the success of this annual gathering of pharmacists and their friends.

A TEACHING SCHOOL OF HYGIENE, really worthy of the metropolis, is considered by Dr. FARQUHARSON, M.P., to be a want of the day. He suggests that the Sanitary Institute should receive facilities from the London County Council for the establishment and maintenance of such a school. The suggestion is timely, coinciding as it does with the assumption by the County Council of its new duties as the sole educational authority for London.

"THE NATIONAL SOCIETY OF CHEMISTS of the United Kingdom" is the suggested title of a proposed combination of local associations. The name suggests "The United Society of Chemists and Druggists," a body which was founded in 1861, and expired after doing incalculable harm to British pharmacy as a profession. There seems very little reason to suppose that the Federation of Local Pharmaceutical Associations will deem it advisable to assist in forming another opposition body.

"A GOVERNMENT DEPARTMENT can only do its work well when it keeps in touch with the men for whom it acts." Thus Sir THOMAS ELLIOTT, Secretary to the Board of Agriculture, at the anniversary dinner of the Society of Public Analysts, on Tuesday night. There should be no need for the *Pharmaceutical Journal* to dot the "i's" and cross the "t's" of so welcome a pronouncement, but we may express the hope that Sir THOMAS ELLIOTT's opinion is shared by many of his colleagues in the higher positions of His Majesty's Civil Service.

MEMBERS OF PARLIAMENT are more interested in motor-cars than chemicals, and the problem of duty-free alcohol seems suddenly to have impressed a number of our legislators as being one of the first importance. If duty-free alcohol is ever allowed to be used for the motor it cannot, of course, be refused to the manufacturing chemist. In connection with this it is interesting to note that in one year alone Germany employed twenty million gallons of alcohol for industrial purposes. In Poland little advantage seems to have been taken of the privilege of using denatured spirit, free of excise, as special permission has to be obtained from the Minister in each case.

MR. R. BROADHEAD's "careful study" of the Pharmacy Bill has not, if his speech at Dewsbury last Monday is accurately reported, been productive of a proper appreciation of its provisions. He complained that, with the exception of Clause 7, no clause was likely to be of any use to registered chemists, particularly because no clause would "protect the title." Mr. BROADHEAD has evidently confined his "careful study" to portions of the Bill only, and he is advised to read Clause 11, which would make it an offence for any limited company to take, use, or exhibit the name or title of chemist and druggist, or chemist, or druggist, or pharmaceutical chemist, or pharmaceutist, or pharmacist.

THE NEW SOCIETY OF CHEMIST-OPTICIANS will, according to a correspondent, endeavour to obtain concessions, with regard to registration and examination, for all qualified chemists and druggists, not merely for members of the new society. As was said in our issue of last week, that is an eminently desirable object, and it is to be regretted that no indication of its existence was given at the inaugural meeting of the society. It was urged two months ago in the *Pharmaceutical Journal* that further exemptions should be granted to chemists for parts of the optical examinations of one of the examining bodies. It might be mentioned, by the way, that restrictive legislation as regards opticians is not likely to come to pass within the next ten years.

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THE COUNCIL ELECTION.

VOTING-PAPERS for the election of seven members of Council are now being sent to all the members of the Pharmaceutical Society. It is not for the official journal to prophesy as to the result of the election, and it would be still less seemly to presume to advise electors. It may be pointed out, however, that the chief subject which the new Council will have to consider will probably be one of which at present little is definitely known—*i.e.*, the proposed Government Bill to amend the Pharmacy Acts. Until matters have advanced to a stage at which it is possible clearly to realise, first, how far desirable reforms coincide with reforms which are practically possible, and, secondly, whether or not the demand for the whole loaf is likely to lead to no bread, or, at any rate, to less bread than would result from a more modest demand, it is obviously impossible for candidates to commit themselves to a full and definite statement of policy. On some less delicate topics it is reasonable enough that those electors who consider the need of the times to be "an organising secretary" or "territorial representation" should vote for those who are prepared to support such innovations. The personality of the candidates, again, and their past services to pharmacy may also fairly be considered as indicating the spirit in which difficult questions will be approached. No discourtesy to the electors, as has sometimes been suggested, is implied by unwillingness to issue an appeal for votes on the part of those whose past actions in pharmaceutical matters on the Council or outside it should be well known, through the Journal, to every member of the Pharmaceutical Society.

It will be seen from the voting-papers that no person may give more than one vote to any one candidate, or more than seven votes in all. But an elector is quite at liberty to record a less number of votes than seven if he does not wish to exercise the full privilege of the franchise. Cumulative voting has been suggested as a preferable system, but it is not easy to see how that would ensure that the views of the successful candidates coincided, any more than under present conditions, with the views of the majority of the electorate. The chief advantage of cumulative voting accrues to the candidate who stands single-handed, as the representative of a small section which holds opinions materially different from those of the great majority. To hear all sides is a perfectly sound rule, and if it were found that any significant section of thought was unrepresented on the Council of the Pharmaceutical Society some change in the system of election would doubtless receive consideration. But cumulative voting, like territorial representation, has certain recognised disadvantages, and in the absence alike of proof that the Council is not efficient or representative, and of any ground for thinking that it will change its character in those respects, there does not appear to be great need for experiment and innovation with regard to the system of election. Every one of the thirteen candidates who now stand for election may be expected to do the best that he can for his constituents, for chemists in general, and for the public. For all that, however, it should be a matter of principle with every member of the Society to consider carefully the qualifications or expressed intentions of the candidates, and to fill up his voting-paper in an intelligent spirit.

THE EXTRA PHARMACOPŒIA.

TWENTY-ONE years ago MARTINDALE and WESTCOTT'S 'Extra Pharmacopœia' first appeared and impressed pharmacists and medical men with the fact that a crying need had at last been satisfied. Since then the originator of the work has passed away, and his share in revising the book has devolved upon his son, Dr. W. HARRISON MARTINDALE, with whom Dr. W. WYNN WESTCOTT is associated as collaborator, as he was with the late WILLIAM MARTINDALE, in the preparation of the ten editions of the book which have already appeared. The eleventh edition of the 'Extra Pharmacopœia' is now in the press, and an inspection of the press sheets suffices to show that it is not likely to prove less indispensable than any of its predecessors. It contains more than a hundred pages in excess of the tenth edition, published three years ago, but by the employment of finer paper it has been found possible to decrease the size and weight of the volume without impairing the clearness of the type. The notes on many of the older drugs and preparations have been omitted, space being thus found for information regarding more than three hundred new remedies, in addition to more detailed accounts of many useful therapeutic agents at present in use.

Less space than heretofore is devoted by the revisers to older references from medical journals, but many new references to treatment are added. Cross references are for the most part omitted, but all titles will be found in the index, which has been increased by thirty-one pages and now contains about fifteen hundred titles, including the names—with doses—of many preparations in general use, but not elsewhere mentioned. There are new sections on surgical dressings and apparatus, mineral waters, and radiology, the last-mentioned including very full notes on Röntgen rays, high frequency current, the Finsen lamp, and radiant heat, in their important applications to therapeutics. Further, the mass of pharmaceutical research work has been carefully abstracted, the therapeutic index has been revised and rearranged, the analytical memoranda are extended by paragraphs on tests for the detection of various substances of pathological significance in urine, the notes on water analysis have been revised, the bacteriological notes are corrected up to date, and the sections on antitoxins and organotherapy have been almost entirely rewritten. The usefulness of the book has been further increased by the inclusion of useful tables of international atomic weights, freezing mixtures, the approximate melting-points and consistence of fats and waxes employed in pharmacy, thermometric equivalents, etc. The price of the book is slightly reduced, and it is hoped that copies of the new edition will be obtainable next week.

INCOME-TAX AND "CO-OPERATION."

THE Committee appointed by the Chancellor of the Exchequer to inquire into the general system of collecting the income-tax may be expected to discover that to frame rules for the prevention of evasion is their most difficult task. Apart from that subject, the terms of reference are somewhat limited, and do not include the "graduated" income-tax which many have recommended. It is doubtful, also, whether the Committee will take into consideration the oft-repeated proposals to differentiate between earned and unearned money. Not without force, it has frequently been urged by numerous economists, from JOHN STUART MILL onwards, that the recipient of an income proceeding from invested capital should be burdened with a higher rate of income-tax than the worker. Difficulties arise over "savings," which might have to be arbitrarily estimated and exempted, and over trading joint-stock companies, especially those in which the shares are privately held. In a pamphlet recently issued ('The Income-Tax Burden.' London: Horace Cox. 6d.) Mr. HALLETT FRY urges that an individual who turns his business into a limited company should, in return for the advantages of the limitation of his liability, the probable increase of his capital, and the greater facility of dealing with his assets during life and after death, be required to pay the tax on the higher scale. The principal of a firm continuing to manage his "converted" business obtains all the above advantages, and, in addition, becomes probably a paid servant of the company at a salary, sacrificing his personal interest in its prosperity for a money payment.

Another and a more practicable suggestion which Mr. Fry makes is that co-operative societies, which are a variety of joint-stock enterprise, should no longer receive certain exemptions which are denied to private traders and to companies registered under the Companies Acts. Most of the so-called co-operative societies pay the bulk of their profits to capitalists who have no burning zeal for the co-operative ideal. Such societies stand as much in the same position as private traders, in that they employ labour and supply the consumer at the rates current in the market. The conditions under which co-operative societies are now constituted are such as to demand that the tax upon their full earnings should be received by the Revenue. The general public, not retail traders only, would feel the advantage. On general economic grounds the "wiping-out" of the small trader and the substitution of the American system of syndicates and trusts cannot be regarded with equanimity. The abuses of the "one-man company" are everywhere recognised, and have, indeed, been the subject of forcible comment from the Registrar of Joint-Stock Companies. The Committee on Income-tax will do a real service to the community if a side-result of their labours should be the discouragement of the harmful tendencies and practices to which allusion has been made, without injustice towards those interested in genuine trading companies.

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UNTAXED ALCOHOL.

After many years of hard work on the part of Mr. Thomas Tyrer and a few other enthusiasts, there seems at last to be a probability that something will be done to encourage home manufactures by granting permission to use suitably denatured or undenatured alcohol duty free for industrial purposes. On Monday last, Sir Ernest Flower, M.P., at the request of the Bradford Chamber of Trades, which recently discussed the matter, put a question in Parliament, but he did not succeed in eliciting much from the Chancellor of the Exchequer (see page 633). But Mr. Tyrer's proposal to form a committee representative of all interests concerned in the production, sale, and use of alcohol is now taking definite shape. Further, the proved value of alcohol as the source of power for motor-cars has aroused the keen interest of many members of Parliament, who have jointly considered what action may be taken. It is not likely that any attack will be made on the Budget Bill in connection with this subject, but there is good reason to believe that, within a very short time, considerable progress in the desired direction will have been made.

The agricultural aspect of the question, again, has become of great importance. The ideal of agricultural machines driven by alcohol power over the very ground where the potatoes or other material from which the alcohol was produced were grown, is one to which Lord Onslow is likely to pay more than passing notice. For it is to be remembered, as was pointed out at the Society of Arts last week, that the ground is in no way impoverished by the process. The constituents of the alcohol come not from the soil, but from the air, and the nitrogenous "refuse" from the potatoes goes back to the ground to enrich or manure it. The agricultural correspondent of the *Standard* hopes that the Board of Agriculture will refrain from giving encouragement to increase the area devoted to potato cultivation in this country to 4,000,000 acres, on the ground that the enormous increase in the production of potatoes would cause increased consumption of the "vile potato spirit," and would prove financially disastrous to growers. Neither of those objections seems to us to carry much weight. The most ardent advocates of untaxed alcohol are quite willing that the Revenue supervision should be sufficiently strict and systematic to ensure that such alcohol should not be consumed as drink. And we are at a loss to understand why the cultivation of any indigenous vegetable, for which there is a large and assured demand, should be "financially disastrous to growers." Even though there might be a reduction in the price obtained for potatoes, the increased turnover which would result from the increased demand should prevent financial disaster. Such matters as these are merely a question of demand and supply, and prices would certainly adjust themselves on a basis equitable to all concerned.

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MORE COMPANY FICTIONS.

The reports of the interview accorded by Sir Michael Hicks Beach to a deputation of Bristol pharmacists have afforded the Chairman of the Drug Companies' Association an opportunity of distinguishing himself as a writer of fiction, as witness the following excerpt from a circular which appears to have been sent to members of Parliament:—

> This Pharmacy Act Amendment Bill, it should be noted, is promoted by the Pharmaceutical Society, whose members, instead of accommodating themselves to the modern system of trading, are seeking the aid of Parliament to destroy healthy competition. By economy of production due to manufacturing on a large scale, and improved methods of distribution, drug companies have been able to reduce prices, to the great benefit of the public, and any steps calculated to restrict the operations of such companies would bring about a return to high prices. Legislative measures promoted by an organisation for securing a monopoly of trade for its members should always be viewed with suspicion as being against the interests of the public and the true interest of the business itself, since, freed from outside competition, the members would lack the necessary impetus to effect those improvements and economies which are essential to progress and advancement. As Lord Cromer remarked on a recent occasion: Who, indeed, ever heard of a profession being reformed from within. One of the greatest law reformers was the author of "Bleak House."

It should be needless to state (1) that the members of the Pharmaceutical Society have no objection to healthy (and honest) competition; (2) that the general reduction in the prices of medicines cannot fairly be attributed to the action of drug companies; (3) that the Pharmacy Bill has not been promoted with the object of establishing any monopoly of trade, but for the purpose of minimising the ill-effects of improvements and economies which are essential to the progress and advancement of limited companies, though they do not benefit the public.

A HARDY ANNUAL.

The Government has at last taken the early closing question into its own hands. The matter, it is to be feared, has, like the widow in the Scriptures, received a hearing rather because of its great importunity than by reason of its urgent necessity. For thirty long years the apostles of the early closing movement have been placing their views before Parliament. In the spring of 1873, Sir John Lubbock somewhat unexpectedly sprang on the House of Commons a proposal to institute a weekly half-holiday for all shopkeepers, whether they wanted it or not. The measure made no provisions for the supply of medicines, and was, in fact, so impracticable that it was withdrawn before it reached a second reading. The Bill was strongly opposed by the Pharmaceutical Society, on whose behalf Mr. W. H. Smith presented a petition against it, signed by Mr. Thomas Hyde Hills, to the House of Commons. Since that time Bills embodying the same principle have, with systematic regularity, been introduced into Parliament, and with the same systematic regularity those Bills have met with the fate meted out to Sir John's first attempt. Early closing measures have come to be regarded as hardy annuals; but, though they blossom every spring, they fade each year before the fruiting season.

Since the Bill of 1873 was introduced, Lord Avebury has acquired a knowledge of the needs of shopkeepers, and his more recent measures have been drawn up with a view both to the needs of the public and the wishes of business people. This would seem to be the opinion of the Government, which has practically adopted Lord Avebury's last Bill. But, there are several small points of difference between the two measures. His lordship disregarded the recommendation (contained in the Report of the Select Committee of the House of Lords, 1901) to the effect that local authorities should be empowered to make such regulations in respect to the closing of shops as might seem to them to be necessary; and this neglect or oversight accounted to some extent for the opposition which the Bill met in the House of Lords in 1902. The Government measure, on the other hand, adopts this recommendation. The various processes through which it is proposed the closing order should be passed before completion are perhaps somewhat complicated:—(1) The local authority must be satisfied that a case is made out in favour of the early closing of the shops in a certain district. (2) The authority must then give notice of its intention to make the order. (3) Objections, if any, must be lodged before a fixed date. (4) If, after considering the objections, the authority considers it expedient to make the order, and finds that at least two-thirds of the shopkeepers to be affected by the order approve of it, the order is to be made. (5) The order must next be forwarded to the Secretary of State for confirmation. (6) It must then be laid before each House of Parliament for a period of not less than forty days. Should the order pass safely through the ordeal, a shopkeeper in the district referred to will have the choice of closing his shop at the appointed time, or paying a fine not exceeding £1 for the first offence. The order may not compel any shopkeeper to close before seven o'clock on ordinary days, or before one o'clock on one special day in the week. With regard to the special day, an individual may keep open his shop on the closing day provided he closes at the same hour on another day.

So far as the chemist is concerned, there is another difference between the two measures. In Lord Avebury's Bill the chemist had a clause all to himself, which read thus:—

> "A pharmaceutical chemist, or chemist and druggist, shall not be liable to any fine under this Act for supplying medicines, drugs, or medical appliances after the hour appointed by an order made under this Act for the closing of shops; but this section shall not be deemed to authorise the shop of a pharmaceutical chemist or chemist and druggist to be open after the said hour, save so far as may be necessary for the purpose aforesaid."

In the present Bill the chemist and druggist is not referred to at all by name, but in the schedule—consisting of a list of the trades to which the Bill does not apply—"the sale of medicines and medical and surgical appliances" is included along with the trade of the newsagent, the tobacconist, and—of course—the publican. From this it would appear that the small grocer, the huckster, the general dealer, and other dabblers in drugs are also exempt from the provisions of the measure as far as medicines are concerned; a fact which should be pointed out to the promoters, who can surely never intend to encourage the sale of drugs by incompetent persons. Clause 5 of the Bill, by the way, is a very necessary one, and it is quite obvious that the measure would be useless without it:—

> "Where several trades and businesses are carried on in the same shop, and any of those trades or businesses are of such a nature that if they were the only trades or businesses carried on in the shop the closing order would not apply to the shop, the shop may be kept open after the closing hour for the purposes of those trades and businesses alone, but on such terms and under such conditions as may be specified in the order."

Speaking generally, the Bill is, perhaps, the best of the kind which has ever been introduced, and the chances of success are greater now than they have ever been before, but the interests of chemists and druggists are not sufficiently safeguarded in the measure.

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THE PHARMACEUTICAL SOCIETY'S EXHIBITION AND DINNER.

For the last time before the compilation of the programme is completed, the attention of those who are able and willing to lend articles of interest to pharmacists is directed to the exhibition which is to be held in the Pharmaceutical Society's house on Wednesday, May 18. Will all those who wish to exhibit kindly send particulars to Professor Greenish, 17, Bloomsbury Square, London, on or before Wednesday, May 11. The Secretary of the Pharmaceutical Society wishes it to be known that intimations of intention to be present at the annual dinner on Tuesday, May 17, should be sent not later than Saturday, May 14. The name of Mr. J. Henniker Heaton must now be added to the list of members of Parliament who have accepted invitations to the dinner.

ABSTRACTS—SCIENTIFIC AND TECHNICAL

A REVIEW OF CURRENT WORK IN PHARMACOPEDICS AND ALLIED SCIENCES

Germination of Barley.

A. Nilson denies that enzymes are indispensable to the germination of barley, and claims that they are not the primary cause of the growth. In his opinion, the agent which starts the series of chemical changes constituting germination is a lactic acid producing bacterium, which is always present in the barley grain under normal conditions. For the experiments which have led the author to that conclusion, the original paper must be referred to.—*Journ. Amer. Chem. Soc.*, **26**, 289.

Essential Oil of Monodora Myristica Seeds.

H. Thoms finds that the seeds of *Monodora myristica* Duval give to steam distillation 7 per cent. of a yellow essential oil, with a greenish fluorescence and a very pleasant odour. It remains perfectly liquid when exposed to a low temperature; it is lævogyre, $\alpha_D = -64°16$. It gives a green colour with alcoholic ferric chloride solution, due to the presence of a high-boiling constituent. It contains lævo-limonene and a terpene alcohol $C_{10}H_{16}O$, probably identical with myristicol. No myristicin or other phenolic esters, such as occur in nutmeg or mace oil, were detected. *Monodora myristica* is indigenous and widely spread in Western Africa, where the seeds are employed by the natives as a condiment.—*Berichte Pharm.*, **14**, 24,

New Formula for Aromatic Elixir.

W. L. Scoville states that the following formula will produce an elixir corresponding with that official in the United States Pharmacopœia, but improved in "vigour and delicacy":—

Tincture of fresh orange peel (50 per cent.)	15 C.c.
Tincture of fresh lemon peel (50 per cent.)	3 C.c.
Oil of coriander	0·25 C.c.
White wine	125 C.c.
Deodorised alcohol	230 C.c.
Syrup	375 C.c.
Distilled water, sufficient to make	1,000 C.c.

Ten grammes of purified talc should be diffused through the mixture, which should be allowed to stand for some days before filtration. The author states that the cost of the elixir is but slightly greater than that of the official elixir, while the use of white wine in place of a portion of the alcohol possesses great advantages.—*Amer. Journ. Pharm.*, **76**, 158.

Formation of Calcium Carbide.

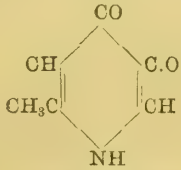
The combination of lime and carbon, as performed at present in the commercial production of calcium carbide, requires a very high temperature. H. Moissan finds, however, that whenever a salt of calcium is submitted to electrolysis in contact with carbon, a small amount of calcium carbide is formed below a red heat. Although calcium chloride, in a state of fusion in a graphite crucible, when decomposed by an electric current from a negative carbon electrode gives a notable amount of carbide, better results are obtained by operating with a mixture of calcium chloride and fluoride, since the fused mass is more fluid. A small quantity of coarsely powdered petroleum coke is stirred into the fluid, and the current reversed. After passing the current for some time, and cooling the mass, the portion nearest the sides of the crucible is found to yield from 64 to 65 per cent. of acetylene when brought into contact with water. This reaction takes place at about 650° C. The yield of carbide is, however, too small, and it is too impure, being distributed through the mass of fused calcium chloride and fluoride, to form a practicable source of that body on the commercial scale.—*Comp. rend.*, **138**, 661.

Ricinine.

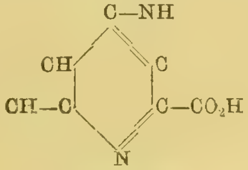
Although ricinine was discovered in castor oil seeds by Tuson in 1864, and has since been described by Schulze, Soave, and Evans, the results obtained have not been concordant. L. Philippe and L. Maquerme have re-investigated the composition of this body. It was extracted with boiling water from castor oil press cake, the water extract concentrated to a syrup which was extracted with alcohol, this solvent evaporated *in vacuo* and the residue thus obtained extracted with boiling chloroform, from which the ricinine crystallises out on evaporation. When purified by re-crystallisation this has the formula $C_8H_8N_2O_2$. When saponified with caustic potash it gives methyl alcohol; the alkaline liquid, treated with hydrochloric acid, yields an abundant precipitate of ricinicic acid, $C_7H_6N_2O_2$. Heated in sealed tubes with hydrochloric acid to 150° C. it is decomposed, evolving carbonic acid gas, forming ammonium chloride and a complex chloride readily soluble in absolute alcohol. This new compound crystallises readily from water in large transparent prisms having the formula $C_6H_7NO_2{\cdot}HCl + 2H_2O$; it melts with loss of water at 65·70° C. It effloresces in the air, and readily becomes anhydrous at 110° C., losing a trace of hydrochloric acid. In this state it melts at 155·150°C. The base is readily liberated from this salt by ammonia. It crystallises from water in colourless needles, having the constitution $C_6H_7NO_2$. It melts, in the hydrated state, at about 80° C., when dried, at 170·171° C. The decomposition of ricinicic acid takes place therefore according to the equation

$$C_7H_6N_2O_2 + 2H_2O = NH_3 + CO_2 + C_6H_7NO_2.$$

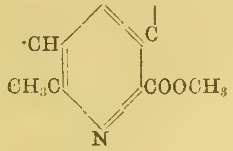
This last base, which can only be modified by substitution, probably contains a closed chain, and since it gives a marked red colour-reaction with ferric chloride, is doubtless methyldioxy pyridine or methyloxy pyridone, $C_5H_4NO_2{\cdot}CH_3$. The reactions above given show that ricinine is probably the carboxyl derivative of an iminomethyl pyridine, the graphic formulæ of the three bodies being respectively



Methyloxypyridine.



Ricinicic Acid.



Ricinine.

—*Compt. rend.*, **138**, 506.

Essential Oil of Artemisia Herba Alba.

E. Grimal finds that *Artemisia herba alba*, a composite very common in Algeria, contains 0·3 per cent. of a greenish yellow essential oil with a camphoraceous taste and a very pleasant aromatic odour. It contains lævo- and dextro-camphene, cineol, lævo-camphor, and the caprylic and capric esters of an undetermined terpene alcohol.—*Compt. rend.*, **138**, 722.

Fatty Oil of Aspidium Spinulosum.

P. Farup finds that the fatty matter of the rhizomes of *Aspidium spinulosum* consists of the glycerol esters of oleic, linolenic, and probably isolinolenic acids, with a small amount of esters of fatty acids. He also isolated phytosterin, a body which was not found by Katz in the oil of the closely allied *Aspidium filix-mas.*—*Archiv. der Pharm.*, **242**, 17.

THE STUDENTS' COLUMNS.

BOTANY (6).

Structure of Foliage Leaves.

We saw in our last lesson that a foliage leaf consists of a flat expanded "blade," often furnished with a stalk, by means of which the plant is able to place the blade in the best position to get maximum illumination from the sun. In this lesson let us try to learn a little more fully the detailed structure of any individual leaf. Let some thick juicy leaf be selected; a hyacinth leaf will serve excellently, and at this time of the year should be easily procurable. If, now, this leaf be carefully broken across, and the two halves are pulled gently apart, we shall find that it is very easy to pull off a long strip of the delicate transparent skin with which the leaf is covered. Every leaf possesses such a skin or epidermis, which completely covers the leaf, thus serving to protect its delicate tissues from external injury. At this stage it is essential that the student should have access to a microscope, and, as doubtless everyone who has not one of his own will be able to borrow from some kindly-disposed friend, let us at once begin our first attempt at vegetable anatomy.

Examination of the Epidermis.

Take a small piece of the epidermis that has been stripped from our hyacinth leaf, and put it on a clean glass slide in a drop of glycerin, mixed with an equal quantity of distilled water, and then cover the preparation with one of the thin glass cover slips that microscopists use. Now, whether we have chosen the hyacinth or some other similar leaf, the general structure of the epidermis will be the same. We shall find it invariably to consist of a single layer of cells, which fit closely together, although in different leaves the shape of these epidermal cells will vary remarkably, sometimes being very small and straight-walled, while often they are large, with thin undulating or even strongly wavy walls. Scattered all over the surface of the leaf in nearly every case we shall find curious openings, which often occur in very large numbers. Bounding each opening are two crescent-shaped cells, known as "guard cells," while the whole apparatus is the all-important stoma. We have referred to these stomata before in previous lessons, for it is they which provide the passage through which interchange between the air and the green tissue of the leaf can take place. Through them the carbon dioxide of the air is absorbed and the oxygen is excreted, while for the moisture given off in transpiration they also provide an outlet.

It will be well for the student not to limit his observations to the epidermis of one leaf only, but to examine the surfaces of as many leaves as possible, carefully noting the differences he will find. Both the upper and the under epidermises must be examined in turn, for often the under surface will have more stomata than the upper, while the presence of hairs of various characteristic shapes on one or both surfaces is important. When it becomes necessary for us to examine under the microscope the epidermis of a dry leaf, or of one which is too thin to permit of the stripping-off process prescribed for thick juicy leaves, the following method must be adopted:—The leaf must be first broken up into small pieces, and must then be macerated on a water bath in a solution of caustic potash containing from 1 to 2 per cent. of potash. Fifteen to thirty minutes' maceration is generally sufficient to soften the tissue so much that the epidermis can be stripped off with the help of a couple of needles, mounted for the purpose in wooden penholders. When the fragments have been macerated long enough—and this must be determined by taking every now and then a piece of the leaf out of the potash solution and seeing if the epidermis is easily separable from the rest of the tissue—they are then washed free from potash by decantation with distilled water. One of the fragments is then transferred to a slide, the epidermis is stripped off, adhering cells are brushed away with a camel's hair brush, and the preparation is then mounted in a drop of dilute glycerin, and a cover slip is put on as before.

But even this method may be found to fail if one is dealing with excessively thin leaves—as, for example, the hemlock of the senna leaflet. In such cases we must cut out a small fragment of our leaf—say, ¼-inch square—and put it on a slide in a big drop of saturated chloral hydrate solution (one grain in one minim); then put on a cover slip, and hold the slide over a small flame until the liquid just begins to boil; keep it boiling for a few seconds, then cool, and replace the evaporated liquid by another drop of the chloral solution. Probably this treatment will have rendered the leaf so transparent that the cells of the epidermis and the stomata are distinctly visible, and by careful focussing both the upper and under surfaces may, in turn, be brought into view.

Examination of a Transverse Section.

Let us now pass on to the study of a cross or transverse section of our leaf. One finds that many students are tempted to use ready-made sections, but it is far better to make slides for oneself; and, although, maybe, the first few sections will be thick, a few attempts will soon teach skilful handling of the razor. Any leaf to be found in the pharmacy will serve our purpose; a senna leaflet will do excellently. First, the leaf must be prepared for cutting by laying it for a few hours on some moistened blotting paper. Next, a piece of dried elder pith must be obtained; a watchmaker will oblige if no other source is available. Cut this longitudinally into two equal halves, so that the leaf can be held firmly between the two pieces. The leaf must then be trimmed down with a sharp knife until it is of a convenient size to put between our pith, so that we can cut transversely the central mid-rib as well as a portion of the blade on each side of it. A smooth transverse section is then prepared with a sharp penknife, and next, with a razor, proceed to cut a series of thin cross-sections, holding the elder pith firmly between the thumb and the knuckle-joint of the forefinger. It may be well to mention here that when cutting very thin leaves better sections can be produced if several leaves are mounted together, so that at each stroke of the razor several sections are produced. The sections, as soon as they are cut, should be transferred directly to a small dish containing a little methylated spirit; this takes out the air with which the cells would otherwise be filled. When a sufficient number of sections has been cut, pick out, with the help of a small camel's hair brush, one or two of the thinnest and most promising-looking sections, and transfer them to a big drop of water on a glass slide, to allow the cells to expand. The excess of water should then be sopped up with a small slip of blotting paper, and replaced very quickly with a drop of strong chloral hydrate solution This latter treatment is to dissolve out the chlorophyll and proteid bodies with which the cells are filled. Now put on the cover slip, and the section is ready for examination—first always with the low-power objective—say, one-half or two-thirds of an inch—with which we see the general outline of our section; and afterwards with a higher power, such as a one-sixth of an inch objective, to note in detail the characters of the individual tissues. We will discuss in our next lesson the various tissues to be found in the transverse section, and will note the different types of leaf that we shall meet with.

LEAF IMPRESSIONS, SKELETONS, AND CASTS.—(1).

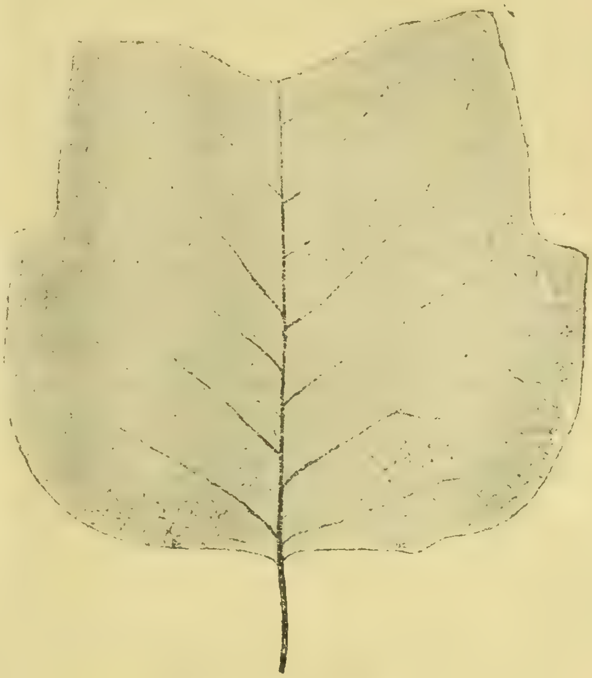
BY GRAHAM BOTT, F.L.S.

Since interest has been evinced in leaf photography, it may not be inappropriate to give other methods for permanently recording the structure (so far as venation is concerned) and shape of leaves, which, if not actually superior, has at least the merit of simplicity. Moreover, the art of photography is so universal, so all-absorbing, and so much vaunted for its almost limitless possibilities with regard to the pictorial art, that we are in danger of being fixed with one idea—the photographic idea—to the entire exclusion of simpler, more economical, quicker, and, as in the present case, pre-eminent methods. Thus we are very prone to neglect those simpler manipulations.

For some considerable time past the writer has been interested in producing leaf prints and impressions, and has experimented with almost every process, yet none has yielded such uniformly good results as the methods herein described. They are independent of bright sunlight, require no dark room, no developing, toning, or long operation of fixing and washing, while the result is extremely satisfactory, besides possessing the advantage of an almost unrestricted selection of leaves.

The method, originally due, I believe, to a M. Bertot, of Paris, is as follows:—Obtain a sheet of white paper of suitable dimensions, and evenly coat, on one side, with olive oil by means of a tuft of absorbent cotton-wool soaked in the oil, then fold the oiled paper in four, and allow the oil to thoroughly permeate the interstices. Now place the leaf to be reproduced between the second folding, and, consequently, in contact with the side that has not received a direct oiling; then place a clean sheet of paper over the whole, and firmly and evenly exert pressure, in order that a film of oil may adhere to the surface of the object. The leaf is then removed, and very carefully put in the desired position on a sheet of clean white paper, another sheet of paper placed over it, and again even pressure applied with the hand, or, lightly, with a rubber roller.

Thus is obtained an impression, in oil alone, which is almost invisible. To "develop," mix four parts of graphite with one of resin, and disperse (through fine muslin) over the imperceptible impression, when an exact reproduction of the leaf will appear in view. The excess of graphite may be lightly blown off, or removed by gently tapping the back of the paper inverted. The resin being added to fix the impression, it only remains to raise the temperature just high enough to melt it.



Liriodendron tulipifera.

A variation of the foregoing method that is advantageously employed consists in coating the oiled paper with carbon in a finely divided state—such as is obtained by burning a piece of camphor—and then exposing the surface to the copious volumes of smoke given off. Having thus evenly sooted the prepared paper, place the leaf with the inferior surface in contact with the carbon, and, after covering with paper, proceed according to the method above described. Of course, instead of an imperceptible impression in oil, an image will result, requiring no further treatment, except that of fixing if desired; that the writer usually accomplishes by lightly spraying with a solution of dammar in benzol. The accompanying figure illustrates the details obtainable by the process, and it cannot be doubted that for educational purposes the method possesses distinct advantages, apart from the mere beauty of the impression. Probably it will be remembered that the majestic American tree, *Liriodendron tulipifera*—the tulip-bearing lily tree, or Virginian poplar—figures conspicuously in Poe's exciting tale of the wondrous "Gold Bug." The bark of the tree is said to possess tonic and febrifuge properties similar to cinchona.

It is hoped that an opportunity will be afforded of describing, in a subsequent paper, another and almost perfect method—a process that is original so far as the author is aware.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN.

MEETING OF COUNCIL.

WEDNESDAY, May 4, 1904, at 17, Bloomsbury Square, London, the President, Mr. S. R. Atkins, in the chair. Other members present were Mr. C. B. Allen, Vice-President, Mr. Walter Hills, Treasurer, and Messrs. Cooper, Corder, Cross, Currie, Gifford, Glyn-Jones, Harrington, Harrison, Newsholme, Park, Robinson, Symes, Wootton, and Young. The minutes of the April meeting were confirmed.

Election of Members.

The following persons, having tendered their subscriptions for the current year, were elected members of the Pharmaceutical Society :—

Aldridge, Frank S. ; Ipswich
Boys, Marion L. ; Epsom
Brown, Richard R. ; Padiham
Castelow, Walter Thomas ; Leeds
Caulton, John S. ; Marehay
Cherrington, G. E.; Newark-on-Trent
Clark, Henry B. ; Cheltenham
Cope, Arthur G. ; Congleton
Cross, William G., jun. ; Shrewsbury
Curtis, Herbert N. R. ; Hove
Davies, Frank ; Oldham
Deacon, Charles H. ; Shipley
Deacon, Walter ; Bridgwater
Evans, Percy ; Carnarvon
Evans, William ; Llanelly
Forbes, John P. ; Leigh, Lancs.
Forsyth, R. P. ; Newcastle, Natal
Gabb, Leslie ; Birmingham
Gray, Percy ; Cambridge
Hambling, Jane ; Eltham
Hilton, Norman R. ; Honiton
Holmes, Ernest George ; Clay Cross
Hutchinson, Omer T. ; Kennington
Jennings, Cornelius ; Birmingham
McConnell, Samuel ; Johnstone
Morris, David ; Oswestry
Orry, John G. ; Camberwell
Owens, Richard J. ; Glasgow
Palmer, Geo. Wm. B. ; Princetown
Pickering, John J. ; Langwathby
Pugh, Richard J. ; Wandsworth
Salter, Joseph Edward ; Sydenham
Searle, Frederick W. ; Calstock
Simmons, Stanley James ; Holt
Smith, Ernest W. ; Lincoln
Snow, Harris Charles ; Wimbledon
Stroud, Vivian B. ; Dagenham
Webster, John W. ; Oldham
Wellwood, Robert D. ; Glasgow
Whaley, Thomas C. ; Wakefield
White, Henry P. ; Bournemouth
Wilkie, James M. ; Glasgow
Williams, Gwilym E. ; Brighton

Election of Student-Associates.

The following persons, having tendered their subscriptions for the current year, were elected student-associates :—

Bates, Ernest O. ; Halifax
Bayliss, William A. S. ; Tewkesbury
Beadon, William N. ; Wellington
Carr, Bertram O. ; Newmarket
Chapple, Leonard ; Beckenham
Clark, William E. A. ; Bristol
Crummack, George C. ; Doncaster
Freshney, Herbert W. ; Hull
Gann, John H. ; Peterborough
Hill, Edgar ; Bradford
Isaac, Jonas R. R. ; Basingstoke
Lindsay, E. A. S. ; Haddington
Lloyd, Edward Marsden ; Ferndale
Moffat, George A. ; Bolton
Newson, Thomas E. ; Barnes
Osborne, William P. ; Grantham
Owles, Thomas R. ; Birmingham
Peters, Harold ; Leigh, Lancs.
Taylor, John P. ; Rochester
Thurman, James E. ; Chester
Varley, John William ; York
Watson, Edwin L. ; Wandsworth

Restorations to the Society.

A large number of persons were restored to the Society upon payment of the current year's subscription.

Restorations to the Register.

The following persons, having made the required declarations, and paid the restoration fee of one guinea, were restored to the Register of Chemists and Druggists :—

Collier, John Adams ; Springwell Cottage, Brightlingsea.
Curtis, George ; 41, Quernmore Road, Stroud Green, N.
Goldstraw, Charles ; Pen-y-Bryn, Sedgley.
Poole, George ; 1, Woollaston Villas, Brookley Grove, Brockley, S.E.

Granting of Diplomas.

The undermentioned, being duly registered as pharmaceutical chemists, were granted diplomas stamped with the seal of the Society :—

Baxter, Percy Chas.
Bedell, Margaret Isabel
Caws, Hilda Beatrice
Clarke, Arthur Stanley
Dallimore, Frank
Gilliatt, Alice
Hill, Wilfrid
Hockin, Arthur William
Keene, Hedley Havelock
Kirby, Francis Benson
Pickles, Walter Howard
Wade, Alfred
Walker, Fredk. Geo. Cannon
Webster, Magnus Herd
Wood, Charles Edmund

The President directed attention to the fact that the names of three ladies appear in the foregoing list.

Finance Committee.

The report of this Committee was as follows :—

April 27, 1904.

Mr. Robinson in the chair.

Present—Messrs. Allen, Atkins, Cooper, Harrington, and Hills.

1. The Secretary submitted the following statement of the accounts :—

General Fund :—	£	s.	d.	£	s.	d.
Balance (March 31)				2,905	4	5
Receipts :—						
Penalties and costs	88	19	0			
Restoration fees	4	4	0			
Subscriptions	1,579	4	0			
'P.J. Formulary'	92	15	6			
School fees	16	5	6			
Rent and ground rents.	78	14	5			
Sale of registers to H.M. Stationery Office	143	15	0	2,003	17	5
				4,909	1	10
Payments authorised by the Council				1,908	14	5
Balance				£3,000	7	5

General Fund :—
Amounts recommended for payment :—

	£	s.	d.
On behalf of the Journal	422	15	6
School, etc.	526	2	0
House	88	3	10
Law charges	16	3	0
Stationery, etc.	36	7	9
Salaries, etc.	186	5	0
Current expenses	600	0	0
Museum and Library	1	5	0
Compendium	14	19	8
'P.J. Formulary'	11	9	9
Taxes	272	13	6
	£2,176	5	0

Benevolent Fund (Current Account) :—						
Balance (March 31)				£844	17	0
Receipts :—						
Subscriptions	£288	6	2			
Ground rents	45	10	1			
Dividends	31	5	0	365	1	3
				1,209	18	3
Payments				84	5	0
Balance				£1,125	13	3

Benevolent Fund (Donation Account) :—			
Balance (March 31)	£245	18	6

Orphan Fund :—			
Balance (March 31)	£95	3	9
Subscriptions, etc.	0	2	6
Balance	£95	6	3

2. The Committee examined the accounts, and found them to be correct, and in accordance with the foregoing statement.

Recommended:—That the Treasurer be requested to pay the amounts indicated.

3. The Committee recommends that a quarterly checking of the Society's books of account be made by Mr. A. G. Warren, the Chartered Accountant, who now certifies the balance-sheet to the Auditors.

R. A. Robinson, Chairman.

Mr. Robinson in moving that the report of the Committee be received and adopted, said the receipts were normal except that he observed the 'Pharmaceutical Journal Formulary' seemed to be doing well. They had received £92 15s. 6d. during the past month and £167 14s. the previous month. With regard to paragraph 3 the Committee recommended that a quarterly checking of the Society's books of account be made by a chartered accountant. Mr. Warren, who made the suggestion, pointed out that the books could be kept better if subject to a quarterly checking.

The President: There is no reflection whatever on the way the books have been kept in the past?

Mr. Robinson: No, sir.

Mr. Glyn-Jones said he noticed in the Finance Committee's report that the Council was asked to make a payment of £14 19s. 8d. for work done in connection with the 'Compendium.' Last month there was a payment made of £13 16s. 8d., and in the annual financial statement there was an item of £19 8s. 6d. paid on account of the 'Compendium.' He should be glad if the Chairman of the Finance Committee could tell the Council what had been spent in that direction.

Mr. Robinson: I shall require notice of that question, as I have not the figures by me.

Mr. Glyn-Jones said it was quite clear that a good deal of work had been going on, but in the absence of any report from the Compendium Committee, he could not continue voting for the expenditure of money for an object of that kind.

The President: I am sorry this question has been raised in the absence of the Chairman of the Compendium Committee.

Mr. Glyn-Jones said his past experience gave him no hope of carrying a majority of the Council with him, but he felt it necessary to make a protest against the continued spending of money in that direction.

The motion for the adoption of the report and recommendations of the Committee was then carried, Mr. Glyn-Jones voting against the motion.

Special Contributions to the Benevolent Fund.

The Secretary announced that during the past month special subscriptions had been received on behalf of the Benevolent Fund from the following:—

	£	s.	d.
Chemists' Ball	15	15	0
A Gentleman signing himself "Peccavi"	15	0	0
Pharmacy Club	10	10	0
Chemists' Assistants' Association	0	16	0
Brighton Association of Pharmacy	0	9	0
Mr. W. H. Gibson, of Brighton (the result of a special appeal made by him in his district)	10	0	0

Mr. Robinson: Have these amounts been received since the meeting of the Finance Committee?

The Secretary: They have been received since the last meeting of the Council.

Mr. Robinson said, as Chairman of the Finance Committee, he had no knowledge of the amounts which had been read out by the Secretary, and he thought he ought to know. He was delighted to hear of the receipt of such sums on behalf of the Benevolent Fund, but they should be dealt with in a proper manner by the Finance Committee.

The Secretary said he had made the statement in the usual way, for the information of the Council. If mention were made only of the amounts received before the meeting of the Finance Committee and included in the financial statement, persons who sent up money subsequently would write complaining that their subscriptions had been forgotten.

Mr. Robinson said the Finance Committee ought to deal with such amounts as were received, and the Chairman of the Committee was the proper person to announce their receipt.

Mr. Glyn-Jones: It is really a Benevolent Fund announcement.

The President said, apart from the question of order which the Chairman of the Finance Committee had very properly raised, he thought the Council would wish him to thank the donors of the amounts mentioned. Mr. Gibson particularly had taken especial interest in the matter, and the thanks of the Council were due to him and to the others who had contributed to the Benevolent Fund.

Benevolent Fund Committee.

The report of this Committee included the recommendation of grants to the amount of £57 in the following cases:—

Registered Chemist and Druggist. 78. Caistor. Has had previous grants.
Widow of Registered Chemist and Druggist. 40. Glasgow.
Widow of a member. 79. Highbury. Has had previous grants.
Registered Chemist and Druggist. 75. Hr. Crumpsall.
Widow of Chemist and Druggist. 47. Cardigan.

Two cases were not entertained and one was deferred for further consideration.

London Orphan Asylum Election.

The Vice-President, in moving that the report and recommendations of the Committee be received and adopted, directed attention to the case of Florence May Stevenson, who is a candidate for the forthcoming election to the London Orphan Asylum at Watford. He said the girl was the daughter of the late Mr. James Stevenson, chemist, of Bayswater, who had left a widow and four children. The case was rather urgent because of the age of the candidate for election, and this was the only time that an appeal could be made on her behalf. Mrs. Stevenson had younger children, but they were in delicate health and could not be offered as candidates. He hoped that any chemist, or others who have influence in the election, would do their best to secure the election of Florence May Stevenson.

The President said he would like to support the appeal made by the Vice-President, as he happened to know the facts, and he knew that it was a very deserving case. It was an urgent one also, and he hoped the press would take notice of the case, as by helping to elect this girl everyone would be doing good service.

Mr. Cross seconded the motion for the adoption of the report, and it was carried unanimously.

Library, Museum, School, and House Committee.

The report of this Committee was as follows:—

April 19, 1904.

Mr. C. B. Allen (Vice-President) in the chair.

Present—Messrs. Atkins, Carteighe, Harrington, Hills, Newsholme, and Robinson.

1. The Committee received the usual monthly statements respecting the Society's Libraries and Museums in London, and particulars of these are published in the *Pharmaceutical Journal* for April 23, 1904.

2. School.—The Staff reported on the respective classes. On the report of the Professor of Chemistry the Committee recommends that honoraria be given to Mr. Cart and Mr. Wallis for extra work done in consequence of there being a vacancy in the staff of Demonstrators. It is also recom-

mended that Mr. F. G. C. Walker be appointed Demonstrator until the end of the Session. Professor Wynn reported that the Burroughs Scholar was now working in the Pharmacy Laboratory.

3. Calendars and Registers.—Applications from the Thames Valley Association and from the Pharmaceutical Society of the Orange River Colony for gratuitous copies of the Calendar and Register were received and considered. The Committee recommends that the applications be granted.

4. Messrs. Parkinson and Son's account for £36 19s. 1d., for work done during the past month, was approved and remitted to the Finance Committee.

5. A letter from the Mayor of Folkestone, inviting the Society to appoint delegates to attend the Congress of the Royal Institute of Public Health in July next, was considered The Committee recommends that Mr. John Knight, the. Society's Divisional Secretary in Folkestone, be asked to represent the Society.

C. B. Allen (Vice-President), Chairman.

The Vice-President, who occupied the chair at the meeting of the Committee, moved that the report and recommendations be received and adopted.

Mr. Cooper seconded the motion, and it was carried.

Report on the Examinations.

April, 1904.

England and Wales:—

	Candidates Examined.	Passed.	Failed.
Major	33	14	19
Minor	279	114	165

Scotland:—

	Candidates. Examined.	Passed.	Failed.
Major	3	1	2
Minor	155	51	104
Modified	1	1	0

Certificates by approved examining bodies were received from 91 persons desirous of registration as Apprentices or Students.

Mr. Glyn-Jones asked how many examiners were necessary to examine the three Major candidates in Scotland? What he wished to point out was that there must be a great deal of machinery for three candidates.

Mr. Young: I suppose they are examined on the same day as the Minor candidates.

The Secretary said the number of Major candidates was rather larger than usual for Scotland, but they were examined on the same day as the Minor candidates.

Mr. Cross said he took it the examiners were not employed in examining the Major candidates only.

Dr. Symes said it was very gratifying to note that a larger percentage of candidates than usual had passed—the percentage was larger than it had been for some time.

The President: That is the fact, Dr. Symes.

Examiners for Scholarships' Examinations.

Mr. J. Rymer Young moved, and it was seconded by Mr. W. L. Currie, and carried, that Mr. W. F. Gulliver and Mr. Pinches be invited to conduct the examinations for the Jacob Bell and Manchester Scholarships in June next.

Report of the North British Branch Executive.

The President moved that the report of the North British Branch Executive, a copy of which had been sent to each member of the Council, be received and entered upon the minutes. The report referred to the work done by the Executive in securing support for the Pharmacy Bill, and especially particularised the interest of the Scottish M.P.'s who have backed the Bill as a point illustrating the excellence of the system of local organisation in Scotland. Reference was also made to the progress in the scheme for the institution of a degree in pharmacy, which, it is hoped, may shortly be accepted by the Scottish Universities. The other items of the report have already been published by the Council in the course of the year, or are embodied in the Council's annual report.

Mr. Newsholme referred to the paragraph in the report of the North British Branch Executive dealing with local organisation, and said it was very gratifying that there had been an increase in the membership in Scotland. He was very glad that the work of organisation was being so well done in Scotland, and he must say that was very largely due to the manner in which the Assistant-Secretary had taken up the work. Mr. Hill had taken great pains to place himself in touch with all parts where the Society was represented, and when information was wanted from any district he was now able to procure that information in a very short time. He (Mr. Newsholme) did not wish it to be understood that the local organisation scheme was not equally well organised in England and Wales, but it dealt with a larger area, and he thought it would be well if the Divisional Secretaries in the South would take the same interest in the work as was done in the North.

Mr. Hills supported the remarks made by Mr. Newsholme in regard to local organisation in Scotland, and also called attention to the very interesting work that has been done by the North British Branch Executive in regard to the Scottish Universities. He was sure the thanks of the Council were due to the Executive for the way in which the work of the Society in Scotland had been carried on during the past year.

The motion of the President, that the report be received and entered upon the minutes, was seconded by Mr. Currie and agreed to.

Retirement of Professor Smithells.

The Secretary stated that he had received a letter from Professor Smithells, asking to be relieved from his duties as Examiner to the Pharmaceutical Society. Professor Smithells said it was with great reluctance that he made this request, and he did so only on account of circumstances that he could not foresee when he became an examiner—viz., the work entailed upon him by the establishment of the University of Leeds. He considered it a great compliment to have been invited to the office of examiner, and he had been greatly interested in the work. He valued the experience very much. His interest and desire to help in the cause of pharmaceutical education would always remain, and he should ever retain a happy recollection of the great kindness and courtesy he had received from all those with whom he had been associated.

The President, as Chairman of the Boards of Examiners, expressed his sincere regret that Professor Smithells had been compelled to retire from the Board. He had counted it no small honour to have enjoyed his friendship, and to have learned something of his capacity and ability as an examiner. He had received two letters from Professor Smithells, which were models of kindness and courtesy. He felt the Board would suffer a great loss by his retirement, and he personally would like to express the pleasure and profit he had derived from his association with the Board of Examiners. He suggested that the appointment of a successor to Professor Smithells be referred to the General Purposes Committee. He moved the following resolution:—

> That this Council desires to record its regret at the retirement of Professor Smithells, and to testify its high appreciation of the services he has rendered during his tenure of office.

Mr. Newsholme, in seconding the motion, said he heartily agreed with the remarks of the President. Professor Smithells was appointed to the Board of Examiners during his (Mr. Newsholme's) term of office as President, and he had rendered good service to the Society. Professor Smithells had taken great interest in the University of Leeds, and it was in great measure due to him that the University had been established. As members of the Council were aware, there had been a great deal of rivalry between Sheffield and Leeds in the matter of the University, but he would say that he admired very much the position Professor Smithells had taken up. The Professor was a distinguished man, and had conferred a great honour on the Pharmaceutical Society in consenting to act as an examiner.

The motion was then put, and carried unanimously.

General Purposes Committee.

Council Prizes Examination.

That portion of the report of this Committee containing the recommendations as to the award of the Council Prizes was read as follows:—

> Professors Herbert Jackson and Harvey Gibson and Mr. Robert Wright, who had been appointed to conduct this examination, had reported that eight candidates had entered for this competition, and that three had obtained the requisite standard of efficiency for the awards. The envelopes bearing the mottoes of the successful candidates having been opened, were found to contain the names of:—
>
> Wilfred A. Whatmough,
> Fredk. G. C. Walker,
> F. B. Kirby.
>
> The following are the mottoes of the remaining competitors who completed their papers.
>
> The mottoes are arranged in order of merit:—
>
> 4. Experientia docet.
> 5. Esse quam Videre.
> 6. Ixia.
> 7. Narcissus.
> 8. Festina lente.

The following awards were therefore made in accordance with the report of the Examiners:—

Pereira Medal: W. A. Whatmough.
Society's Silver Medal: F. G. C. Walker.
Society's Bronze Medal: F. B. Kirby.

Thanks to Examiners.

The President moved, and it was agreed, that the cordial thanks of the Council be given to Professors Harvey-Gibson and Jackson and to Mr. R. Wright for having conducted the examinations for the Pereira Medal and Council Prizes.

Acceptance of a Certificate.

The Council authorised the Board of Examiners to accept a Roumanian certificate, in lieu of the Preliminary, similar to one which had previously been accepted by the Council

Election of Honorary Members.

The President moved, and it was agreed, that the following be elected honorary members of the Society:—

Professor E. Emile Bourquelot, Paris.
Sir Henry Duncan Littlejohn, M.D., Edinburgh.
Dr. J. Wilson Swan, F.R.S., London.

The President gave a brief sketch of the work done by Professor Bourquelot (see p. 628), and said he had the honour of seeing a good deal of him last October, when he had the pleasure of conversing with him, and was very much impressed with his ability. The Society was conferring an honour upon these gentlemen which, he hoped, they would appreciate, and he was quite sure if they accepted the distinction they would confer an honour on the Society. Sir Henry Littlejohn was the Professor of Forensic Medicine in the University of Edinburgh, President of the Royal College of Surgeons, Edinburgh, and author of numerous publications bearing on forensic medicine and public health. Dr. Joseph Wilson Swan was the inventor of the incandescent lamp bearing his name, and invented the carbon process for making permanent photographs. Those were only two items from his wonderful work which, as an inventor and discoverer, Dr. Swan had accomplished. The Council knew Dr. Swan, and had had the pleasure of listening to an address delivered by him at the opening of the School of Pharmacy, and it gave him great satisfaction that during his presidency Dr. Swan should be elected an honorary member.

Election of Corresponding Members.

The President moved, and it was agreed, that the following be elected corresponding members of the Society:—

Professor E. Perrot, Paris.
Professor Heinrich Beckurts, Brunswick.
Professor Carl Hartwich, Zürich.
S. T. Dunn, Curator, Hong Kong Botanical Gardens.
Dr. G. W. Parker, British Guiana.

The President said all these gentlemen had already done valuable work for the Society, and they would now be Corresponding Members.

Appointment of a Divisional Secretary.

Mr. Richard Johnson was unanimously appointed Divisional Secretary for Leeds, West.

The Dispensers' Committee.

Mr. Wootton, who had previously given notice of his intention, asked whether a report from the Dispensers' Committee might be expected. He said this Committee was appointed three and a half years ago, and two years ago an incomplete interim report was published, but since then the Council had heard nothing from that Committee. It was re-appointed last June, and he asked at the time whether the Council might hope that the business would be pressed forward. He was given to understand that it would be, and now that the year was nearly at an end he asked whether any report was forthcoming.

The President: My answer to you, in the absence of the Chairman of the Committee, is that I have no information to give, and I am not aware that any report from that Committee is imminent.

Mr. Wootton: The Chairman of that Committee was the President of the Society. Mr. Newsholme was the President at the time of the appointment of the Committee.

Mr. Newsholme suggested that the Vice-President might be able to give some information.

The President said he believed Mr. Carteighe was the Chairman of the Committee, but unfortunately he was not present.

Mr. Wootton: Mr. Carteighe was not on that Committee, but was added to it later.

Mr. Robinson said, as notice of this question had been given, it was not quite fair that Mr. Wootton could not get the information he asked for because someone was absent.

The Vice-President: I was Chairman of the old Committee.

The President: I find that the last meeting of the Committee was held on March 4, 1902.

Mr. Glyn-Jones: Who was appointed Chairman of the present Committee?

Mr. Hills: Cannot the officers tell us who are the members of this Committee?

The Secretary: The President, Vice-President, Mr. Carteighe, Mr. Glyn-Jones, Mr. Park, and Mr. Storrar.

Mr. Glyn-Jones: I have heard nothing about any meetings of the Committee.

Mr. **Cross** (addressing Mr. Wootton): Will you defer the matter till the next meeting, when the new committees will be appointed?

Mr. **Wootton**: No, sir. This is the end of the year, and I remember that when this Committee was appointed there was a great deal of discussion, and it was considered there was urgent need for the Committee to inquire into the dispensing at public institutions, in the Army and elsewhere.

The **Vice-President**: Not in the Navy.

Mr. **Wootton**: No, not in the Navy.

Mr. **Park**: I made inquiries about dispensing in the Navy, and found it satisfactory.

Mr. **Wootton**: The Committee was to inquire into the dispensing at public institutions in the country, and it seemed to him to be a matter of considerable importance which had been allowed to drop out of notice, except at the re-appointment of the Committee last year. He had had considerable correspondence about the matter, which had created a great deal of interest. He thought, as the Committee had been appointed, someone should have been responsible for calling a meeting.

The **Vice-President** said he would take all responsibility for any delinquency. Mr. Wootton said he had some correspondence on the subject, and if that was so he thought it was unfortunate that he had not brought the correspondence to the office, as it might have been something to deal with. He could not at that moment recall the terms of the interim report, but he knew that he spent several days at the "Square" going through the correspondence, and they had to report that at the vast majority of the public institutions of the country the dispensing arrangements were of a thoroughly satisfactory nature. The Committee had records to that effect, and he did not exactly see what work there was for the Committee to do. Certainly nothing had come into the office which had necessitated a meeting of the Committee. He did not see what the Committee was to do.

Mr. **Wootton**: Then why was the Committee re-appointed?

The **Vice-President**: In case something did occur.

Mr. **Wootton** said, in 1902 the Dispensers' Committee presented a partial report, which was necessarily not complete, and he asked whether the Committee had done anything in regard to dispensing in the Army. He was told that there was a War Office Committee dealing with the reorganisation of the Army Medical Department, but that dispensing did not come within the scope of the inquiry. He was also told that the Dispensers' Committee was going to interview some compounders who were returning from South Africa. With regard to the correspondence Mr. Allen asked for, he was afraid he did not make himself quite clear. He had received letters from persons asking him to raise the question, and he had also had a communication from the Public Dispensers' Association. Soon after his election to the Council about a dozen members of the Association waited upon him, and Mr. Glyn-Jones was also present. They discussed the matter then, and since he had taken an interest in the subject, and he felt that he had not been treated quite fairly.

Mr. **Glyn-Jones** said he could not allow the Vice-President to accept the whole of the responsibility. He did not think the Vice-President was more or less responsible than any other member of the Committee. If there were any responsibility, it rested with each member of the Committee. As one member of the Committee who took a very great interest in the matter of the interim report which was presented to the Council, he might say that the report was a surprise to him, as he had not expected to find anything like so good a condition of things as the report showed. With regard to Mr. Wootton's question, he thought it would be better to deal with it when the committees were re-appointed next month. The fact that the Committee had not met was largely due to the new system of committees, which was not in due order, and was not running as it ought to do. It was true that the Vice-President was the Chairman of the old Committee, but, with all respect for the Vice-President, he should never have been Chairman of that Committee, because he had quite enough work as Vice-President, without any more work being put upon him. He held that until the chairmanships of the various committees were more evenly distributed among the members of the Council they would continue to have these difficulties. When the Committee was appointed, whose duty was it to call meetings? Certainly not his duty, nor the duty of any other member of the Committee. If anything of very pressing importance had come before the Council he, as a member of the Committee, would have gone out of his way to see that a meeting had been called. The subject had evidently not been pressing enough to necessitate a single question as to what the Committee had been doing. Mr. Wootton waited twelve months before he asked. If the Council was going to do special work by means of committees, then there would have to be a distribution of the chairmanships of the committees, so that the whole of the work should not be thrown upon the President and Vice-President. He supposed it was the duty of the Chairman of the Committee——

Mr. **Robinson**: No, there was no chairman in the first instance.

Mr. **Glyn-Jones** said, in his view, if they had appointed a chairman of the Dispensing Committee, who was not so thoroughly engrossed in other work for the Society as the Vice-President was, there would have been a better chance of the Committee doing some work, and he thought the Council should take care that someone who had time to give was appointed to take charge of each individual committee.

Mr. **Robinson** said this question was a matter of procedure. He should say that it was the duty of the Secretary to call a committee together in the first instance, and the committee would then appoint its chairman. If it were not a regular committee, the chairman would afterwards consult with the Secretary as to meeting again. He did not think it was the duty of the retiring chairman to call the first meeting of a new committee, and he hoped that after what had happened in this case the Secretary would convene the first meetings of the committees in future, and each committee could then decide how often it would meet.

Mr. **Gifford** said that, on a question of fact, it seemed to him that the interim report presented by the Dispensers' Committee in 1902 was very satisfactory, and he considered it complete. Mr. Glyn-Jones, especially, he remembered, expressed surprise at the state of things which was shown, and certainly, so far as he personally was concerned, he thought the business of the Dispensers' Committee was completed.

Mr. **Cross** said the matter had been rightly brought forward by Mr. Wootton. He obtained some information for the sub-committee for its interim report, but it was not very satisfactory, and he did feel very deeply that the fact of so many unqualified dispensers being employed in public institutions throughout the country was a scandal. But he was happy to say that since he got the information for the sub-committee things had improved in his district. There was still much to be done, and he believed that further information should be obtained and discussed by the Committee. He hoped very sincerely that the Dispensers' Committee would be re-appointed next month.

Mr. Harrison thought it was very right and proper that the question had been raised. There had evidently been some little neglect in the matter, and who was to blame he was not in a position to say, but he would suggest that if the Committee was re-appointed next month it should be asked to present a report within three months.

Mr. Young said he was in accord with what Mr. Glyn-Jones had said, rather than with the remarks of Mr. Cross. It would be remembered that the Council was surprised at the satisfactory nature of the Dispensers' Committee's report, and he thought it was folly to re-appoint the Committee when there was an understood feeling that the work was ended. His own impression was that the work of the Committee had ended.

Mr. Cross said he was referring to the particular information he got, and not to the report of the Committee.

Mr. Newsholme mentioned that it was the practice of another body with which he was connected, in the case of special committees, to hold the first meeting within fourteen days, when its chairman was appointed. In the present case it was the old story of what was everybody's business being nobody's business.

Mr. Hills pointed out that what might be a suitable procedure for a public body, the members of which were easily accessible, might not be so suitable for a body such as the Council of the Pharmaceutical Society, whose members were drawn from Land's End to John o' Groat's He thought that the Council was not quite used to the new arrangements in regard to procedure, and the committees were not working quite as they would do later on. In the old days the President was chairman of each committee, and he kept in touch with all that was going on, and the President was blamed if no committee meetings were called. Under the present arrangement other conditions prevailed, and the subject of committees was not so easy to deal with in a body like the Council, when gentlemen from all parts of the country were on the committees.

The matter then dropped.

Absent Members.

The President said he had hoped that Mr. Carteighe would have been able to be present, but he had not come, and he regretted to say that Mr. Carteighe was not well. He did not wish to say more than that, because he might be doing wrong; but Mr. Carteighe was not at the committee meetings the previous afternoon, and they all knew his devotion to public work, and especially work in connection with the Society. Mr. Campkin, of Cambridge, was also not present, though he had attended the committees the previous day. Mr. Campkin was chairman of a very important committee in Cambridge which met that day, and he had written expressing his regret at not being able to be present at the Council meeting, and also giving his views on the matters discussed on Tuesday. Mr. Storrar had also written apologising for absence, and he (the President) was sorry to say that his absence was on account of ill-health.

Mr. Currie: He is much better than he was.

Correspondence.

A letter was read from the Barnsley and District Chemists' Association, urging the Council to accept no compromise on Clause 7 of the Pharmacy Bill. The Executive of the North British Branch had forwarded several resolutions passed at a recent meeting (see *ante*, p. 590). These communications were referred to the various committees to deal with.

This concluded the public business, and the Council then went into committee to consider its annual report.

SIXTY-THIRD ANNUAL REPORT OF THE COUNCIL.

EXAMINATIONS. A further increase in the number of candidates for the qualifying examination is noticeable in the record for 1903; the presentations reaching 1,676, or 127 more than in the previous year and 197 more than in 1901. The percentage of rejections has fallen to 68·73, and there are indications in recent examinations that the proportion of failures may diminish still more. For the Major Examination there were 72 candidates, of whom 44 passed. The figures for the preceding year are 95 candidates and 45 passes. One hundred and ninety-four persons have been registered as "Apprentices or Students," as against 116 in 1902.

For the purpose of according adequate consideration to the many important questions arising, or likely to arise, in connection with the examining functions of the Society, the Council has appointed a Committee to which reports and recommendations from the Boards of Examiners may be remitted.

EVENING MEETINGS. The Session which terminated in March was the most successful in point of attendance and interest that has been held for many years. With a view to encourage the conversational and informal side of the meetings, the Evening Meetings Committee arranged for the exhibition each month in the Examination Hall of recent notable additions to the Museum, together with new pharmaceutical or scientific books and publications, as well as novel appliances and apparatus for the Pharmacy or the Laboratory. These arrangements, with certain improvements in minor details, appear to have been much appreciated by Members and Student-Associates of the Society, and the meetings are now recognised as affording excellent opportunities for social intercourse, in addition to the discussion of pharmaceutical papers. The Council desires to acknowledge the assistance rendered by the Secretary, the School Staff, the Editor, and the Curator in effecting the changes which have resulted in extending the usefulness of the Evening Meetings. The following papers have been contributed during the Session:—"Kino," by Edmund White, B.Sc.; "Assay of Crude Cocaine," by W. Garsed; "Pharmacy of Chamomile Flowers," by Professor Greenish; "The Ash of Certain Drugs," by J. C. Umney; "Some Spurious Virginian Prune Barks," by Horace Finnemore, A.I.C.; "A Supposed Beilschmiedea Bark," by Elsie Hooper (Burroughs Scholar); "Distribution of Alkaloids in Conium," "Disputed Presence of a Mydriatic Alkaloid in *Lactuca virosa*," by E. H. Farr and R. Wright. Mr. H. W. Everson, of Messrs. Hopkin and Williams, was good enough to give some demonstrations with Radium.

In Edinburgh useful contributions have been read by W. Duncan, D. B. Dott, T. Maben, G. Lunan, G. F. Merson, Peter Boa, T. S. Barrie, J. C. Umney and C. T. Bennett, M. Meldrum, Agnes Borrowman, W. Lyon, T. Stephenson, Dr. Dobbin, J. G. Ferrier, and John Lothian.

An afternoon educational meeting was held in January in the Lecture Theatre, and an interesting and valuable discussion arose upon the address given by Professor R. B. Wild, M.D., of Victoria University, on "University Education for Pharmacists," and the subsequent Paper on "Concurrent Curricula" by Mr. H. Wippell Gadd.

THE SCHOOL. The sixty-second session of the School of Pharmacy was inaugurated by an address by Dr. J. Wilson Swan, F.R.S., and its course has been marked by satisfactory progress in the various classes. Several alterations and additions making for increased efficiency have been made by the Council, and the comfort of the lady students has not been overlooked. The Professors of Chemistry and Pharmaceutics report that during the year the Scholars in the Research Laboratory have done valuable work, which has been placed at the disposal of Members of the Society at the Evening Meetings.

LIBRARY AND MUSEUM.

The Library and Museum have been carefully developed and maintained with a view to afford the maximum of information and instruction to Members and Student-Associates. The attendance has been well up to the normal, but, what is perhaps a better criterion of value, a greater degree of interest has been manifested in the Society's collections by the persons who have the right to make use of them. An innovation which appears to give general satisfaction is the exhibition of a series of illustrative cases of materia medica specimens, which has been made possible by re-arrangements of the contents of the Chemical portion of the Museum. It is hoped that during the ensuing year further progress may be made with the improvements indicated. A descriptive list of Donations to the Museum during the years 1895-1902 has been compiled by Mr. E. M. Holmes, the Curator, at the request of the Council, and was printed in January last. Copies were offered to Members gratis, and in a very short time the whole edition was distributed.

Among the many donations for which the Council has to acknowledge indebtedness, mention must be made of a unique collection of specimens illustrating Messrs. R. T. Baker and Smith's recently published work on the Australian Eucalypts. The collection was placed at the service of the Society by Mr. R. T. Baker—a Corresponding Member—and contains nearly 100 specimens of the wood and oil of eucalyptus trees, in addition to over one hundred herbarium specimens of the related plants.

LEGAL.

Four hundred and nine cases of alleged infringement of the Pharmacy Act were investigated during the past year, and the Registrar was compelled to institute proceedings in one hundred and nine instances. Particulars of these cases, together with a record of the result of each, were presented to the Council at the February meeting, and are published in the *Pharmaceutical Journal* for February 6, p. 151. Attention may be directed, by way of illustrating the difficulties of administering the Statute, to the case at Strathaven, which was summarily dismissed by the Sheriff, who, upon the principal witness for the Pursuer very properly refusing to disclose the identity of the informant, declined to hear evidence of the alleged offence. In two other cases the summonses could not be served upon the defendants, and the salutary object of the Statute was frustrated to the detriment of public safety. As a preventive of these by no means infrequent instances of contempt of statutory obligations the enactment of the provisions of the Pharmacy Bill would prove of considerable service.

PARLIAMENTARY.

The Pharmacy Acts Amendment Bill, which was introduced into the House of Commons at the commencement of last Session, failed to reach a second reading. Pursuant to the determination of the Council to persist in their efforts to educate Members of Parliament in regard to the necessity for strengthening the law relating to the sale of Poison, the Bill was re-introduced in February last through the good offices of Mr. Thomas Lough, M.P., who had kindly taken charge of the 1903 Bill. Mr. Lough is supported by Mr. Wanklyn, Mr. Remnant, Mr. Marshall Hall, Mr. Henniker Heaton, Mr. John Burns, Mr. Ellis Griffith, Mr. James Reid, Mr. G. McCrae, Sir M. M. Bhownaggree, Mr. Tomkinson, and Mr. Osmond Williams, most of whom allowed their names to appear on the back of the Bill of last Session. The only alteration in the text of the measure to distinguish it from its predecessor is the addition of a clause specifically continuing the reservation of certain rights granted by Section XVI. of the Pharmacy Act, 1868, and by the Amending Act of 1869. This addition was made in deference to the expressed opinion of representatives of the Medical Profession and of the Royal College of Veterinary Surgeons that such a saving clause appeared to be necessary, and the Council has the satisfaction of knowing that both the professional bodies alluded to are now favourably disposed towards the Society's Bill.

The opposition to the legislative proposals of the Society has crystallised around Clause 7 of the Bill, which is responsible for no less than six "blocking" notices placed upon the Journals of the House by Members of Parliament, who appear to be under a misapprehension of the object the Council has in view. The Council does not lose hope that it may succeed in better informing those gentlemen, and in showing them the inadequacy of trying to control the business of a Chemist and Druggist carried on by an impersonal company without touching the Directors of such company. Notwithstanding the antagonism of unqualified traders which might be expected, it is gratifying to be able to record a large body of Parliamentary, public, and pharmaceutical opinion in favour of the principle of the Bill, and the Council desires to express its appreciation of the support it has received from Divisional Secretaries and Pharmaceutical Associations throughout the country, in the direction of gradually bringing home to the general public the deficiencies in the existing Acts, which were passed for common protection against incompetence.

The Government has announced its intention of shortly introducing a Pharmacy Bill into the House of Lords, and negotiations between the Parliamentary Committee and the Privy Council are proceeding in the hope that the wishes of the Council in regard to pharmaceutical legislation may be, so far as it is practicable, embodied in the official measure.

JOURNAL.

The official organ of the Society has been actively developed on lines which have been found to be generally acceptable, and much of the increased interest in the work of the Society is attributable to the feeling amongst the members of the calling that the Journal has become an almost indispensable means of intercommunication, and a valuable medium for the diffusion of scientific and pharmaceutical knowledge. The Editor and his staff are to be cordially congratulated on the work they have accomplished during the past year—the first under the present *régime*—and the Council ventures to regard the results already attained through its Journal Committee as a favourable indication of future progress. Acting upon the recommendation of the Journal Committee, the Council has decided to conduct the publishing and advertising business of the Journal in connection with the Editorial Department, and the transfer of the work from the present publishing offices to the Society's premises will be effected at the end of June. To provide accommodation for adequately dealing with the production and issue of the Journal under the new conditions, it has been found necessary to utilise the house in Great Russell Street, hitherto occupied by the Secretary, and the necessary details for placing the space at the disposal of the Council have now been arranged. A rent allowance has been granted to the Secretary in lieu of the apartments of which the Council was reluctantly obliged to deprive him.

To assist registered Chemists to conform to the new procedure introduced into the administration of the

P.J.F.

Stamp Acts by the Board of Inland Revenue as a result of their interpretation of recent High Court decisions, the Council arranged with the Editor of the Journal to compile a collection of Recipes which the Board would regard as "known, admitted, and approved" remedies, and which might be sold unstamped by Chemists. The result of the arrangement is the "Pharmaceutical Journal Formulary," upon the success of which it is unnecessary to dilate; but it is perhaps necessary to allude to the fact that the cost of the whole issue of 6,000 copies has been covered by the sales, despite the circumstance that the subscription price to members was fixed at 5s. 6d.

The cordial thanks of the Council are due to Mr. John Humphrey, the Editor, for the exceptionally useful volume which is now available for the guidance of registered persons through the intricacies of a somewhat perplexing Statute, and for the unremitting labour which he bestowed upon its production.

ADMINISTRATION.

The executive work of the Secretary and Registrar continues to expand, provision now being necessary for organisation and Parliamentary business, in addition to the constantly augmenting bulk of purely routine duties involved in the larger number of subscribers to the Society. Due attention is accorded to the misleading statements not infrequently circulated in the public press on pharmaceutical subjects, and prompt steps are taken to counteract the statements if any useful purpose can be served by so doing; in fact, a system is gradually being built up whereby the interests of Pharmacy in its relations to public occurrences may be properly watched. During the present Session it has been necessary to write to several Provincial and Metropolitan periodicals correcting false views of the Society's Parliamentary policy, and it was also deemed desirable to cause questions to be asked in the House in regard to the employment of unqualified dispensers in public institutions, as well as to interview Members of the House on other no less important matters. The Council is glad to be able to state that a great amount of administrative work of the highest value to Pharmacists is constantly being undertaken in the Secretary's office, and although such services are unreported and, by their very nature, are not susceptible of more than vague indication, it is fitting that members should be assured in the Annual Report that the organisation of the Department charged with the general administration of the affairs of the body-corporate is fully alive to its growing responsibilities, and is making all possible provision for coping with the demands which from the present outlook may be expected.

HONORARY AND CORRESPONDING MEMBERS.

The following distinguished men, who have attained prominence in those departments of science with which the Society is most closely concerned, have been elected Honorary Members:—Dr. J. Wilson Swan, F.R.S., Sir H. Littlejohn, M.D., and Professor E. Bourquelot. Professor E. Perrot, Professor H. Beckurts, Professor L. Hartwich, Mr. S. T. Dunn, and Dr. G. W. Parker were elected Corresponding Members.

OBITUARY.

The following members have died during the year:—W. S. Baxter, Divisional Secretary for Leeds, S.; John Barclay, B.Sc.; H. Cryer, Divisional Secretary for Islington, N.; F. Downing, Divisional Secretary for Launceston; A. Kitchin (Whitehaven); R. Llewellyn, Divisional Secretary for Merthyr Tydvil; W. M. Maxton, Divisional Secretary for Kelso; Barnard S. Proctor, a former member of Council and an Examiner; N. Smith (Cheltenham), a Founder; John Taylor, Member of Council.

PERSONAL VIEWS ON CURRENT TOPICS.

PROPOSED NEW VETERINARY COLLEGE.

BY A VETERINARY SURGEON.

This title is subject to correction from Professor Owen Williams, who regards the establishment of a veterinary school at Liverpool, in connection with the Institute of Comparative Pathology, and under his own care as principal, as a "removal" from Edinburgh. It has been for some time recognised that there were too many veterinary teaching schools. It was quite well understood, before the latest addition of a college in Dublin, but the absence of such an institution was made a political grievance, and so there was not much difficulty in procuring this fifth wheel for the veterinary coach. Many Irish students entered the Scotch colleges, of which there are three, although one has proved enough for "dirty little England." With the establishment of a college in Ireland, and the prospect of fewer vets and more engineers being required, semi-private schools have fallen upon evil times.

Free Trade in Colleges.

The proposal to set up a school in connection with the Liverpool Institute of Comparative Pathology has given rise to a heated discussion at the Council of the Royal College of Veterinary Surgeons, where Professor MacFadyean opposed both the multiplication of inefficient institutions and the setting up of a veterinary school under medical tutelage. It is true, of course, that many of the subjects are the same—physiology, chemistry, biology—but when the veterinary student comes to apply his knowledge to the lower animals, his teaching by medical practitioners is chiefly misleading and scarcely helpful. The vets are not without experience of the effect of being in medical leading-strings, for the original professors were necessarily medicos in a country where only empirics practised as animal doctors, but they have long since outgrown such teachers and teaching, and in not a few instances have had to put the medical men right.

A Distinct Profession.

No, veterinary students are best taught by veterinary professors, of whom there is a sufficient supply of the very best, and for this reason, among others, the profession as a whole is opposed to a school subordinated to any medical institution. We already see doctors masquerading as veterinary inspectors, and advising as to width and depth of drains in cow sheds, and as to air space, and attempting to diagnose tuberculosis of the udder. We have seen the great Dr. Köch recant about the imminent danger of infection of the human subject by milk and meat, while any layman might have decided for himself on the slightness of the risk by considering the fact that the consumption of milk by the poor has increased a hundred fold, while tuberculosis has decreased 40 per cent. A hundred years and more have been spent in creating a profession specially fitted to deal with the diseases of animals, and it needs not to be again taken under the wing of its older and somewhat presumptuous sister, the medical.

A DISTINGUISHED FRENCH PHARMACIST.

In conferring on Professor Bourquelot the distinction of honorary membership of the Pharmacectical Society, the Council has selected one of the most erudite of French pharmacists of the present day. The names of three of his compatriots are already on the list. These are Léon Guignard, Henri Moissan, and Arthur Petit. The first mentioned of these three, Professor Guignard, is Dean of the Paris School of Pharmacy; he succeeded to that post another honorary member of the Pharmaceutical Society, the late M. Gustave Planchon. Monsieur Guignard, who is in his fiftieth year, is perhaps best known for his researches in connection with the reproduction of plants; he is a member of the Institute and a chevalier of the Legion of Honour. Monsieur Henri Moissan was for thirteen years Professor of Toxicology at the School of Pharmacy, but in 1901 he was appointed Professor of Chemistry at the Paris Faculty of Sciences. His researches at very high temperatures and his experiments in connection with the preparation of artificial gems have made his name familiar throughout the world. Monsieur Arthur Petit is perhaps the best known practical pharmacist in Paris.

Emile Bourquelot.

M. Bourquelot holds the post of Professor of Galenical Chemistry to the School of Pharmacy, but, in addition to this, he is chief pharmacist to the Hôpital Laennec, and it was in his private room at this institution that he recently gave a member of the editorial staff of the Journal a few particulars concerning his career. The Hôpital Laennec is a curious-looking building on the "other side" of the Seine, within a very short distance of the Bon Marché. The casual passer-by would never take this curious-looking edifice for a hospital; with its little windows and plain walls, whose sole ornamentation are the words "Defence d'afficher" in three feet letters, it resembles, more than anything else, the typical military barracks of Napoleon's day, while at the same time its whitish dusty looking bricks give it the appearance of an old mill. Neither does the courtyard suggest a hospital; and the ornamental arches and doorways contrasting with the plainness of the walls which give on to the street, are all reminiscent of a much earlier period.

M. Bourquelot, as he told the Journal representative, in the course of a brief conversation, was born in a little village in the Ardennes fifty-three years ago. Jandin, as the tiny hamlet is called, had at that time 350 inhabitants, but, like many another French village in the same neighbourhood, the population has since then declined. At the age of twenty-one the future professor was apprenticed at the "Pharmacie Loret" in Sedan. As used also to be customary in this country, the shops in Sedan were then distinguished by signs hung over the door, and M. Loret's establishment was known as "A la truie qui file," whatever that may mean. The war was just over when the apprentice began his work, but the town was still in possession of the military authorities, and his first experience in pharmacy was gained in dispensing prescriptions for the German soldiers. At the comparatively early age of twenty-seven he was appointed to the position he still holds at the Laennac Hospital. A year previous to this he was already preparator at the School of Pharmacy. At thirty-eight he was assistant professor, and shortly after the death of Professor Bourgoin he was nominated to the latter's position.

Botanical Gardens (Paris School of Pharmacy).

M. Bourquelot took a prominent part in the International Conference held in Brussels in 1902. Indeed, he has been one of the chief workers in connection with the unification of standard drugs for a number of years. Asked whether he was satisfied with the results of the Brussels Conference, he replied that the fact that the French Government had adopted the resolution of the Conference, as also had the Swiss and the United States of America, showed there was every reason to believe that the day of a universal standard for toxic preparations was not far ahead. In the next edition of the Codex, which will shortly be issued, the recommendations of the Conference will be introduced.

Professor Bourquelot is chiefly noted for his work in connection with the various enzymes that are present not only in certain fungi but also in many drugs, and produce changes in these as well as in the galenical preparations made from them. The nature of the reserve carbohydrates of seeds and roots, amongst them numerous drugs, has also been investigated by Professor Bourquelot, in conjunction with his pupils.

EDINBURGH CHEMISTS', ASSISTANTS', AND APPRENTICES' ASSOCIATION.

ANNUAL MEETING.

Wednesday, April 27, 1904, in the Pharmaceutical Society's House, 36, York Place, Edinburgh, Mr. ARCHIBALD CURRIE, President, in the chair.

Ewing Pharmacy Prize.

The PRESIDENT reported that the Ewing Pharmacy Prize (value £1 1s.) had been gained by Mr. Alexander Fordyce Stronach, 8, Roseneath Street, who had presented one of the best papers ever given in in connection with the competition, and had gained 91 per cent. of marks.

Mr. J. LAIDLAW EWING then presented the successful competitor with Southall's 'Materia Medica,' Perkin and Kipping's 'Organic Chemistry,' Newth's 'Inorganic Chemistry,' and Lowson's 'Botany.' A vote of thanks to Mr. Ewing for his kindness in annually giving so valuable a prize and for coming to the meeting to present it was cordially passed.

In the unavoidable absence of the author, Mr. RUTHERFORD HILL read a paper on

Concurrent Curricula,

by Mr. H. WIPPELL GADD, F.C.S.

It was remarked in the paper that that academic training would be most effectual which was closely allied to apprenticeship. To take apprenticeship first and study afterwards was like stumbling along a dark and stony way, and, at the end, looking back with an electric searchlight to see how disaster might have been avoided. The author had drafted a scheme of a curriculum to be spread over three years, and which could be modified to meet particular cases and individual requirements. The scheme was identical with that submitted at a meeting in London and printed in the *Pharmaceutical Journal* of January 23 last.

Mr. BOA said the practice among apprentices in Edinburgh was very much in accordance with what Mr. Gadd indicated. There could be no doubt that the method of a concurrent curriculum had worked well in Edinburgh, but it might not be so easy to make it successful in other places. There was a danger that apprentices might neglect pharmaceutical practice in the pharmacy for class work. It was essential that during apprenticeship they should lay a good foundation in practical work. Instead of giving so much time to theory during apprenticeship, when they were not old enough, he thought it would perhaps be better to attend classes for a year after apprenticeship. Seeing that they were apparently making very slow progress towards a compulsory curriculum, he thought they might do well to encourage such methods as Mr. Gadd suggested.

Mr. G. H. C. ROWLAND said those who lived in a town like Edinburgh had little conception of the difficulties that confronted an apprentice in a small provincial town. They had in the Association's prize scheme an excellent outline of a curriculum, but comparatively few took advantage of it.

Mr. RUTHERFORD HILL said that the idea of a concurrent curriculum must have been in the mind of those who instituted the North British Branch of the Pharmaceutical Society in 1851. At the second annual meeting of the North British Branch in April, 1852, it was unanimously agreed—"That it is expedient, in order to assist in carrying out the provisions of the Pharmacy Act, to render it imperative that all future apprentices to pharmaceutical chemists in Edinburgh, Glasgow, Aberdeen, St. Andrews, and other places where lectures are delivered, shall attend at least one course of materia medica and one course of chemistry, and resolve that this meeting strongly recommend an especial clause in each indenture to this effect." At the same meeting Mr. Jacob Bell was present and moved—"That this meeting recommend that pupils attend a course of instruction in practical chemistry and botany whenever they have the opportunity of so doing." This was seconded by Mr. Flockhart, and unanimously agreed to. At a later date an arrangement was made with lecturers on botany, chemistry, and materia medica in the University and the Edinburgh School of Medicine to admit pharmaceutical apprentices to their courses of lectures at special fees. That arrangement was still in operation so far as the Edinburgh School of Medicine was concerned, but botany was the only university class to which it now applied. Since the great development of the Heriot-Watt College evening classes, however, they had almost completely taken the place of the old plan of attending day classes. The Heriot-Watt classes were attended by the great majority of the apprentices trained in Edinburgh pharmacies, and they largely carried out the essential idea in Mr. Gadd's proposals. It might thus be said that a concurrent curriculum had been recognised in Edinburgh ever since 1851. The Heriot-Watt classes were very much on the same lines as Mr. Gadd's. Apprentices who took chemistry and botany in the same session gave very nearly as much time as Mr. Gadd's programme required. But these classes were so conducted as not to require much home reading, and that was the best system. For the smaller towns and the apprentices trained there he was disposed to think that they might find a solution of the difficulty in the further adjustment of the schemes for secondary education. Apprentices in pharmacy should obtain a grounding in science in a higher grade school before beginning apprenticeship. After the apprenticeship was finished they could spend one, or preferably two, sessions at a university or college. If the qualifying examination was divided, they could pass the pure science subjects at the close of the first session and the technical subjects at the close of the second session. In that way they would be qualified at the age of twenty-two, which was quite soon enough. At present it was extremely difficult to induce pupils to remain at the secondary school till they were seventeen, before which age the leaving certificate could not be taken. It was only the more versatile apprentices who were capable of being at once good students and good shop assistants. They were inclined to neglect either the one or the other, and it might be better for them to give three years of undivided attention to technical work and then two years undivided attention to collegiate work. The preliminary grounding in science at school would obviate any disadvantages attending this plan. He was strongly in favour of apprenticeship preceding or accompanying academic training. Apprenticeship in a retail business was pre-eminently essential in such a calling as theirs, and it should occupy a period of probably at least three years. He disagreed with Professor Wild, who said medical practitioners possessed sufficient knowledge of chemistry, botany, and materia medica to do all the dispensing required in general practice. Incessant practice over a long period was necessary. There was crying need for a rational division of the Minor Examination.

Mr. MCCUTCHEON said the idea mentioned by Mr. Hill as to attending a secondary school was in operation at the present time in Haddingtonshire. They had now introduced materia medica into the Heriot-Watt course, and it was likely that in a short time they would have a full course for the Minor Examination.

Mr. STRONACH, speaking as an apprentice, said he thought it would be a benefit to them if a full course such as Mr. Gadd indicated was imposed upon them.

Mr. SPOOR thought it a hardship that apprentices had such severely long hours. If they were to give ten hours a week to study as suggested by Mr. Gadd it would swallow up all their spare time for three years. He thought it was too much to expect that.

Mr. **Plenderleith** thought Mr. Gadd's scheme should have their hearty support.

Mr. **Murray** said if any man deserved praise it would be the man who would rectify the present brain-fagging method in which pharmaceutical students had to study, and something like Mr. Gadd's scheme might help in securing something satisfactory. Higher education of the pharmacist was not approved by some who argued that there was no return in prospect in their profession to warrant so much education. It was impossible to strike a balance between education and the monetary returns. A large part of their remuneration came in the pleasure their work yielded them when properly done, and it was ridiculous to speak of the money returns as everything.

The **Chairman** said they were much indebted to Mr. Gadd for his kindness in sending so interesting a paper, and he proposed that they send him a cordial letter of thanks.

This proposal was unanimously and cordially agreed to.

Annual Report.

Mr. J. W. **Plenderleith**, Hon. Secretary, then read the annual report, which was highly satisfactory. Photography had been taken up as a new department of the Association's work, and it was proposed to hold an exhibition of pictures at the beginning of the coming winter session. The outside visits had been more numerous and a decided success. The report was unanimously adopted.

Mr. E. O. **Rowland**, Hon. Treasurer, read the financial statement, which showed a balance of £1 8s. 9d. He suggested that the working expenses of the Prize Fund might be met by special donations, and in that way the ordinary subscriptions would cover all outlays. The financial statement was adopted, and the suggestion as to the Prize Fund was remitted to the Committee.

Other Business.

The following were elected office-bearers for session 1904-1905:—President, Archibald Currie; Vice-President, Alexander McCutcheon; Secretary, Graham D. Thomson, 73, Prince's Street; Assistant Secretary, Herbert R. Nightingale; Treasurer, David A. Young, 119, George Street; members of Committee, Misses Glass and Watson, Messrs. Murray, Plenderleith, E. O. Rowland, Sclater, Stronach, and Tait; Prize Committee, the President, Vice-President, and Secretary, and Messrs. McEwan, Plenderleith, and G. Rowland.

The Association agreed to request Dr. Taylor Grant to conduct a class in bacteriology, theoretical and practical, on two mornings a week during May, June, and July, and Mr. McCutcheon, Vice-President, was empowered to take names and make arrangements.

It was agreed to vote £1 1s. to the Benevolent Fund of the Pharmaceutical Society as an acknowledgment of the privilege of meeting in the Society's house in Edinburgh.

TEES-SIDE CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Thursday, April 21, 1904, at the Albany Restaurant, Mr. R. R. **Bainbridge**, President, in the chair.

Mr. W. S. **Glyn-Jones** addressed the meeting, making particular reference to the Chemists' Defence Association, the recent changes in the administration of the Medicine Stamp Duty Acts, the Pharmacy Bill, the organisation of the Pharmaceutical Society, and the P.A.T.A. After discussion, Mr. Glyn-Jones was cordially thanked for his presence and his remarks.

SWANSEA AND DISTRICT CHEMISTS' AND DRUGGISTS' ASSOCIATION.

ANNUAL DINNER.

Thursday, April 28, 1904, at the Hôtel Métropole, Swansea, Mr. **John Davies**, President, in the chair.

Mr. **Grose** proposed the toast of

The Pharmaceutical Society,

incidentally referring to the value of the scientific and commercial information he got from the *Pharmaceutical Journal.* He deplored meagre and sordid conception of trade relationships, and accentuated the urgency of combined effort among pharmaceutists if the trade hoped to receive legislative and other recognition.

Mr. **Glyn-Jones** replied. He protested against the aloofness from co-operation for the common good of those members of the trade who were of the grumbling genus, and whose excuse sometimes was that they had not joined hands because they had not been asked. These backward folk were ever a stumbling-block to organisation, and he had no hesitation in affirming that every chemist and druggist who was not a member of the Pharmaceutical Society and the P.A.T.A. was against them. The Pharmaceutical Society was not above criticism. This was essential to advancement. But criticism should be given in a right spirit. For over sixty years now the Society had sought to promote the best and common interests of the trade. With regard to the Pharmacy Bill, he was not at all downcast; some were. Sir Michael Hicks Beach had agreed to their contention as to the injustice which arose from the one-man company. Mr. Glyn-Jones next alluded to Clause 7, and said there had been something said about "compromise." The question appeared to have been asked in effect whether there would be willingness to concede in this connection, and the answer he had to give was that it was idle to indulge in vague words in this connection. What was the remedy which those who spoke about compromise had to propose. To allow anyone to embark in the business of chemist and druggist with his wife and other relatives, and manage and control a business where poisons were sold, with the mere proviso that there should be a qualified man in the shop—to give such a person the right to set up under the conditions detailed as a limited liability company would be a lowering of the status of the trade. It would mean that the qualified man would become subsidiary to another man who was not qualified, and who had not passed the examinations to which the duly accredited pharmaceutist was subject at much cost. He held that the man who carried on the business of chemist and druggist, who conducted such an establishment, should be one who was able to exercise his own judgment. Mr. Glyn-Jones afterwards dealt briefly with the medicine stamp question, and expressed a hopeful view as to the future of pharmacy.

Mr. **Jones** (Llanelly) proposed the toast of

Local Pharmaceutical Associations.

He trusted yet to see the day arrive when a Western Wales Association would be formed.

Mr. **Drane** (Cardiff), in replying, protested against chemists being reduced to the humiliating position of distributing agents for advertising quacks. So strong did he feel on the subject that when he was asked whether this or that preparation was "excellent," he would say "excellent for fools." Then the querist would ask, "Do you consider me a fool?" and he

(Mr. Drane) could but answer, "If you put it so I am not prepared to deny the assumption."

Mr. **Hagon** (Cardiff) followed, and said that if Scotland was entitled to representation on the Council of the Pharmaceutical Society, Wales was no less worthy, but there must be united effort if the Council seat was to be won for Wales. If they wished to uphold their rights there must be no compromise over the Pharmacy Bill, which did not go far enough for him.

Other Toasts.

Mr. J. **Davies** proposed the toast of "The Benevolent Fund" in a stirring appeal, and Mr. **Grose** responded.

Mr. T. **Davies** proposed "The Visitors." Mr. **Anthony** (Cardiff) and Mr. **Loveluck** (of Aberavon) responded.

MIDLAND PHARMACEUTICAL ASSOCIATION.

ANNUAL MEETING.

Thursday, April 28, 1904, at the Great Western Hotel, Birmingham, Mr. A. W. **Gerrard** in the chair.

The Year's Work.

The accounts, which showed a small balance in hand, were adopted. In the annual report, presented by the **Hon. Secretary**, the year's work was briefly reviewed. As to the library, it was stated that the books were in good condition, but little use had been made of them during the year.

Replying to Mr. Perry, Mr. A. W. **Southall** (Hon. Librarian) said no books had been lost during the year, but very few had been issued.

As the result of comment on the neglect of the library, an addition was made to the report to the effect that assistants might borrow books in the name of their principals.

The Pharmacy Bill.

The **President** said it was necessary that the friends of the Bill should bestir themselves, and directly they knew it was before the House of Commons no time should be lost in communicating, either jointly or individually, with the local members of Parliament.

Mr. **Perry** congratulated Mr. W. M. Freeman upon passing the final examination for the bar. He asked whether it would be possible to introduce into the Bill some provision which would enable pharmacists to regulate their own internal affairs. What he desired was something to govern professional etiquette—something on the lines suggested by Mr. Marshall Hall, K.C., at last year's dinner.

Mr. **Freeman** said that pharmacists, in season and out of season, should do their best to impress upon the public the fact that pharmaceutical legislation ought to be popular legislation. The rights of pharmacy were the rights of the public, and the more support the Pharmaceutical Society got from the public in its efforts to raise the standard of pharmacy and to promote the public safety, the more satisfactory would be the results.

The British Pharmaceutical Conference.

Mr. **Alcock** suggested the desirability of inviting the British Pharmaceutical Conference to Birmingham in 1905, or the following year. Birmingham was last visited in 1865.

The **President** remarked that Midland pharmacists would be glad to welcome the Conference.

It was left to the Council to take the matter into consideration.

The Officers.

The outgoing Council was re-elected, with the exception of Mr. Freeman and Mr. Cattell (Sutton Coldfield). Mr. Evans (Moseley), Mr. Walker (Sutton Coldfield), and Mr. Jones (Coventry) were chosen to fill vacancies.

Cordial votes of thanks were accorded the President and the Hon. Secretary for their services during the year.

A smoking concert followed, in which Messrs. Booth, Ryland, Tripp, H. Marston, Perry, and Sydney Cattell took part.

CHEMISTS' ASSISTANTS' ASSOCIATION.

SOCIAL EVENING.

Thursday, April 28, 1904, at 73, Newman Street, London, Mr. W. **Watson-Will** in the chair. This was the last of a series of musical and social evenings held during the session, and it was by no means the least successful of the series. There was a good attendance of members and friends, and the programme was a very creditable one, the efforts of each of the performers being highly appreciated. There were one or two items, however, which deserve special mention—viz., the excellent rendering of "The Holy City" by Master E. Balch, and Mr. W. W. Ballantyne's songs, "Valentine's Farewell Song" (from "Faust") and "The Vulcan Song." During an interval the **President**, Mr. A. B. Britton, proposed a vote of thanks to the Chairman. Mr. **Watson-Will**, in replying, referred to the useful work done by the Association since its formation twenty-six years ago. He specially mentioned the publication of the Chemists' Assistants' Association "Proceedings," which, he said, were very valuable for reference, as they contained the results of a large amount of practical work done by members of the Association. The thanks of the meeting were also accorded to the artists. A collection was made on behalf of the Benevolent Fund of the Pharmaceutical Society, the sum of 16s. being contributed.

DEWSBURY AND DISTRICT CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Monday, May 2, 1904, at Dewsbury, Mr. J. **Rhodes**, President, in the chair.

Mr. R. **Gledhill** and Mr. R. **Broadhead** reported on the proceedings at the last meeting of the West Riding Federation. The chief business, it was said, was the adoption of new rules.

The Council Election and the Pharmacy Bill.

Mr. **Broadhead**, in the course of a discussion respecting the Council election, said he noticed that the addresses of all the candidates were drawn up on similar lines, and practically on the same lines as the Council had been working in the past. That being so, he could not see how the new men justified their candidature. Mr. Sargeant would do his best to further the Pharmacy Bill. What they wanted was a definite statement from candidates as to whether they would fully support Clause 7, which was the pivot on which the whole Bill turned. He had carefully studied the Bill, and had come to the conclusion that unless they got Clause 7 they would be better without the Bill. Except Clause 7 there was no clause in the Bill that was a concession on the part of the companies. All the other clauses were concessions on the part of chemists. From the way many members talked he judged they had never read the Bill. He did not agree with the Bill at all, but he had accepted it, as he was given to understand that Clause 7 would be of some service to them. He did not think it would do what it was expected to do. According to his reading of it, and the reading of any intelligent man, the Bill would not protect the titles. [Mr. Broadhead does not appear to have "carefully studied" Clause 11.—Ed. *P.J.*] Companies would go on just as before. As far as he could see, the Bill would make no difference to companies. If it would he would like to know how. Titles would be no more protected than at present. Chemists gave away a great deal and got very little in return. That little was contained in Clause 7.

After some consideration, it was decided to recommend members of the Association to vote for three selected candidates.

READING AND DISTRICT CHEMISTS' ASSOCIATION.

SOCIAL EVENING.

Thursday, April 21, 1904, at Table Dainties Restaurant, Reading, Mr. E. Cardwell in the chair. There was a fair attendance, and a very pleasant evening was spent. Before proceeding with the musical programme, letters were submitted from various associations recommending certain candidates for the forthcoming Council election. It was also resolved to send a letter of congratulation to Mr. Glyn-Jones on his having passed with honours the final legal examination. A vocal and instrumental programme was then carried out, items being contributed by Mrs. Butler, Mrs. Harrison, Miss Tunbridge, and Messrs. Cardwell, Harrison, Moore, Moseley, Surplice, and F. F. A. Tunbridge.

NORTHAMPTON CHEMISTS' ASSOCIATION.

ANNUAL MEETING.

Friday, April 29, 1904, at the Black Boy Hotel, Wood Hill, Northampton, the President, Mr. W. D. Mayger, in the chair.

The P.A.T.A.

Mr. Arthur Armitt, referring to business arising out of the minutes, asked what were the duties of the "local secretary to the P.A.T.A.," an office for which the Association recommended one of their number at the last meeting? Mr. Armitt criticised the P.A.T.A., which, he said, conceded too much to the drug stores, to the proprietors of "patent medicines," and the manufacturers. In face of the resolution of the Association not to support the P.A.T.A. unless they aimed at getting face value for all proprietary articles, he did not quite understand the action of the Association in appointing a local secretary for the P.A.T.A. He strongly objected to any departure from the former attitude of the Association.

Mr. W. McKinnell thought that the recommendation to appoint a local hon. secretary for the P.A.T.A. was a little bit sprung upon the Association at its last meeting when some of the senior chemists of the town were absent.

Councillor F. C. Ashford commended the work of the P.A.T.A.

After some discussion it was resolved that the resolution in question be rescinded, and that the matter should accordingly be reconsidered at the next meeting.

Annual Report.

The Hon. Secretary (Mr. F. Cowdery) presented his annual report. The membership stood at twenty-one. Eight meetings had been held during the year, with an average attendance of twelve. The Pharmacy Bill had been the subject of correspondence between the Association and all the local members of Parliament. Five of the hon. members promised to give the Bill careful consideration, Dr. Shipman, M.P., adding that, subject to some alteration, the Bill seemed likely to be made law. The Hon. Secretary regretted that all the members had not been loyal to the resolution of the Association's agreement to close their shops at 8 p.m. After heartily inviting the young chemists of the town to the meetings, the Secretary expressed pleasure that he had been able to collect £5 7s. for the Benevolent Fund of the Pharmaceutical Society and £10 10s. subscriptions for the Society.

Mr. W. D. Mayger was re-elected President; Mr. A. Armitt and Mr. Evan C. Ashford, Vice-Presidents; Mr. F. Cowdery, Hon. Secretary and Hon. Treasurer; and Mr. Llewelyn North, Hon. Auditor.

Votes of thanks were accorded to all those. A vote of thanks was also heartily passed to the trade Press for their reports of the meetings of the Association and their assistance generally.

BARNSLEY AND DISTRICT CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Thursday, April 28, 1904, at the Royal Hotel, Barnsley, the President, Mr. H. B. Billington, in the chair.

The Secretary was instructed to write to Mr. Glyn-Jones acknowledging receipt of a circular on the subject of co-operative buying, and to point out that the Association has no Buying Committee; that the members appreciate the sentiments contained in the circular, and are prepared to abide loyally by the rules of the P.A.T.A.

A letter from the Secretaries of the British Pharmaceutical Conference was read, asking for the support of the Association, but it was agreed to take no action in the matter.

The Council Election.

Several of the candidates for the Council of the Pharmaceutical Society had asked for the support of the Association in their respective candidatures. Mr. H. B. Billington proposed that the Association support Mr. Pilkington Sargeant. Mr. E. Nash seconded the motion, which was agreed to.

The Pharmacy Bill.

A discussion on the Pharmacy Bill followed. Mr. Billington thought the crux of the whole Bill rested on Clause 7; without that it would be worse than useless.

Messrs. J. P. Norwood, Tomlin, Matthew, and Nash expressed similar views.

Mr. W. Rigby remarked that it had been said that expressions of opinion by associations might be harmful to the Pharmaceutical Council in regard to negotiations or compromise. He feared that some pharmaceutical Councillors had shown "signs of weakening" in regard to Clause 7. He could see no harm in associations making clear to the Pharmaceutical Council their opinions, and there could be no question that a compromise on Clause 7 would meet with the disapproval of a great majority of the trade.

It was unanimously resolved :—

> That this meeting of the Barnsley and District Chemists' Association expresses its entire sympathy with the Pharmacy Bill now before Parliament and urges upon the Pharmaceutical Council to accept no compromise on Clause 7.

BRIGHTON ASSOCIATION OF PHARMACY.

COMMITTEE MEETING.

Thursday, April 28, 1904, at the house of Mr. A. J. Franklin, 86, King's Road, Brighton, the President, Mr. W. H. Gibson, in the chair.

The Hon. Secretary, Mr. C. A. Blamey, read communications from thirty-six associations, all of which, with the exception of four, have replied to the request for support of Mr. Gibson in a most favourable manner, the greater majority having definitely decided to help this Association by recommending Mr. W. H. Gibson at the coming election of Council of the Pharmaceutical Society. The British Pharmaceutical Conference and other matters were fully discussed.

LONDON CHAMBER OF COMMERCE AND SOCIETY OF CHEMICAL INDUSTRY.

Joint Committee on Untaxed Alcohol.

Tuesday, May 3, 1904, at the London Chamber of Commerce, Mr. John C. Umney in the chair. Sir W. Ramsay, F.R.S., and Messrs. David Howard, S. Hall, Dr. Squire, Messrs. Thomas Tyrer (Convener for the Society of Chemical Industry), Charles Umney, and E. A. Webb were also present, as was the Chairman of the London Chamber of Commerce, Mr. Evan Spicer.

The Chairman referred to the very comprehensive answers from Prof. A. G. Green and others that had been received to the questions sent out by the Joint Committee, more especially dealing with the value of ethyl alcohol (both of constitution and that used in manufacture) in important substances used in pharmacy, and also for dyeing purposes. This detailed information, the Chairman explained, was included in Mr. Tyrer's comprehensive paper read before the Society of Arts, and he instanced phenacetin, antipyrine, and salol, in which the unlevied but by Act leviable duties amounted to £141, £34, and £46 respectively per £100 value of imported substances. The opposition of the distillers to the removal of 5d. preferential duty was apparently at an end, and he felt quite sure that with the largely increased demand for alcohol that must arise by its more extensive employment, practically a fresh spirit industry would be created, probably using potatoes instead of imported grain as a starting point, which would not only have an important commercial bearing, but also great agricultural possibilities. The Chairman then read a letter which had been sent by the Associated Chambers of Commerce arising out of their deliberations to the Chancellor of the Exchequer, setting out the necessities for ceasing to regard alcohol solely as an ingredient in intoxicating liquors, but to look upon it as a semi-raw material for industrial use, and one from which disability by taxation should at once be removed in order to make possible competition on equal terms with Continental manufacturers. In calling upon Mr. Tyrer to detail the various interviews that he had had with representative bodies interested in obtaining untaxed alcohol for industrial purposes, Mr. J. C. Umney expressed the great obligation that they were all under to him for the immense energy he had shown in collating the material on the subject which he had incorporated in his three papers read before the Society of Chemical Industry and Society of Arts.

Mr. Tyrer gave an outline of the deliberations of the Automobile Club on the subject, referring to the cheapness of alcohol for motive purposes. He also detailed interviews that he had had with other important bodies that would doubtless be interested in the matter were there a considerable extension of the spirit industry using potatoes as a material, as referred to by the Chairman.

A discussion followed as to the desirability of focussing the whole of the matter to the London Chamber of Commerce, which had taken the initiative, and the Chairman asked permission of the Committee to communicate with those who were interested in the matter, although probably from slightly different standpoints.

Mr. Tyrer then proposed, and Mr. David Howard seconded the following motion, which was unanimously adopted :—

> Having regard to the development of the question on the use of alcohol for industrial purposes and the existence already of the Joint Committee of the London Chamber of Commerce and the Society of Chemical Industry, it is desirable to secure the co-operation of others interested or sympathetic bodies or persons to take joint action for obtaining untaxed alcohol, denatured or otherwise by legislative means. The Secretary of the Chamber, subject to the sanction of the Council, is hereby instructed to communicate with those indicated by the Chairman of the section, and the convener of the Society of Chemical Industry Spirit Committee.

NOTES IN PARLIAMENT.

Sunday Closing of Shops.

Lord Avebury has withdrawn the motion for the second reading of his Bill for the Sunday Closing of Shops. The Bill was for the total closing of shops on Sunday, with the exception of chemists' shops, refreshment houses, tobacco shops, and newsagencies. Discretion was to be given to local authorities to allow the opening of milk, fish, and fruit shops and also cooked-meat shops for a limited number of hours. The subsection relating to chemists' shops recited that "Nothing in this Act shall prevent the sale by any pharmaceutical chemist or chemist and druggist of any drugs, medicines, or surgical appliances, or the transaction of post-office business." In the course of his speech Lord Avebury remarked, "Chemists rarely now open their shops on Sunday, but there is generally some one in attendance who can supply anything which is wanted in an emergency. This would continue to be permissible."

Sir Michael Foster and Friendly Microbes.

Sir Michael Foster's expert contributions to discussion in the House of Commons are always acceptable, and his speech of a few days ago on the ventilation of the Houses of Parliament was exceptionally so, seeing that it was so closely related to the personal comfort of those who listened to it. He pointed out that the committee which inquired into the subject of the ventilation of the Lower House declared that the air of the House was found to differ very little, from a chemical point of view, from the air outside. The evidence was less clear from the bacteriological point of view. Unfortunately, our knowledge of bacteria is far smaller and less exact than our knowledge of the chemical constituents of the air. Sir Michael had expected that there would be evidences of a larger number of micro-organisms in the air of the House than were actually found, and obviously he felt uncertain whether to regard this with satisfaction or not. "Some bacteria are our friends and some our foes," said the hon. member, "but, alas! we don't always know which are our friends." The House was rather amused by this frank confession of scientific helplessness.

Merchandise Marks.

In the House of Commons, on Monday, Sir Howard Vincent presented a Bill to amend the sixteenth section of the Merchandise Marks Act, 1887. The Bill, which is supported by Mr. Samuel Roberts, was read a second time.

Alcohol for Manufacturing Purposes.

The Chancellor of the Exchequer has been asked by Sir Ernest Flower whether he would consider the possibility of allowing alcohol used for manufacturing purposes in the United Kingdom (such as the production of artificial dyes) to be freed from the payment of duty. Mr. A. Chamberlain, writing in reply, observes that Section 8 of the Finance Act, 1902, authorises the Commissioners of Inland Revenue to permit the use of duty-free spirits in any art or manufacture in which it can be proved to their satisfaction that the use of methylated spirits would be unsuitable or detrimental. Under this section the Commissioners have already granted permission for the use of duty-free spirits in a number of cases, and any further applications will be carefully considered.

Victoria University.

In the House of Commons, on Wednesday, the Victoria University of Manchester Bill was read a third time.

POISONING CASES AND INQUESTS.

The deaths reported during the seven days ended Wednesday, May 4, 1904, as due to poisoning, numbered eighteen, thus:—

Poison.	Accident.	Suicide.
Arsenic	—	1
Carbolic Acid	1	3
Chloral Hydrate	1	—
Chlorodyne	1	—
Chloroform	2	—
Coal Gas	—	1
Hydrochloric Acid	—	1
Hydrocyanic Acid	—	1
Laudanum	1	—
Lead	1	—
Morphine	1	1
Oxalic Acid	—	1
Overdose of Medicine	1	—
Total	9	9

Arsenic.—A hawker at Carlisle is reported to have purchased four ounces of arsenic, of which he took "sufficient to kill twenty or thirty people."

Carbolic Acid.—Three cases of suicide have occurred in which carbolic acid was the poison used. The deaths were those of a decorator at Poole, a fruit-porter at Liverpool, and a girl at Mountain Ash. A Plymouth nurse administered to a patient a solution of phenol instead of turpentine. The two were kept in similar bottles, and the coroner's jury exonerated the nurse from all blame.

Chloral Hydrate.—A retired maltster, while on a visit to Buxton, took an accidental overdose of a mixture containing potassium bromide and chloral hydrate.

Chlorodyne.—An artist at Forton, near Gosport, who had purchased chlorodyne from the Timothy White Drug Company, Limited, died from an accidental overdose.

Chloroform.—This anæsthetic, administered for operations, caused the deaths of a man at Oldham and of a woman at the Bristol General Hospital.

Coal Gas.—A man at Wandsworth committed suicide by placing in his mouth an indiarubber tube connected with a gas tap.

Hydrochloric Acid.—A Manchester woman poisoned herself with this unscheduled poison.

Hydrocyanic Acid.—A verdict of *felo-de-se* was returned by a coroner's jury at Church Fenton which investigated the cause of death of a cotton manufacturer, who had committed suicide by taking prussic acid.

Laudanum.—A child at Lurgan was given two drops of laudanum, and died as the result.

Lead.—A woman at Gateshead, who was employed at a lead works, died from chronic lead poisoning.

Morphine.—A woman at Fulham committed suicide by taking morphine and atropine tabloids. A Burslem bricklayer is reported to have died as the result of an injection of four minims only of a hypodermic solution of morphine.

Oxalic Acid.—A Battersea woman committed suicide by taking oxalic acid.

Overdose of Medicine.—A Buxton labourer procured a bottle of medicine from a chemist, and then, instead of taking the prescribed doses, swallowed the whole contents of the bottle. Although operated upon, he succumbed.

Attempted Suicides.—On Saturday morning a Plymouth dog fancier, "Dick" Haydon, after having written a farewell letter to his wife, went into a lavatory at Chubb's Hotel with a 4-oz. bottle nearly full of prussic acid and an egg-cup, apparently with the object of committing suicide. It is supposed the excitement was too great for him, and he was found in a dying condition. At the inquest death was attributed to syncope.—Several unsuccessful attempts at suicide by poisoning are also reported.

LEGAL INTELLIGENCE.

Dentists Act.

At Marlborough Street Police Court, on Monday, May 2, 1904, G. Guy White, of 215, Piccadilly, and F. Sinclair Kennedy, of the same address, were summoned before Mr. Denman for using the descriptions "Surgeon-Dentist" and "Dentists," contrary to the Dentists Act, 1878.

Mr. R. W. Turner, barrister, prosecuted on behalf of the British Dental Association; and Mr. Le Riche, barrister, appeared for the defence.

Mr. Turner said the defendants appeared to have carried on business in Piccadilly as "The American Plateless Teeth Company," with which was incorporated "Guy White and Company." Neither of them was on the Dental Register. A notice outside the place announced that they were "Dentists" and "Surgeon Dentists."

Mr. Le Riche stated that Mr. White was practising as a dentist forty years ago, before the Dentists Act was passed, and, having to go abroad while it was being passed, left the matter in the hands of the registering authorities, and he believed when the summons was issued that he was on the register. Mr. Kennedy would plead not guilty, as he denied that he had ever applied the word "dentist" to himself. It was no offence under the Act for a person not qualified to carry on business as a dentist and get assistants to do the work. What the Act said was that a person who was not qualified should not describe himself as a dentist.

Mr. Denman ordered the defendants to pay £5 each, with five guineas costs in each case.

PUBLICATIONS RECEIVED.

Photography for All. By W. Jerome Harrison. Sixth edition. Pp. 194. Price 1s. net. London: Iliffe and Sons, Limited. 1904.

The Elements of Chemistry. By M. M. Pattison Muir, M.A., Fellow and Prælector in Chemistry of Gouville and Caius College, Cambridge. Pp. xv. + 554. Price 10s. 6d. net. London: J. and A. Churchill, 7, Great Marlborough Street. 1904. From the Publishers.

PATENTS AND TRADE MARKS.*

New Patent Applications.

MANUFACTURE OF DERIVATIVES OF CYCLOHEXANE AND CYCLOHEXENE (No. 11,137 of 1903).—O. Imray, Birkbeck Bank Chambers, Southampton Buildings, London. (Communicated by Farbwerke vormals Meister, Lucius and Bruning, Hoechst a/Main, Germany.) Relates to the manufacture of oxy-cyclohexanecarboxylic acids, oxy-cyclohexanecarbinols (terpeneglycols), cyclohexenecarboxylic acids, and cyclohexenecarbinols from cyclohexenonecarboxylic acids or their esters and to the manufacture of derivatives of these compounds. Various examples are given, amongst others, the following:—Electrolytic reduction of ethyl trimethyl-cyclohexenonecarboxylate and ethyl-trimethyl-oxy-cyclohexanecarboxylate. Ten parts of ethyl trimethyl-cyclohexonecarboxylate are dissolved in 100 parts of caustic soda lye of 5 per cent. strength in the presence of alcohol and subjected to electrolysis with a diaphragm, carbon oxide being introduced. The alcohol is then distilled with steam and the aqueous liquid shaken with ether. After expelling the ether the oil is boiled with strong alcoholic potash for three hours to destroy any unchanged keto-ester. After expelling the alcohol and isophorone with steam, the alkaline liquid is acidified and the oxy-acid is obtained by shaking out with ester. In the same manner the trimethyl-cyclohexonecarboxylic acid may be reduced by electrolysis to trimethyl-oxy-cyclohexanecarboxylic acid.

MANUFACTURE OF CERTAIN NEW COTARNIN SALTS (No. 13,889 of 1903).—F. W. Howorth, 46, Lincoln's Inn Fields, London. (Communicated by Knoll and Co., Ludwigshafen a/Rhine, Germany.) The inventors have discovered that phthalic acid forms two new salts of cotarnin, *i.e.*, a neutral salt and an acid salt, to which they have given the name of phthalates of cotarnin. These salts, which were not known hitherto, may be formed according to the known methods of forming salts in organic chemistry, such as for instance by the direct combination of cotarnin with the mono- or poly-equivalent quantity of phthalic acid with or without a solvent or by the conversion of cotarnin salts by means of a suitable phthalate. Example: 237 Gm. of cotarnin base are thoroughly mixed with 83 Gm. of phthalic acid and stirred with a small quantity of a suitable solvent, such as water in methyl-alcohol. The pasty mass quickly liquefies, forming a solution of neutral phthalate of cotarnin. On driving off the solvent, preferably *in vacuo*, the salt, *i.e.*, the neutral phthalate of cotarnin, is obtained as a residuum. It has a melting point of about 102-105° Celsius.

IMPROVED NUTRITIVE SUBSTANCES (No. 15,606 of 1903).—W. P. Thompson, 6, Lord Street, Liverpool. (Communicated by Actiengesellschaft für Chemische Industrie, 7, Brahmsplatz, Vienna, Austria.) The object of the inventors is to produce from blood a nutritive substance which contains iron and phosphorus, and has the valuable property of producing hematin when digested with gastric juice. Example:—1 kilogram of blood, blood corpuscles, or a 20 per cent. solution of hemoglobin, is mixed with 50 cubic centimetres of a solution of sodium hydrate of 35-40° Beaumé, and after twenty-four hours the mixture is heated to a temperature of 80-85° C. The said mixture, which has been liquefied by heating, is kept one or two hours at the aforesaid temperature, and after this time hydrochloric acid is added, until the whole mass has acid reaction upon litmus. The albuminates precipitated thereby, containing iron and phosphorus, are separated by pressing, if necessary, re-dissolved and precipitated, and dried at a low temperature. The nutritious matter thus produced is completely dissolved when digested with gastric juice, in consequence of which the iron contained in the preparation is easily and completely absorbed by the system.

PROCESS FOR SOLIDIFYING SUCH LIQUID COMPOUNDS OF PHENOL OR CRESOL AND SOAP WHICH ARE SOLUBLE IN WATER AND FORM EMULSIONS, INTENSIFYING AT THE SAME TIME THEIR ANTISEPTIC PROPERTIES (No. 27,889 of 1903).—E. M. Raetz, of Coln-Merheim, Germany. The liquid compounds referred to in the title are composed of phenols, cresols, portions of heavy coal-tar oils boiling at higher temperatures, and of a soap. These solutions of from 30-60 per cent. cresol or phenol and soap are mixed with from 5-10 per cent. of an aldehyde or ketone, especially with formaldehyde. This mixture is heated in an autoclave boiler, constructed for stirring, and applying pressure to 150° C. with a small quantity of an alkali. The products formed solidify after cooling to a solid mass, which is soluble in water.

Note.—Opposition to the grant of patents on above-mentioned applications must be filed at the Patent Office on or before June 7, 1904.

New Trade Mark Applications.

"**PULVEOL**," for chemical substances prepared for use in medicine and pharmacy, by P. Sivan, 18, Rue de Belzunce, Paris, France. 262,042.

"**CHARMOSA**" ("Charm" disclaimed), for perfumes, by F. W. Nurthen, 390, Strand, W.C. 260,276.

"**FLORITAS**" ("Flor" disclaimed), for perfumery, etc., by Vinolia Co., Limited, Malden Crescent, N.W. 261,788.

"**ERBOO**," for perfumery, etc., by J. W. Tutty, 44, Margaret Street, Beverley Road, Hull. 257,600.

Note.—Opposition to the registration of any of the above trade-marks must be filed at the Patent Office on or before May 27, 1904.

"**ZAMBEX**," for chemical substances used in photography, and instruments and apparatus for use in photography, by R. and J. Beck, Limited, 68, Cornhill, London. 262,557-8.

"**SAXOL**," for a medicinal preparation for human use, by Ferris and Co., 7 and 9, Union Street, Bristol. 260,284.

"**ELECTAREED**" ("Elect" disclaimed), for an antiseptic medicated dressing or lint for human use, by E. Chatterton, 72, Finsbury Pavement, E.C. 260,563.

"**LEWIS LEWIS'S DROPS**" label, with portrait, for a medicine for human use, by H. A. George, 80, William Street, Ystrad, Rhondda, S. Wales. 260,904.

Label containing two medicine bottles, shields, etc., for chemical substances prepared for use in medicine and pharmacy, by A. Bishop, Limited, 48, Spelman Street, London, N.E. 261,178.

"**WYLIENE**," for chemical substances prepared for use in medicine and pharmacy, by Wylie and Co., Limited, Bridge Works, Brentford. 261,840.

"**LUM-PULVO**," for a medicated preparation for human use, by C. L. Lumley, 9, Shepherd Street, Mayfair, W. 262,228.

"**SURCO**," for stockings and the like, belts, bandages, and similar appliances, all the said goods being articles of knitted elastic fabric for surgical or curative purposes, by the Surgical Hosiery Co., Limited, Colwick, Nottingham. 262,205.

"**LOZAK**," for perfumery, etc., by Bishop and Vincent, 460, Holloway Road, London, N. 262,073.

Note.—Opposition to the registration of above trade-marks must be filed at the Patent Office on or before June 4 1904.

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* These abridgments of new patent applications and particulars of new applications for trade marks have been specially compiled from official sources, for the *Pharmaceutical Journal*, by Mr. Reginald W. Barker, agent for procuring patents and registering trade marks and designs, 56, Ludgate Hill, London, E.C., from whom any information on the subjects may be obtained. Mr. Barker will also send copies of his 'Trade Mark Notes' and Patent Notes for Inventors' free on application.

MISCELLANEOUS NEWS.

DIVISIONAL SECRETARIES and other Members of the Pharmaceutical Society are requested to assist the Editor by sending local newspapers containing items of interest to chemists and druggists.

A Chemist's Will.—The will of the late Mr. Wilson Horner Pollard, chemist and druggist, of Mont Blanc, Brighouse, has been proved at £18,228 17s. 2d. gross, the net personalty amounting to £18,198 16s.

Australia and Synthetic Remedies.—The following revised decision has now been gazetted:—"Drugs, chemicals, and medicines, viz.:—All purely chemical compounds, whether patented or proprietary or not, including phenacetin, piperazine, as drugs free."

Midland Pharmaceutical Association.—The annual picnic of the Midland Pharmaceutical Association, fixed for June 16, has been postponed because at that time the President (Mr. A. W. Gerrard) will be absent in Norway. The Council will meet in June to decide upon another date.

Supply of Workhouse Drugs.—The Local Government Board has impressed upon the Godstone Board of Guardians the necessity of obtaining all medicines required for use in the workhouse by contract instead of being supplied by the medical officer. A committee has been appointed to consider the matter.

Appointment of an Analyst.—The Health Committee of Liverpool Town Council have appointed Mr. Collingwood Williams to succeed Professor J. Campbell Brown, as analyst under the Food and Drugs Act, at an annual salary of £850 per year. For this remuneration not over 1800 samples are to be analysed yearly.

The "Cash-on-Delivery" Postal Scheme.—The Hon. General Secretary of the Hull Chamber of Trade has learnt from the Postmaster-General that "there is no foundation for the report that has appeared in some of the newspapers as to the abandonment of the proposed 'cash-on-delivery' postal scheme."

Sight-Testing Examinations.—Commenting on the institution by the Spectacle-makers' Company of a sight-testing examination, the *Dioptric Review* says that every member of the committee appointed to consider the question held strong views in favour of the adoption of sight-testing, and that evidence from well-known ophthalmic surgeons was laid aside.

Funeral of a Chemist's Son.—The funeral of the son of Mr. James Young, chemist and druggist, of Normanhurst, Chelston, who was recently run over and killed by a motor omnibus, was attended by an unusually large number of sympathisers with the parents. Among those present were the President and members of the Torquay Chemists' Association, who also sent a wreath of flowers.

The Kendal Poisoning Case.—An investigation is being held at Kendal into the circumstances of an alleged case of murder by arsenical poisoning. Mr. Richard Hope, chemist, of Kendal, gave evidence on Monday with regard to the purchase of three-pennyworth of arsenic by one of the prisoners, who said that the poison was for killing rats, and was supplied with about half an ounce of arsenic. The arsenic was coloured with ultramarine, and the poison register was duly signed.

More American Humour.—The following paragraph, which was cabled to the *New York Sun* by its London correspondent, has been widely circulated in the United States:—"London *Pharmaceutical Journal* reports that a chemist has extracted five milligrammes of radium out of half-a-crown, a silver coin worth about sixty-two cents of our money. Looks like a scheme to boom silver. Never quite understood what Colonel Bryan, advance agent of the Sixteen to One Troupe and Kansas Whiskers Combination, was doing over there."

Stealing from a Chemist's Shop.—At Llandudno Police Court, on April 28, a shop assistant named Wm. Rowlands was charged with stealing several articles, value 11s. 6d., the property of Mr. Burton, chemist and druggist, of Llandudno. On being arrested prisoner declared that he had purchased the goods, but, on being confronted by Mr. Burton, he said, "Well, all right; he can have them back. I took them." Medical evidence showed that the prisoner was a fit subject to be taken charge of at an ayslum, and he was discharged and conveyed to Denbigh Asylum.

From the Pharmaceutical Journal, June 19, 1873.—"The Shop Hours Regulation Bill (introduced by Sir John Lubbock, May, 1873) has met with the fate to which its native absurdity fully entitled it, and has been withdrawn before it had been discussed in Parliament. This result has been doubtless due as much to the general opposition it has evoked—in which the Pharmaceutical Society, by its Council, has taken an active part—as to the late period of the session." This Bill proposed a compulsory weekly half holiday, and contained no exemption with regard to chemists.

Hanover Cricket Club.—The first match of the season was played at the club's new ground in Molyneux Road, Sefton Park, Liverpool, on Saturday, April 23, the contestants being Married Members *v.* Single Members, and, contrary to expectations, the Benedicts were returned victors by fifteen runs. Mr. Askin batted and Mr. Critchley bowled exceedingly well for the winners, who thoroughly deserved their victory, the Singles showing very poor form, and the last six wickets producing but one run. On Saturday, April 30, the club received a visit from Berkley C. C., whom they defeated by sixty-two runs.

Preparation of Alcohol from Potatoes in Germany.—In some districts of Germany 50 per cent. of the potato harvest is devoted to the preparation of alcohol. The greater part of the spirit is made in distilleries situated on the farms; there are only a few industrial distilleries situated in towns. Of the total amount produced in 1898, 49,720,000 gallons were consumed in Germany; 19,800,000 gallons were used for industrial purposes, and only 836,000 gallons were exported. The total amount was derived principally from 2,260,000 tons of potatoes, which yielded about 57,200,000 gallons.

A Dangerous Recipe.—A youth at Kettering has been seriously injured by the explosion of a mixture of nitric acid and mercury. In his pocket was the following paragraph taken from a periodical known as the 'Union Jack Library':—"Replating Handle-bars.—It will be remembered that some time ago I published a recipe for replating the handle-bars of a bicycle. From the testimony of my readers this recipe appears to be a very good one indeed, and quite a large number of correspondents have written requesting me to republish the particulars. Here is the recipe:

Obtain one-pennyworth each of nitric acid and mercury, place together in a bottle, leaving the cork out until well dissolved. When fit for use apply to parts."

A Scientific Rat Poison.—The French Government recently instituted a series of experiments, with the aid of the Pasteur Institute, and have now succeeded in making a poison, known by the name of the discoverer, Dr. Danysz, which, it is claimed, is fatal to rats and voles, but not injurious to mankind or domestic animals. The cost of application is estimated at about 1s. 6d. per acre, exclusive of labour, which is expected to cost about 1s. 8d. to 2s. 3d. per acre more, according to the local rate of pay. With the object of encouraging the use of this method of destroying the pest, the French Government have voted the sum of 350,000 francs (£14,000), which is calculated to be a third of the amount necessary for treating the infested districts.

Parliamentary Committee on Unopposed Bills.—Principal Hopkinson, Vice-Chancellor of the Victoria University, on April 29, gave evidence in support of the Victoria University of Manchester Bill. It was stated that the object of the Bill was to incorporate Owens College with the Victoria University of Manchester, and to give effect, so far as Manchester was concerned, to the decision of the Privy Council, and the Charters subsequently granted, establishing separate Universities in Manchester, Liverpool, and Leeds. The Board of Education and the Attorney-General had suggested certain amendments in the Bill, and these had been effected. The committee found the preamble proved, and ordered the Bill, which has passed through the House of Lords, to be reported for third reading.

Drug Inspection in London.—At the meeting on Wednesday of Camberwell Borough Council, the Public Analyst reported that during the quarter he had examined fourteen samples of spirit of camphor and seven samples of camphorated oil. All were genuine. The Public Analyst of Greenwich reported to the Borough Council on Wednesday that the only sample taken from chemists under the Food and Drugs Acts during the quarter was one of cod-liver oil. This was genuine and in accordance with the requirements of the B.P., 1898. On Wednesday, at the meeting of St. Pancras Borough Council, a letter was read from the Local Government Board acknowledging the receipt of the Public Analyst's report for 1903, and asking, *inter alia*, why proceedings had not been taken in regard to three adulterated samples of seidlitz powders. It was resolved to reply to the effect that in giving instructions for prosecutions during the year the Public Health Committee had been guided by the decisions of magistrates in previous cases.

A "One-Man Company."—The *Daily News* of April 29 has an interesting paragraph, which tends to show that company law, though easily evaded in this country, is even more lax in India. The paragraph reads:—"One often hears of 'One-Man companies,' and now from India comes an account of a very perfect specimen. It is a certain trading company at Calcutta. There is more than a suggestion of Gilbertian humour in the official report of the general meeting of the company, which runs thus:—

> Present: E. Cable.
> E. Morcan, by his Attorney, E. Cable.
>
> Mr. E. Cable having been invited to take the chair,
>
> The notice calling the meeting was read, and the Managing Agents' Report for the half-year ended December 31, 1903, as circulated to Shareholders prior to the Meeting, being taken as read.
>
> It was proposed by E. Cable,
> And seconded by E. Morcan, by his Attorney, E. Cable,
> That the Managing Agents' Report and Audited Accounts, as submitted to the Meeting, be adopted and confirmed.
>
> It was proposed by E. Cable,
> And seconded by E. Morcan, by his Attorney, E. Cable,
> That Messrs. Lovelock and Lewes be re-elected Auditors for the current year at a remuneration of Rs.200 per each audit.
>
> Carried unanimously. E. CABLE, Chairman.

"We might say with Mr. Puff, in the *Critic*, that 'when they do agree their unanimity is wonderful.'"

Institute of Chemistry.—The results of the Final (A.I.C.) Examinations, held during April, 1904, are as follow:—

In Branch "A" (Mineral Chemistry).

Ellis, James John, B.Sc.(Vict.)	Yorkshire College, Leeds.
Francis, Arthur Gordon, B.Sc.(Lond.)	Royal College of Science, London; under S. R. Trotman, F.I.C.; and in the Government Laboratory.
Pizey, James Henry, Assoc.R.C.Sc.(Lond.)	Royal College of Science, London; and under Bertram Blount, F.I.C.
Riley, Louis John Eczekiel	University of Edinburgh; Glasgow and West of Scotland Technical College; and King's College, London.

In Branch "B" (Metallurgical Chemistry).

Tyler, Reginald	University College, Nottingham; and under A. H. Allen, F.I.C.;

In Branch "D" (Organic Chemistry).

Clarke, Reginald William Lane	Finsbury Technical College London.
Davis, Oliver Charles Minty, B.Sc.(Lond.)	University College, Bristol.
Howard, Bernard Farmborough	Finsbury Technical College, London.

In Branch "E" (Analysis of Food and Drugs, and of Water, including Examination in Therapeutics, Pharmacology and Microscopy).

Barke, Harold Frederick	The Owens College, Manchester; and under A. E. Parkes, F.I.C.
Dickinson, Cyril, B.Sc.(Vict.)	Yorkshire College, Leeds; under J. Kear Colwell, F.I.C., and W. Scott Tebb, M.A., M.D. A.I.C.
Garratt, Ernest, B.Sc.(Vict.)	University College, Liverpool; and under J. Campbell Brown, D.Sc., F.I.C., and W. Collingwood Williams, B.Sc., F.I.C.
Male, Charles Edgar	School of the Pharmaceutical Society; King's College, London; and under Thomas Tickle, F.I.C.
Stubbs, John Robert, M.Sc.(Vict.)	University College, Liverpool; and under J. Campbell Brown, D.Sc., F.I.C., and W. Collingwood Williams, B.Sc., F.I.C.

The Examiners were Walter William Fisher, M.A.(Oxon.), F.I.C.; Professor George Gerald Henderson, M.A., D.Sc. (Glasgow), F.I.C. (Chemistry); Arthur Pearson Luff, M.D., B.Sc.(Lond.), F.R.C.P., F.I.C. (Therapeutics, Pharmacology, and Microscopy).

Royal Institution.—The annual meeting of the members of the Royal Institution was held on May 2, 1904, Sir James Crichton-Browne, M.D., Treasurer and Vice-President, in the chair. The annual report of the Committee of Visitors for the year 1903, testifying to the continued prosperity and efficient management of the Institution, was read and adopted, and the report on the Davy Faraday Research Laboratory of the Royal Institution, which accompanied it, was also read. Seventy new members were elected in 1903. Sixty-two lectures and twenty evening discourses were delivered in 1903. The books and pamphlets presented in 1903 amounted to about 229 volumes, making with 694 volumes (including periodicals bound) purchased by the managers, a total of 923 volumes added to the library in the year. Thanks were voted to the President, Treasurer, and the Honorary Secretary, to the Committees of Managers and Visitors, and to the Professors, for their valuable services to the Institution during the past year. The following gentlemen were unanimously elected as officers for the ensuing year :—President, The Duke of Northumberland; Treasurer, Sir James Crichton-Browne; Secretary, Sir William Crookes; Managers, Dr. Henry E. Armstrong, Sir William Abney, Mr. Shelford Bidwell, Sir Alexander Binnie, Mr. J. H. Balfour Browne, K.C., The Hon. Sir Henry Burton Buckley, Sir Thomas A. De la Rue, Bart., Dr. J. A. Fleming, Sir Victor Horsley, Lord Kelvin, Dr. Ludwig Mond, Sir Owen Roberts, Sir Thomas Henry Sanderson, Sir Felix Semon, and Mr. W. H. Spottiswoode; Visitors, Dr. J. Mitchell Bruce, Mr. J. B. Broün-Morison, Dr. F. Clowes, Dr. Mackenzie Davidson, Mr. W. B. Gibbs, Mr. Francis Fox, Mr. C. E. Melchers, Mr. R. Mond, Mr. J. Callander Ross, The Hon. Walter Rothschild, Mr. Maures Horner, Mr. A. A. Campbell Swinton, Mr. J. J. Vezey, Dr. G. Johnstone Stoney, and Mr. G. P. Willoughby.

PERSONALITIES, BUSINESS CHANGES, &c.

Mr. Alfred Mander, pharmaceutical chemist, of Malvern, has been elected as a Fellow of the Chemical Society.

Mr. R. Parry, M.P.S., of Bettws-y-Coed, has been appointed chairman of the Bettws-y-Coed Urban District Council.

Mr. J. C. Arnfield, M.P.S., of 7, Lower Hillgate, Stockport, has been elected Vice-President of the Stockport Tradesmen's Association.

Mr. W. J. Johnson has purchased the old-established business of the late Mr. George Sharples, chemist and druggist, Fishergate, Preston.

Mr. J. Brelsford, chemist and druggist, has re-opened the premises in Manchester Street, Oldham, formerly occupied by Mr. Goodall.

Mr. Gerald Pinchbeck, pharmaceutical chemist, of Regent's Park, N.W., was on Thursday last elected a Fellow of the Chemical Society.

Mr. Thomas Nicoll, late manager of Mr. Carmichael's branch at Shawlands, has taken over the business of the late Mr. Love at Langside, Glasgow.

Mr. O. C. M. Davis, B.Sc.(Lond.), M.P.S., of University College, Bristol, has passed the final examination for the associateship of the Institute of Chemistry.

Mr. C. Brown, chemist, 161, Bury New Road, Manchester, has bought the stock and fixtures of the business carried on by Mr. Roy, 89, Bury New Road, Manchester, chemist and druggist.

Mr. Joseph E. Salter, who recently passed the Minor Examination of the Pharmaceutical Society, has been appointed one of the town representatives of Messrs. C. J. Hewlett and Son.

Mr. John Black, representative of Messrs. Bidwell and Bidwell in Scotland, is making satisfactory progress towards good health, and to his many friends in the trade it will be a source of much pleasure to see his kindly face again.

Mr. Charles E. Male, M.P.S., formerly of the School of Pharmacy, was one of the successful candidates at the recent final examination for the associateship of the Institute of Chemistry, the examination including the analysis of food and drugs, and of water, and an examination in therapeutics, pharmacology, and microscopy.

Mr. H. J. Dalgleish (for many years the representative of Ford, Shapland, and Co.) was on Friday last presented by the members of the Exeter Constitutional Club with an oak roll-top desk upon his leaving the city to enter upon business in London. Mr. Dalgleish took a prominent part in the formation of the club in 1880, and has been an active member ever since.

Mr. W. A. Whatmough, the Pereira medallist, served his apprenticeship in pharmacy under Mr. E. Mackay, of Bradford. After that he spent some time at Harrogate in the employ of Mr. C. E. J. Eynon. In September, 1902, Mr. Whatmough entered a course of study at South London School of Pharmacy, where he won four silver medals for pharmacy, chemistry, botany, and materia medica. He passed the Minor Examination of the Pharmaceutical Society in April, 1903, and the Major in July. Since then he has worked under Dr. Muter in his private laboratory.

Professor Emile Perrot, of Paris, who is also among the newly-elected corresponding members of the Pharmaceutical Society of Great Britain, has been professor of the natural history of simple medicaments of vegetable origin at the Ecole Supérieure de Pharmacie, Paris, since July, 1902. His previous record of honours achieved is very distinguished. Included in it are prizes for chemistry and micrography, and the gold medal of the Société de Pharmacie (1891). Professor Perrot is a Doctor of Science (with honours, 1899), an officer of the Academy (1896), Chevalier du Mérite Agricole (1901). He has been a member of the teaching staff at the Ecole Supérieure since 1892, and has been successively demonstrator and lecturer on micrography, director of studies in cryptogamic botany and materia medica, professor of cryptogamic botany, and titular professor of materia medica. He was a founder of the *Bulletin des Sciences Pharmacologiques*. His

published investigations have been so numerous that only the briefest reference can be made to them here. Vegetable anatomy, particularly that of the Natural Orders Lauraceæ, Asclepiadaceæ, Campanulaceæ, and of species of *Strychnos* and *Gentiana*, is the subject to which he has devoted much hard work, with valuable results. Professor Perrot has also published several communications on mushrooms.

Professor Carl Hartwich, of Zürich, who has been elected a corresponding member of the Pharmaceutical Society, is fifty-three years of age, and is the son of a pharmacist in Tangermünde. At the beginning of 1870 he entered his father's business as an apprentice, and seven years later passed the pharmaceutical *Staats-examen* in Berlin. In 1879 he took over his father's business at Tangermünde, where he remained until 1891. In the following year he accepted a position on the teaching staff in pharmacognosy and pharmacy at the Polytechnic at Brunswick. Shortly afterwards he was appointed to the chair of pharmacognosy, pharmaceutical chemistry, and toxicology at the *Eidgenössisches Polytechnikum*, Zürich. Professor Hartwich still occupies that position. His published researches, abstracts of which have appeared in the *Pharmaceutical Journal*, include work on "Semen Cedronis" ([3], **17**, 127); "A New Adulterant of Senega Root" ([4], **2**, 290); "A False Sarsaparilla" ([4], **7**, 583); "Alcornoco Bark" ([4], **9**, 135); with W. Uhlmann, "Detection of Fatty Oils," "Gentian Root Oil," "Formation of Olive Oil" ([4], **15**, 412); with J. Swanlund, "Zingiber Mioga" ([4], **17**, 237).

Mr. F. G. C. Walker, the Pharmaceutical Society's silver medallist for 1904, served a six years' apprenticeship to Mr. George Vogt, of Kendal, Westmoreland. In 1902 he was awarded the senior Jacob Bell Scholarship, and after going through the usual course of study at the School of Pharmacy, where he won no less than four silver medals, two bronze medals and two certificates of honour, he passed the Minor in June, 1903, and the Major in April of the present year. Mr. Walker has just been appointed a demonstrator in the chemical laboratory of the School of Pharmacy.

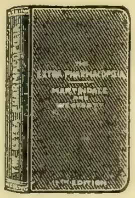
Mr. T. W. Robson, pharmaceutical chemist, for the past twelve years manager at Lake's Select Pharmacy, Tiverton, N. Devon, has resigned that position on his return from a health trip abroad, and is succeeded by Mr. H. Parsons, chemist and druggist. Mr. Robson leaves in Tiverton a very wide range of friends among all classes, and is particularly remembered as one of the active promoters and some time secretary of the local photographic society. He is an enthusiastic Volunteer officer of more than Devonian notoriety, having served in four regiments before going to Devon.

TRADE NOTES.

'Squire's Pocket Companion to the British Pharmacopœia' is the title of a work which will be published shortly at 7s. 6d. net. This volume will comprise, in addition to those portions of Squire's 'Companion' which interest the prescriber and dispenser, considerable information concerning the newer remedies.

The Ensign Film Competition.—In order to simplify the entering of photographs for the Ensign Film Competition, Messrs. Houghton's, Limited, have decided that competitors will only be required to send mounted prints made from Ensign film negatives, and not the films themselves. The firm still reserves the right to ask for any film negative from which a winning print is made.

Machine for Duplicating.—The Cyclostyle Company, of 34, Snow Hill, E.C., has in operation at the International Printing, Stationery, and Allied Trades Exhibition, at Bay 16, Arcade, Royal Agricultural Hall, London, April 30 to May 14, the latest up-to-date duplicating machine, which is introduced for the first time at this exhibition. The name under which the machine is introduced is "The Zygad" Rotary Duplicator.



The New Edition of "Martindale" is in the press, and some details concerning it will be found in the editorial columns of this issue. This, the eleventh edition of the 'Extra Pharmacopœia,' has been revised by Dr. W. H. Martindale and Dr. Wynn Westcott, and will be published on May 9 at 9s. 6d. net. The volume, although it will contain considerably more matter than previous editions, will be reduced in size and weight.

An Ornament for the Counter.—Messrs. A. H. Cox and Co., Limited, Brighton, are making a special offer to their customers. Each chemist who purchases two gross of packed pills or tablets during the month of May will be presented with a handsome nickel and glass showcase and a stand. The glass showcase will be fitted with dummies of the firm's various packed preparations, and will undoubtedly add to the appearance of the counter. Fuller particulars of this offer will be found in the price-list for the current month, for a copy of which all readers are advised to apply.

Toilet Soap for Chemists Only.—A new line in toilet soaps, especially manufactured and exclusively reserved for sale by chemists, has recently been put on the market by Price's Patent Candle Co., Limited, Belmont Works, Battersea, S.W. These soaps are produced in upwards of twenty-five varieties, are of excellent quality, and are sure to become popular. Chemists buying this class of article will do well to obtain quotations from the firm. The soaps are supplied in attractive wrappers, packed in picturesque boxes of three or twelve tablets. The wrappers may be printed with a fancy title of the chemist's own choosing, together with his name and address.

SCHOOL AND COLLEGE NEWS.

South London School of Pharmacy Entrance Scholarship.—The dates of the examination for the open entrance scholarship entitling the successful candidate to a year's free tuition at the above school have been postponed to September 9 and 10. Last year's scholarship was won by Mr. Percy Baxter.

MARKET REPORT.

The quotations given below are the lowest prompt cash prices for bulk quantities, to which other charges have to be added. It is important that this should be borne in mind in making any comparison between the prices quoted and those of the wholesale drug trade.

General Markets.

LONDON, THURSDAY, MAY 5, 1904.

Business continues very quiet on the drug and chemical market. With the exception of some fairly large transactions in Quinine, nothing of great importance has occurred. After a period of depression, during which the prices of Quinine in secondhands receded to 11½d. per ounce, or even rather below this figure, a recovery has taken place, and there have been buyers at 1s. for the German Sulphate on the spot. Makers still quote 1s. 1½d. per ounce. As regards Cod-liver Oil, the poorness of the demand which has prevailed for some time has been accentuated by the approach of the summer season. The last week has been favourable to the fishing, and good catches have been made. The tendency is towards lower prices. The position of Refined Camphor is apparently weaker; one refiner is said to be quoting 2s. 9d. per lb., but the others have not followed suit, and are not expected to—at any rate, not to the same extent. Stocks are low, and the shipments talked of from Japan are not likely to be extensive. There has been considerable inquiry for Senna, and sales have resulted; the supply, especially of the better qualities, is rather scarce. Business has been done in Cape Aloes, and a further advance in this article is by no means unlikely. Chloroform has been reduced 2d. per lb., owing to competition. Otto of Rose is firm, for the reasons given below. Sandal Wood Oil is strong. Golden Seal is reported scarce from America. Podophyllum is dearer. Peppermint Oil is very quiet on the spot, but the price is nominally steady, being still lower than in New York, whither a quantity of H.G.H. has been reshipped. Cloves are quieter than of late, but prices are firm.

ALOES.—Most of the cheaper lots of Cape Aloes which were sold in the sales previous to last sale have been resold at the parity asked in last sale, 45s. to 46s. for fair hard bright. It is anticipated that this article will be dearer.

ARROWROOT—Was absent from Wednesday's Spice sales.

CARBOLIC ACID.—Crystals, 39-40°, 6⅝d.

CAMPHOR.—One refiner has materially reduced his quotation, but the other refiners do not seem to have followed suit, and it would appear doubtful whether the reduction will be maintained. The maker in question quotes the article 2s. 9d. per lb., which is a tangible reduction, as against the price of 4s. which other refiners have been quoting. Camphor Monobromate has been reduced to 5s. 6d. per lb., with further reductions for quantities. Camphoric Acid is also lower, 13s. 6d. being quoted.

CASTOR OIL.—Easier. Belgium 1sts spot £19 15s.

CHLORAL HYDRATE.—3s. 3d. per lb. in bulk packages.

CHLOROFORM.—Makers have reduced the price of B.P. by 2d. per lb. The reduction is said to be due to competition.

CINCHONA BARK.—The shipments at Java during last month were 1,480,000 Amsterdam lb., against 1,065,000 Amsterdam lb. during the corresponding period of last year. The total shipments for the first four months of this year amount to 3,875,000 Amsterdam lb., against 3,347,000 Amsterdam lb. last year.

CITRIC ACID.—1s.

CLOVE OIL—Is 5s. per lb. The volume of business is not large.

CLOVES.—Only seven cases Penang were offered at the Spice sales, and bought in, fine bright picked at 1s. In the private market Zanzibar are quoted at 8½d. for June-Aug. delivery.

COCAINE.—12s. 8d. to 13s. 3d. per oz. for the Hydrochloride, according to quantity.

CODEINE.—8s. 4d. per ounce.

COD-LIVER OIL.—The week has been favourable to the fishing, and good catches have resulted. The tendency is towards lower prices, but the demand is quiet, owing to the approach of the summer season. Quotations for Norwegian vary from 210s. to 225s., c.i.f.

CREAM OF TARTAR.—98 per cent. foreign powder, 87s.

GINGER.—Cochin was in slow demand at the Spice sales. 80 bags sold at about late rates. Of Jamaica, nearly 400 packages sold at full prices, very bold dullish hard at 57s., good bright washed at 49s. 6d., low middling at 40s.

GLYCERIN.—The price for 1·260, chemically pure, in tins and cases, is quoted 67s. to 69s. 6d. per cwt., according to quantity, the lower figure being for five-ton lots.

GUM TRAGACANTH.—Of the packages offered at the auctions on Tuesday about 500 sold. These were chiefly lower grades, and sold at about late rates.

HYDRASTIS CANADENSIS—Is reported from New York to be pretty well cleared, only a few hundred pounds being available.

IODIDES.—Unaltered. Sodium Iodide, 11s. 10d. to 12s. 1d.; Potassium Iodide, 10s. 3d. to 10s. 9d.

MENTHOL—Is nominally firm, but there is very little inquiry. The quotation for Kobayashi is 16s. 6d. to 16s. 9d. on the spot.

MERCURIALS.—Unaltered. Calomel, 2s. 8d.; Corrosive Sublimate, 2s. 4d.; Red Precipitate, 2s. 11d.; White Precipitate, 2s. 11½d.; Mercuric Sulphate, 2s. 4d.

MORPHINE.—4s. 5d. per ounce for the Hydrochloride.

NUTMEGS.—All the offerings of West Indian found buyers on Wednesday at about steady rates.

OPIUM.—The low rates which have ruled of late have at length induced buyers to come forward, and some fair sales have taken place.

OTTO OF ROSES—Is a firm market, there being rumours that the new crop is likely at best to be only a moderate one, owing to the unsettled condition of the country. The peasants do not appear to have been able to attend the work in the rose gardens.

PEPPERMINT OIL—Is firm, but quiet. There is absolutely no consuming demand on the spot. A small quantity of H.G.H. has been shipped back to New York, where the market is higher than here. Japan Peppermint Oil is quoted 6s. 9d. for Kobayashi.

PIMENTO.—680 bags sold without reserve at the sales on Wednesday at slightly lower prices.

PODOPHYLLUM ROOT—Comes dearer from New York, being equal to 45s. here.

QUICKSILVER.—£8 2s. 6d. per bottle.

QUININE.—The value in secondhands is 1s. per ounce for the German sulphate. Considerable business was done during the earlier part of the week at 11½d. and 11¾d., the price advancing to 1s. at the close on Wednesday. The landings during April were 126,992 oz., and the deliveries 32,992 oz., making the stock on April 30, 3,336,032 oz., against 3,397,888 oz. in 1903.

SAFFRON—Is steady at late rates, 35s. for best B.P. quality.

SANDAL WOOD OIL—Is in a strong position, and good business has been done at 11s. for English drawn.

SENNA.—There is a good demand privately for senna, and business has been done at 3½d. to 4d. for small to medium green leaf, 2¾d. to 3d. for small green spotty, and 2d. for senna pods.

SHELLAC—Is quiet on the spot. Small sales have been made at 226s. for fair TN orange.

TARTARIC ACID.—1s. 1½d. for English

VANILLA.—At these auctions 270 tins out of a total offering of 350 tins found buyers. Brown foxy and good short lengths were in good demand at steady rates; medium and long lengths suffered a decline, and were slow of sale.

WHITE PEPPER.—At the Spice sales all the offerings were bought in.

DUTY FREE ALCOHOL IN POLAND.—The year 1903 was a bad one for Polish spirit distilleries on account of the failure of the potato crop. Large quantities of maize, according to the consular report, were imported from Bessarabia and the Caucasus to replace potatoes, but were of course much dearer. According to the law of 1903, permission was granted for the use of denaturated spirits, free of excise, for industrial and technical purposes, but little advantage was taken of it on account of the shortness of spirits and the low price paid by the monopoly (4d. per gallon) for spirits to be denaturated, which did not encourage distilleries to sell spirits to the monopoly for that purpose. Denaturated spirits were sold by the monopoly only at Warsaw at 6d. per gallon. The consumption of denaturated spirit was small, as special permission to use it has to be obtained from the Ministry in each case, even for a single lamp.

THE PRODUCTION OF SPIRIT IN POLAND.—According to the law of June 12, 1900, which was in force till the end of 1903, Poland was allowed to produce 22,500,000 gallons of spirit a year. The production of spirits in 1903 was 17,517,558 gallons, of which 13,160,835 gallons were sold to the monopoly for export to other parts of Russia, and the remainder, together with the balance from 1902, covered the consumption of spirits in Poland, which annually is about 10,000,000 gallons. The consumption of spirits in Poland is yearly decreasing, whereas in Russia it is increasing. A new law, which came into force in January, 1904, does not restrict in any way the production of spirits in Poland, and the annual requirements of the monopoly have been fixed by the Ministry at 18,191,355 gallons for the period 1903-07, the monopoly taking this quantity at a fixed rate.

COD-LIVER OIL.—Taking the extent of the Lofoten catch in barrels to April 9, or a corresponding day during the last five years, and the current quotations for the oil, the New York *O. P. and D. Reporter* finds the following comparative results:—

Year.	Catch.	Quotation.
1904	1,656	$60·00
1903	410	117·00
1902	8,153	25·50
1901	12,616	15·00
1900	8,450	21·00
1899	13,610	15·00

The average total production for these years was about 28,500 barrels. Recent estimates of the 1904 production have placed the total at about 10,000 barrels. According to the computation of one local authority, who bases his reckoning upon the extent of the catch to the middle of March, when the comparative lightness of this year's production was demonstrated, it required 4,000 livers to yield one barrel of oil, while in good fishing seasons 1,000 livers would produce an equal amount of oil.

COMPANY INTELLIGENCE.

Birkbeck's Searchlight Pill Co., Limited.—Capital, £2,000 in £1 shares. Object: To acquire the business carried on by E. Birkbeck as a pill manufacturer, and to carry on the business of pill and patent medicine manufacturers, etc.

Koko for the Hair (Foreign and Colonial), Limited.—Capital, £5,000 in £1 shares. Object, to carry on the business of manufacturers of, agents for, and dealers in all kinds of toilet requisites, hair restorers, etc. Registered office, 149, Gray's Inn Road, W.C.

Antikito Syndicate, Limited.—Capital, £7,000 in £1 shares. Object, to carry on the business of manufacturers of and dealers in toilet preparations and chemists' and druggists' sundries, chemists, druggists, brokers, agents, storekeepers, etc. Registered office, 64, Outer Temple, Strand, W.C.

Howard Stott and Co., Limited.—Capital, £6,000, in £1 shares. Object, to acquire the business now carried on at Ravenscourt Works, Dalling Road, Hammersmith, as Howard Stott and Co., and to carry on the business of manufacturers of, agents for, and dealers in all kinds of compounds, preparations, polishes, varnishes, drugs, etc.

BANKRUPTCY INTELLIGENCE.

Re **S. H. Longman**, described as a chemist and druggist, Fforchaman Road, Cwmaman, Aberdare.

The estate of this debtor has been realised by the Official Receiver of the Merthyr Tydfil Bankruptcy Court, who reports that the net sum available for distribution will pay to the unsecured creditors a first and final dividend of 7d. in the pound.

Re **Chas. Caplen Woodridge**, drug dealer, trading as Caplen Woodridge and Co., 1A, Bedford Place, and 16, Cawte Road, Southampton.

The public examination of this debtor took place at Southampton County Court on April 27, before Mr. Registrar Daw. The accounts showed gross liabilities amounting to £225 15s. 3d.; unsecured, £206 13s.; assets estimated to realise £110 13s.; deficiency, £96.

Debtor stated that he did a wholesale business with small shops, supplying such articles as packed drugs. He commenced in 1888 with a capital of about £80, and, although he could have paid 20s. in the £, the business never really paid. In 1901 the gross turnover was £515 15s. 7d., and the net profit was £5 3s. 6¼d., not allowing anything for himself. In 1902 the turnover was £434 2s. 8½d., and the net profit £19 16s. 8½d., and during the twelve months ending April, 1904, the takings were £360 0s. 9d. The business really showed no profit. The examination was closed.

LONDON GAZETTE NOTICES.

PARTNERSHIP DISSOLVED.

D. Peters and D. Edwards, chemists and druggists, Fortess Road, N.W., under the style of Olwen and Co., and Williams and Peters.

RECEIVING ORDERS.

Capon, Daisy Edith, Farringdon Avenue, E.C., spinster, a director of a limited company, and lately in partnership with another, under the style of the Gyptican Oil Company.

Ross, Alexander, Maida Vale, W., medical practitioner.

LETTERS TO THE EDITOR.

All Communications for the *Pharmaceutical Journal* **must be addressed to the Editor, 17, Bloomsbury Square, London, W.C., and, if intended for publication in the current week's issue, should reach the Office not later than Wednesday, unless specially arranged for in advance. The matter should be written clearly and concisely on one side of the paper only and must be authenticated by the names and addresses of the writers, as no notice can be taken of anonymous letters. Articles submitted for the Editor's approval should be accompanied by stamped addressed envelopes, otherwise no guarantee can be given that they will be returned if not found suitable. Reprints of articles cannot be supplied unless the authors communicate with the Editor before publication. The right to reproduce all original matter and illustrations published in the Journal is strictly reserved.**

The Council Election.

I have been nominated for a seat on the Council of the Pharmaceutical Society by the Cardiff and District Pharmaceutical Association, on their receiving letters from practically all the divisions in Wales warmly advocating the desirability of Wales being represented on the Council, and assuring the Cardiff Association of active support. Without the generous assistance of the English and Scottish members of the Society, the aspirations of Wales cannot be realised, but in view of the vacancy caused by the retirement of our esteemed Vice-President, Mr. Allen, I venture to strongly urge the opportunity this presents of permitting Wales to share in the Councils of Pharmacy. In soliciting the votes and active interest of members, I may say I am a retail chemist and druggist, in daily contact with the difficulties of the craft, and have for many years taken an active interest in pharmaceutical politics. I am in favour of the Pharmacy Bill now before Parliament, and would do my utmost to ensure its becoming law, and steadfastly oppose any measure which would legalise the selling of poisons by other than regularly qualified chemists and druggists. I am strongly in favour of a progressive policy in trade matters; and warmly approve of the affiliation of all local associations to the Parent Society on lines somewhat similar to the medical, so that prompt united action would be possible in all emergencies. I advocate compulsory annual registration of all qualified chemists, with payment of a reasonable fee, such registration carrying with it the right to vote for members of the Council. If returned to the Council my efforts will be directed to the widening of the scope and influence of the Society, so that its policy shall voice the requirements of the whole of the trade, and possess the support necessary to carry out that policy.

Cardiff, April 30, 1904. Albert Hagon.

It seems rather a pity that we have not enough seats to go all round, for with the galaxy of administrative ability which is placed at our disposal there will certainly be some extraordinary talent running to waste. I hope the average voter—the man who does not go deeply into the matter—will not be so embarrassed by this plethora of executive power as to neglect to vote. May I, through your columns, earnestly beg every voter on the Register to exercise his franchise? It is always a duty which devolves upon every member of the Pharmaceutical Society, but if ever, during the past thirty years, that neglect of a moral duty has been a grave fault, its danger is accentuated at the present moment. I have no desire to make any selections of special candidates; they are all so good that it seems very difficult to pick and choose. I wish to point out a few plain facts. The addresses of the new candidates all have the Pharmacy Bill as their main plank. All the rest is mere frilling, which is a matter of our own internal government. What is very striking is the colourless monotony of this effort to do what the old Council has been doing, apparently so satisfactorily, for some years. We have accepted the Bill as it stands; we are not so enthusiastic as we might be, but some of us have accepted it under protest. As it stands, without any further compromise, the Bill is the "irreducible minimum" of three years ago. In some quarters there seems to be a tendency to reduce the irreducible. Without Clause 7 we might have saved ourselves the trouble of framing the Bill. We could have got just such a Bill from the drug companies, though we should have to have undertaken the trouble and expense. We have it on the authority of the mouthpiece of our opponents that it is a non-contentious Bill without Clause 7. I do not think that the members of the Society ever asked for what is, in legislation as in other things, non-contentious and consequently of little value. I am glad to see that some of the old Council have been outspoken on this point. We must insist on the integrity of Clause 7 and refuse to put back the clock to the pre-'68 days. I believe most members agree with this. My suggestion is that any candidate who is staunch and unmovable on this question of the retention of Clause 7 will be useful. We want men who are earnest, outspoken, and painstaking. We want spade-workers who are willing to go to any trouble to clearly gauge the issues at stake. We want men who recognise to the hilt the individual and personal character of our calling as far as it is regulated by Act of Parliament. We want men who are actuated by a fearless sense of duty which refuses to pander to vested interests which are at variance with all the principles which underlie the law which made us, as individuals, and as individuals only, the safeguarders of the public welfare. We have such men, and after a careful study of the working of the Council for the past three years, I know that amongst them there is one man who, without any personal or local or biassed feeling in any way, strikes me as standing out clear-cut, unwavering, and loyal to the most profound interest of the members of the Pharmaceutical Society of Great Britain. I allude to Mr. R. Lord Gifford. I have not a single word of disparagement of any of the retiring members—the election will prove whether they have the confidence of their supporters—but I could not let this opportunity pass without saying that, as a careful student for many years of the political records of our Executive, I am certainly convinced that no man ever more fully and conscientiously justified his election than Mr. Gifford. He has done yeoman service for our craft. The criticism he has faced has proved his worth. I have feared that private opposition in certain quarters might have influenced some who have not watched his work carefully. His seat may be secure without my interference. He knows nothing of this advocacy, and I trust he will forgive me if I appear to be too zealous a supporter. I wish Mr. Gifford the success he deserves, and I sincerely hope that the many friends who have written me on the subject and the many who in different parts of the country have appreciated my efforts, honestly and disinterestedly made for the welfare of the trade, will, if they have a doubt about where to place a vote, see that it goes to Mr. Gifford.

Batley, May 3, 1904. R. Broadhead.

I should like to impress upon the electors that it is extremely desirable that we should have a representative on the Council for the South of England, and in Mr. Gibson we have a gentleman who will be able to devote the necessary time and who has the qualifications which pre-eminently fit him for the position. He has the welfare of pharmacists at heart, and is most anxious to see the craft raised from its present unsatisfactory condition. He would, if elected, I feel sure do his utmost for the good of pharmacy generally and the members of the Society in particular. I most respectfully solicit on his behalf the votes and influence of my brother pharmacists.

Brighton, May 3, 1904. W. R. Cook.

Medicine Stamp Duty: No Repayment.

The following letter has been received by Mr. Edmund Robertson, M.P., from Mr. Victor Cavendish, M.P., on the subject of the claim on the part of Messrs. Cummings Brothers, chemists, Dundee, for repayment of a penalty paid to the Inland Revenue, under the Medicine Stamp Duty Acts, before the decision of the High Court, in Farmer *v.* Glyn-Jones.

Treasury Chambers, Whitehall, S.W., April 29, 1904.

Dear Robertson,—I have looked into the matter about which you wrote me. It appears that thirteen years ago Messrs. Cummings disputed a claim for stamp duty. It was open to them to test the validity of their objection by taking the matter into court; but they preferred to settle out of court, and made a payment of 10s. They now desire this sum to be refunded, on the ground that someone else has now obtained a judicial decision which upsets the interpretation placed upon the Stamp Acts by the Commissioners of Inland Revenue. I am afraid that it is impossible to make these decisions retrospective. Sometimes they tell in favour of the Revenue and sometimes against it, but it would be intolerable to expose the Government on the one hand or private persons on the other to heavy and unexpected demands in respect of transactions long past. I regret, therefore, that I cannot modify the decision conveyed to Messrs. Cummings in the letter 28,282, March 2, 1904.

I am, yours truly,
Victor Cavendish.

Untaxed Alcohol.

Under the circumstances perhaps an answer so formal and unsympathetic as that given by the Chancellor of the Exchequer on Monday last to Sir Ernest Flower (see page 633) was to be expected. In my papers for the Society of Chemical Industry and the Society of Arts I have given some instances of concession. But there are several cases of refusal for which no adequate reason appears. The *raison d'être* of the Act of 1902 was the encouragement of industries along the line of their least resistance, which line obviously, and as provided by the Act of 1880, was by the use of "methylated" or other suitably denatured spirit. The Finance Act of 1902 added nothing to the privilege existing under that of 1880. It emphasised the principle of "denaturing," but under supervision. Officials and manufacturers had for years rested quietly in the shadow of "methylation" as ordinarily understood. No one asked—no one gave. I am not going to complain of the application in known instances under the 1902 Act of "suitable" denaturing, the nature and extent of which I know. Yet in other instances, where the unsuitability of the ordinary form of "methylation" cannot or has not been conclusively proved, facilities have been refused. Where magnitude was prospective rather than actual, requests have been declined. More disappointing still—polite refusal has been made where requests for highly denatured spirit, absolute as well as ordinary, was desired, but for experimental purposes. The case in question is one in which experiments have been successfully made with duty-paid spirit in order to gauge fully conditions and results. It is desired to make an experimental manufacture under like conditions—with a "powerful" denaturant—which in the quantity proposed (or, indeed, in any quantity) would render the spirit absolutely unpotable. I am informed that in all probability, if success attended the larger technical experiment, a considerable manufacture would arise upon a British patent (also patented abroad). So far as one can judge, the "red rag" is the word "experimental." Now, why cannot the experiment be allowed under the conditions of excessive and nauseous denaturing? If history is repeated, this manufacture will go to Germany, and the products will be sold here with all the advantages to labour to that country and not this. Since 1897 the quantity of spirit used in Germany for motive power, heating, and lighting has far exceeded that for dyes and pharmaceutical products. Knowledge of this fact has excited the influential interest of others besides chemical manufacturers, and it is discouraging to find the intention of Clause 8 of the 1902 Act practically negatived by such rigid application of the principle of Revenue protection, instead of extending the equally important principle of promoting national industries. I may mention that at an interview with the President of the Board of Agriculture on Saturday last the question of methylated spirit drinking arose frequently. I replied that as "methylated" spirit could now be obtained at oil-shops, no extension of its use would increase the danger which, at worst, was not great to-day. Yet this fear actuates the official refusals I have indicated. A meeting of members of the House of Commons interested in the subject has been held, and a unanimous determination to press the question of the extended use of alcohol for industries was decided upon. There is, therefore, hope. In conclusion, I would ask: Is it not time that the word "duty-free," which is a misnomer, was abolished, seeing that we have in any case the differential duty to pay, and the phrase "untaxed alcohol" substituted?

Stratford, May 5, 1904. Thomas Tyrer.

Optical Organisation.

Reading your article in this week's *Pharmaceutical Journal* on the subject of optical organisation, it seems to me that you have not quite comprehended the objects of those who convened the meeting of chemist-opticians. The facts are as follow:—There are a large and increasing number of chemists who sell spectacles, many of whom have scientifically studied the subject and are thoroughly qualified to test sight. The same may be said of many jewellers, and there are also a number of men who devote themselves solely to optics. These three classes practically form the opticians of the country. In the event of restrictive legislation as to sight-testing and spectacle-selling, the last class would, of course, receive recognition. The claims of the jewellers, as you point out, are safe in the hands of such a powerful society as the National Association of Goldsmiths (and I may add, also, the Goldsmiths' Company), but hitherto there has been no special body to guard the interests of chemist-opticians. In this matter the Pharmaceutical Society, as a society, cannot help us, though it is hoped that individual members will give any assistance that may be in their power. Any optical body such as the Spectacle-Makers' Company is in the same position. Its duty is towards opticians as a whole, and not towards any particular class. It was, therefore, felt that the time had come to found a society to look after our interests, and at the meeting held last Monday week it was decided to do so, and a committee consisting of chemists from different parts of the country was formed to suggest a name and draft a constitution. Though, of course, the matter at present is in quite a preliminary stage, I think the following will be generally recognised as some of the directions in which such a society could be really useful:—(*a*) To form a register of chemist-opticians and generally look after their interests; (*b*) to urge them to qualify educationally, so that their work may be on as high a level as that of any other section of opticians; (*c*) to explain to any optical examining body the scope of the Pharmaceutical Society's examinations, and to claim for all chemists desiring to pass such examinations any exemption that their pharmaceutical certificates may justify; (*d*) to endeavour to overcome the misunderstanding that exists between a section of the medical profession and opticians; and (*e*) to arrange such united action with other sections of opticians as may be advisable to promote their joint welfare.

New Southgate, N., May 3, 1904. J. Harcombe Cuff.

⁂ It has been impossible to find space for several other letters which have arrived almost at the moment of going to press. Will correspondents please note the instructions at the head of page 642.—[Ed. *P.J.*]

REPLIES TO CORRESPONDENTS.

Information required by readers will be published in this column as early as possible, but the Editor cannot undertake to reply by post, even though stamped addressed envelopes accompany the queries. Replies will, in all cases, be referred to the sender's initials, and the registered number added in each instance should be quoted in any subsequent communication on the same subject. When formulæ are given without definite weights and measures, it should be understood that the solids are to be weighed and liquids measured. Plants for recognition should be addressed to the "Curator, 17, Bloomsbury Square, London, W.C.," accompanied by a stamped, directed envelope for reply. No notice can be taken of anonymous communications.

Colour-blindness (J. C.—111/12).—We should say it is quite possible.

Dispensers (E. H. J.—111/17).—There are no positions of the kind you mention.

Label (F. G. W.—111/19).—In the circumstances the label appears to incur liability.

P.J.F. Supplement (J. N. G.—4/7).—It will be ready in the course of a few weeks. The numbers are "Cough Mixture (7583)" and "Chilblain Liniment (7582)."

Storing Sugar (C. G. P.—111/14).—There is no reason why such a vessel should not be used for the purpose.

Instrument Cabinet (C. C.—111/11).—Messrs. Maw, Son, and Sons will probably put the cabinet in order for you.

White Gum (D. N.—111/13).—White shellac is generally used for the purpose, but you might try mastic or sandarac.

Voice Pastilles (H. C. G.—111/22).—The label will be held to incur liability, unless you delete the words in the second line.

Analysts (T. H. L.—111/4).—Write to Mr. W. Chattaway, Apothecaries' Hall, Blackfriars, London, stating what you require.

Label for Pills (J. P.—111/10).—No stamp will be required if the formula appears in the 'P.J.F.,' and that fact is stated upon the label.

Quassia Spray-fluid (C. G. P.—111/14).—You will find suitable formulæ for this and similar preparations in the 'Pharmaceutical Journal Formulary.' See page 705.

Plants (W. J.—111/9).—(1) *Mercurialis perennis*, (2) *Nepeta glechoma*, (3) *Viburnum lantana*. Will you please note that plants sent for identification should be enclosed with a piece of damp blotting-paper in a tin box and addressed to the Curator, not to the Editor.

Washing Liquor (H. W.—111/18).—Dissolve soft soap, 8 to 12 ounces, in hot water, 4 pints; then cool and add gradually oil of turpentine, 8 fluid ounces, shaking well after each addition. Finally, add strong solution of ammonia, 1 pint, and make up to one gallon with soft water.

Esbach's Test (H. B. R.—111/8).—The urine is poured into Esbach's urinometer until the surface of the liquid reaches a certain mark, and sufficient of the reagent is added to bring the surface up to another mark. The tube is then closed by the thumb and inverted several times, after which it is allowed to stand upright for twenty-four hours, and the mean height of the coagulum read off, the figure indicated showing the amount of albumin in grammes per 1,000 C.c.

Correction.

Granular Effervescent Preparations.—Mr. John Lothian asks that the following table may be inserted, as a substitute for that which appeared in last week's issue in the second column of page 583.

—	Citric Acid.	Tartaric Acid.	Sodium Bicarbonate.
Sodii Citrotart. Eff.	1	1·50	2·83
Caffeinæ Citras Eff.	1	1·50	2·83
Sodii Phosph. Eff.	1	1·50	2·77
Sodii Sulph. Eff.	1	1·50	2·77
Magnes. Sulph. Eff.	1	1·52	2·88
Lithii Cit. Eff.	1	1·48	2·80

BIRTH.

Henderson.—On April 28, at King's Road, Hitchin, the wife of H. John Henderson, pharmaceutical chemist, of a daughter.

MARRIAGES.

Jones—Steward.—On April 27, Robert Haselwood Jones, pharmaceutical chemist, of 88, Norwood Road, London, S.E., to Emily K. Steward.

Smith—Green.—On April 27, at the Parish Church, Denver, Downham Market, Norfolk, Frank Smith, M.P.S., 128, Dereham Road, Norwich, to Florence, younger daughter of the late Mr. George Green and Mrs. Green, College Farm, Denver.

DEATHS.

Endle.—On May 1, Frederick Endle, Chemist and Druggist, South Hampstead, formerly of Ilkley (Yorks) and Bournemouth. Aged 52. Mr. Endle had been connected with the Pharmaceutical Society as an Associate, and latterly as a member, since 1881.

Fewtrell.—On April 25, Patrick Roy Fewtrell, Chemist and Druggist, Turriff. Aged 23.

McKenzie.—On April 29, James McKenzie, Chemist and Druggist, London, N.W. Aged 36. Mr. McKenzie, who had been a member of the Pharmaceutical Society since 1899, died at the residence of his father at Cornhill of Park, Banffshire. He served his apprenticeship to Mr. Seivwright, druggist, Cullen, and afterwards entered the employment of Messrs. Barron, Harvey, and Co., manufacturing chemists, London. Subsequently he became manager in one of the departments of Messrs. Hearon, Squire, and Francis. He took great interest in Y.M.C.A. work in London, and held office in the St. Pancras Liberal Association.

Stephenson.—On May 2, George William, eldest son of Robert Stephenson, Chemist, 84, Barkerend Road, Bradford. Aged 25 years.

Thompson.—On April 28, John Thomas Thompson, Pharmaceutical Chemist, Carlisle. Aged 56.

Calendar for the Week (May 8—14, 1904).

Days of		Events of the Week.	Sun	
M	W		Rises	Sets
8	S	**Rogation Sunday.**	4.22	7.30
9	M	Cantor Lecture, Society of Arts.	4.20	7.32
10	Tu	Hartlepools and District Chemists' Association.	4.18	7.34
		Royal Photographic Society, 66, Russell Square, London, at 8 p.m.—"Progress in Enlarging." By Howard Farmer.		
11	W	Wolverhampton and District Chemists' Association, Star and Garter, at 8.45 p.m.—"The Flowerless Plants of Pharmacy." By S. Phillips.	4.16	7.36
		London Chemists' Association, Argyle Hotel, Argyle Street, at 3.30.—Ordinary Meeting.		
12	Th	Chemists' Assistants' Association, 73, Newman Street, London, at 8.30 p.m.—Annual General Meeting.	4.14	7.38
		West Ham and District Chemists' Association, Earlham Hall, at 3 p.m.—Ordinary Meeting.		
13	F		4.13	7.39
14	S	Professor Fownes, F.R.S., born 1815.	4.11	7.41

LETTERS, NEWSPAPERS, QUERIES, and other COMMUNICATIONS have been received from Messrs. Coleman, Colley, Cook, Coram, Coulter, Cummings, De Faye, Dobbin, Dott, Dowdy, Fentiman, Ferrier, Garrick, Hagon, Hearne, Henderson, Johnson, Johnston, Jones, Kennell, Knight, Muter, Newall, Pescod, Pinchen, Pratt, Reynolds, Robson, Rudd, Rushworth, St. Cyr, Smith, Stephenson, Thomas, Tunbridge, Turner, Walton, White.

Telegrams: "Pharmaceutical Journal London"
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The Pharmaceutical Journal Office,

17, Bloomsbury Square, London, W.C.

Thursday, May 12, 1904.

In Parliament nothing of great importance to chemists has happened during the past week. The second reading of the Chartered Societies Bill in the Lower House is on the list for to-morrow. Nothing has yet been heard in the House of Lords with respect to the promised Government Pharmacy Bill.

At the Annual Dinner of the Pharmaceutical Society, to be held next Tuesday, it is expected that Mr. Thomas Lough, M.P., and Sir Gilbert Parker, M.P., will respond for the Houses of Parliament. The Secretary cannot promise to reserve places at the dinner for those whose applications are received later than Saturday next, the 14th instant.

"Bile Pills" is not now regarded as a dutiable description under the Medicine Stamp Duty Acts. As bile is a normal constituent of the body, this decision by the Board of Inland Revenue is quite consistent with the rule they have made with respect to "liver pills" and similar titles in which an organ of the body is mentioned. Will those who are interested make a note of the change?

Linseed, Liquorice, and Chlorodyne Lozenges, alleged to contain no morphine and very little chloroform, have formed the subject of two prosecutions at Swindon. On behalf of the defendants, who are confectioners, it was urged that there is no standard for chlorodyne, and that the lozenges in question are not drugs but flavoured sweetmeats. The decisions have not yet been given. A number of other interesting cases under the Sale of Food and Drugs Acts are reported in this issue.

Cream of Tartar, containing a small percentage of lead compounds, has been the cause of more than one successful prosecution under the Sale of Food and Drugs Acts. This week, however, a similar case against a limited company has been dismissed by an alderman sitting at the Guildhall Justice Room, London, on the ground, apparently, that there is a commercial standard for cream of tartar differing from the official standard for the article described in the British Pharmacopœia as "purified cream of tartar."

At 17, Bloomsbury Square preparations are being made for the busiest week in the year. Arrangements have now been completed with regard to the space to be occupied by the various exhibits which have been promised for next Wednesday evening. One important feature of the evening's entertainment will be the lecture which Professor Morris Travers, F.R.S., has promised to deliver on "Solidification." The lecture will, it is expected, be illustrated by experiments conducted with substances at very low temperatures.

Many Votes have already been recorded in connection with the election of seven members to the Council of the Pharmaceutical Society. There still remain some days during which voting-papers may be received by the Secretary, and various appeals are made in the correspondence columns this week to those electors who have not yet voted. Very interesting in the same connection are the answers given by candidates to a number of questions propounded by the Edinburgh District Chemists' Trade Association (see page 660).

The Victoria University of Manchester has now taken the decisive step in establishing science degrees for pharmacists. At a meeting of the Court on the 5th inst., Professor Wild moved the adoption of ordinances for the degree of B.Sc. in pharmaceutics. The motion was seconded by Mr. Pratt and adopted. Pharmacists may perhaps be allowed to congratulate the City of Manchester on being thus in the vanguard of progress. To those who have worked for the establishment of the degree—and particular reference must be made to Professor R. B. Wild, Mr. William Kirkby, and Mr. James Grier—it must be a matter for great satisfaction that the scheme has now become an accomplished fact.

"Any Person . . . . who shall take, use, or exhibit the name or title of chemist and druggist . . . . not being a duly registered chemist and druggist . . . . shall for any such offence be liable to pay a penalty or sum of five pounds." The above is quoted from Section XV. of the Pharmacy Act, 1868. With it may be quoted a passage from Clause 11 of the Pharmacy Bill, 1904. "Any act . . . . which would be an offence under . . . . the Pharmacy Act, 1868, if committed by a person, except the offence of selling or keeping open shop . . . . shall be an offence if committed by any company, firm, co-partnership or body of persons." Mr. R. Broadhead does not admit that a "synthesis" of the above two clauses would be an absolute protection of "title." For our part, we fail entirely to see any loophole. Where the language of a Statute is as clear as in the two quotations which have been given, judicial interpretation must be based solely on that language. No question would arise either as to equity, or as to "conditions surrounding the Act."

◆

QUESTIONS OF THE HOUR.

What are the reforms most urgently needed by chemists and druggists? From the multitude which suggest themselves, selection, in order of urgency, is not the easiest of tasks. But the Edinburgh District Chemists' Trade Association has faced the difficulty and chosen six problems of the hour which seem to it the most important at the present time. Six questions have been addressed—rather late in the day, it may be suggested, to have the maximum effect on the result of the election—to the thirteen candidates for the Council of the Pharmaceutical Society. The first question, and perhaps that which arouses the greatest interest in Edinburgh, refers to Mr. J. F. Tocher's scheme of territorial representation. Then comes an inquiry whether the candidates are in favour of the total repeal of the Medicine Stamp Acts. That question may be of academic interest, but it can hardly be regarded as a matter on which the Council of the Pharmaceutical Society is likely to be called upon to take action. The third question—Are you in favour of the immediate division of the Minor?—is an old friend. If, as is thought probable, the educational clause of the Pharmacy Bill should, in substance, be adopted by the Government and passed into law, there is no doubt that the division of the Minor Examination would rapidly follow. No difference of opinion, again, could be expected with respect to the fifth question, which, paraphrased, might run thus:—Are you in favour of Clause 11 of the Pharmacy Bill, which protects the "titles"? As the restriction of professional titles to qualified persons has the approval, not only of the thirteen candidates for the Council, but of practically the whole of the sixteen thousand members of the craft, a negative answer to question five would scarcely have seemed possible.

To the fourth and sixth questions in the examination paper set by the Edinburgh District Chemists' Trade Association, an unqualified "Yes" or "No" could hardly have been expected from those who are most familiar with the difficulties lying before the Council of the Pharmaceutical Society with regard to "poison legislation." "The absolute conservation of the present principle of the education of the vendor" of poisons is, we believe, the earnest desire of each of the thirteen candidates for the Council. But it may be remarked that if "vendor" is to be regarded as meaning "keeper or owner of an open shop," the "absolute conservation of the principle" is not secured by any clause of the Pharmacy Bill now before Parliament, any more than it is by any Section of the Act of 1868. If, on the other hand, the word "vendor" in the Edinburgh Association's question refers only to the individual who sells, whether he be master or servant, those who are committed to support the policy of the Council as laid down in the Bill may give an affirmative answer with a clear conscience. The last question on the Edinburgh list may be spoken of as a "Hicks Beach question." It runs as follows:—

> Are you of opinion that legislation which secures the *bonâ-fide* management of every shop kept open for the sale of poisons or dispensing of prescriptions by a registered chemist, and the responsibility of the owners for seeing that this is done, would be a satisfactory settlement of the situation created by the House of Lords' decision regarding limited companies?

To that question an affirmative answer would at once be given by a not inconsiderable section of the public and of the House of Commons which knows little, and cares less, about the "principle" which inspired the Pharmacy Act of 1868. It does not mind who finances a chemist's business. It fails to see that an employer who is ignorant or inefficient cannot ensure that his business shall be intelligently and efficiently conducted even by a competent servant, who may be dismissed at any moment. The "*bonâ-fide* manager" is an expression which might easily be strained to mean little enough. To what extent is the "manager" of the drug department of the average trading "store" of to-day allowed to decide on the system under which the department is worked? To what extent is he bound to obey his employers when they refuse to let him make the preparations or buy the drugs he sells, or when they limit his discretion with regard to the employment of qualified assistants, or when they instruct him that, if quality and cheapness cannot go hand in hand, quality must be sacrificed? Such difficulties as these are among the chief causes which make pharmacists hesitate to assent to the legal recognition of a manager of a shop owned by a body of persons whose only "registration" is effected by means of the Companies Acts. Every open shop where poisons are sold or medicines dispensed should clearly be under the complete and unfettered control and management of a registered chemist and druggist. Chemists would be more convinced of the *bona fides* of the Drug Companies Association if its chairman would announce his willingness to place each and all of his shops under the absolute control of a *bonâ-fide* manager, who would be allowed that authority which is the due reward of his qualification. In the meantime, the Edinburgh Chemists' Trade Association deserves thanks for having raised a question of which more—perhaps a great deal more—is likely to be heard.

THE NEED OF ORGANISATION.

THE case for improved local organisation in pharmacy is well put by Mr. R. LORD GIFFORD in this week's Journal (see p. 648). It will be remembered that Mr. GIFFORD recently advocated the appointment of an organising secretary by the Council of the Pharmaceutical Society, and he now explains what such an officer could do to improve the existing state of affairs. The Society's scheme of local organisation, credit for initiating which is chiefly due to Mr. G. T. W. NEWSHOLME, appears quite capable of being adapted to the needs of the case, but in Mr. GIFFORD's opinion it is not being developed as circumstances require. The whole of the necessary machinery exists, but he thinks it ought to be the especial duty of some individual to guide and control the working of that machinery—instructing and advising divisional secretaries, keeping the Council in close touch with all that is going on, and doing whatever may appear requisite to educate pharmaceutical and public opinion. Whether Mr. GIFFORD's chief suggestion should commend itself generally or not, he has undoubtedly presented his case in a clear and satisfactory manner, and the attention of all who are interested in the improvement of the Society's organisation is directed to his arguments.

PROGRESS.

THE annual meeting of the members of the Pharmaceutical Society, which has been summoned for Wednesday next, May 18, will be asked to consider the annual report of the Council, which was printed in last week's Journal at page 625 *et seq.* The report is a suggestive document. The figures for the examinations during 1903—nearly the last, it may be, before the institution of important changes in the system—show a slightly increased percentage of passes without any diminution in the total number of candidates. There were those who prophesied that, as a result of the abolition of the Society's own preliminary examination in 1900 the number of Minor candidates would show a considerable decrease in 1903 and 1904. That expectation has not so far been fulfilled. But it may fairly be held that the results of the two Minor Examinations held in London during the present year, and showing a percentage of successful candidates of something over forty, are due in part to the higher standard of preliminary education now set before pharmaceutical students. It would be unwise to venture on a prophecy that the number of candidates at future Minor Examinations will not fall below its present level, but there is every reason to hope that it will not be necessary in the future to reject, as insufficiently trained, so many candidates as has been the case during recent years.

The paragraph in the report which refers to the evening meetings of the session should be interesting to those who revile the Pharmaceutical Society for a trading body which does nothing for the public good. The numerous practical scientific papers read during the session, both in Edinburgh and London, are the result of hard work voluntarily undertaken by members of the Pharmaceutical Society—most of whom have been trained in the Society's School of Pharmacy—in order to add to the store of knowledge of the purity, quality, and efficiency of crude drugs and their preparations. No mere trading body, no trade union, no trade protection society has ever accomplished work of that kind. Moreover, the benefits of such work are not confined to members of the Society or to registered chemists; they are directly open to the chemist's unqualified competitors in trade, and, as everyone with knowledge of the subject would readily admit, are distinctly "in the public interest."

A. W. WILLIAMSON.

By the death of Professor A. W. Williamson, announced on Saturday last, another link in the chain of those who helped to develop modern chemistry has been broken. His work was not large in quantity but far-reaching in its effects. He was born in 1824, and was thus in his 81st year. After a preliminary education in England he studied abroad for some time, and worked with Gmelin at Heidelberg and at Giessen with Liebig. In 1849 he was appointed Professor of Practical Chemistry at University College, London, and Professor of Chemistry in 1855, in which year also he was elected a Fellow of the Royal Society. His most important paper was published in 1851 on etherification, and showed the formation of mixed ethers, and it was this work on etherification which obtained for him the Royal Medal of the Royal Society in 1862.

It had been shown that the two hydrogen atoms in water, H—O—H, were of equal value, and from this Gerhardt showed the existence of hydroxyl in alcohol, and by the action of phosphorus pentachloride on acetic acid found acetyl chloride. Williamson suggested the name "othyl" or the group C_2H_3O, but the name has been dropped in favour of acetyl. From Gerhardt's work it follows that he hydrogen in hydroxyl is replaceable both by metals and radicals thus—

$$C_2H_5OH. \quad C_2H_5ONa. \quad C_2H_5{\cdot}O{\cdot}C_2H_5.$$

n 1851 Williamson discovered the nature of ether, elucidated its formation by the intraction of sulphuric acid and alcohol, and showed that the mixed ethers resembled ordinary ether considered as $(C_2H_5)_2O$. These mixed ethers were produced in various ways,

$$e.g., \; C_2H_5I + CH_3ONa \longrightarrow C_2H_5{\cdot}O{\cdot}CH_3 + NaI.$$

This led to the introduction of the water type $\left.\begin{matrix}H\\H\end{matrix}\right\}O$.

Williamson not only compared the alcohols and ethers with water, but put forward the idea that most compounds, both inorganic and organic, could be referred to this type. If one hydrogen atom is replaced by a radical or a metal we get an alcohol or a metallic hydroxide; if the second hydrogen atom is replaced by the same radical or an acid radical we get an ether or a salt respectively, thus:—

$$\left.\begin{matrix}H\\H\end{matrix}\right\}O \qquad \left.\begin{matrix}C_2H_5\\H\end{matrix}\right\}O \qquad \left.\begin{matrix}C_2H_5\\C_2H_5\end{matrix}\right\}O; \qquad \left.\begin{matrix}K\\H\end{matrix}\right\}O \qquad \left.\begin{matrix}K\\C_2H_3O\end{matrix}\right\}O.$$

Williamson foresaw that a body derived from water by the substitution of two acetyl groups for the two atoms of hydrogen should be capable of existence, and in 1853 (two years later) Gerhardt, who had denied the existence of anhydrides from monobasic acids, discovered it by the action of acetyl chloride on sodium acetate, thus forming acetic anhydride, which on the water type is $\left.\begin{matrix}C_2H_3O\\C_2H_3O\end{matrix}\right\}O$.

In addition to the single water type he introduced the doubled and trebled water types for such bodies as sulphuric and phosphoric acids. Thus, sulphuric acid may be considered as being derived from the double water type $\left.\begin{matrix}H_2\\H_2\end{matrix}\right\}O_2$ by the substitution of the radical SO_2 for the two atoms of hydrogen, thus—$\left.\begin{matrix}SO_2\\H_2\end{matrix}\right\}O_2$, and phosphoric acid similarly $\left.\begin{matrix}H_3\\H_3\end{matrix}\right\}O_3$ and $\left.\begin{matrix}PO\\H_3\end{matrix}\right\}O_3$. It is for this work on etherification that Williamson's name will be handed down to future generations of chemists by historians of the science; but in other branches of the subject he was well to the fore, and at the same time as Clausius, 1850, he put forward a theory which is in many respects the same as the modern one of ionic dissociation, for he held that in a solution of hydrochloric acid the hydrogen and chlorine atoms were constantly changing partners, and were not immortally attached, atom to atom. From 1873 to 1889 he acted as Foreign Secretary to the Royal Society, and in 1887 he retired from his post at University College with the title of Emeritus Professor. In 1898 he was one of the five ex-Presidents of the Chemical Society (of which he was twice President) who were entertained at dinner by the Society. Three of them (Sir Edward Frankland, Sir Frederick Abel, and Sir John Gilbert) have preceded him, and Professor Odling, whose work and writings did much to aid the science in that critical period of 1840 to 1860, is, fortunately, still with us.

THE PHARMACEUTICAL SOCIETY'S EXHIBITION AND CONVERSAZIONE.

The following will be the order of the proceedings in the Pharmaceutical Society's House, 17, Bloomsbury Square, London, on Wednesday next, May 18:—

Reception by the President and Vice-President, in the Examination Hall, at 7.30 p.m.

Lecture by Professor Morris W. Travers, F.R.S., in the Lecture Theatre, at 8 p.m.

Exhibition, in the Museum, Library, and Chemical Laboratories, from 7.30 to 10 p.m.

Members and Student-Associates of the Pharmaceutical Society, with any friends accompanying them, will be admitted on presenting their cards. Other persons desiring to attend on this occasion must apply in advance to the Secretary and Registrar, Mr. Richard Bremridge, for tickets of admission. Morning Dress.

PERSONAL VIEWS ON CURRENT TOPICS.

PHARMACEUTICAL ORGANISATION.

BY R. LORD GIFFORD.

The Pharmaceutical Society's System.

The *Times* discovered the other day that "the Japanese successes were due to superior preparation, superior force at the point of action, and superior initiative." We have here exemplified in a terrible manner what organisation means. Pharmacists wish to establish the principle of personal qualification. It can only be done by organisation. The object is difficult to attain, therefore our organisation needs to be more perfect. The object, however, is so palpably reasonable that there is no doubt of its being attainable. The Pharmaceutical Society's system of local organisation is well conceived. It aims at keeping the Council in touch with its members through divisional secretaries in each Parliamentary constituency. Further, it aims at impressing members of Parliament through this connection. But, in addition, the scheme is intended to keep the Council in touch with the great mass of the people whose needs and requirements and necessities have called us into being. The work to be done, therefore, is clear:—(1) Divisional officers must attain a high state of efficiency; (2) members of Parliament must be made to appreciate our case; (3) public opinion must be informed and educated. But there are two other matters urgently requiring attention. The membership of the Society needs to be fully representative of registered chemists; for, without this, effective organisation is impossible. And the Council itself requires to be more fully informed. The problem therefore is whether our organisation is able to effect all that I have here set out.

The System Not Effective.

My argument is that we are far from effectively organised. Hence I suggest that the Society's scheme should be carried to what I submit is its logical conclusion. This can be done by more definite and intimate association between the Council and the members. I wish to see every Councillor with a direct responsibility. To be sure, it is said that we have that already; but will they who say so show in what way it is evidenced? I say that the active interest of the Council is so indirectly maintained as to be virtually non-existent. Let the General Purposes Committee have this question to deal with, in order directly to compel the attention of each member of the Council. It may be objected that this Committee (of the whole Council) would be unwieldy for the purpose, and therefore that my suggestion is not practical. That is a pertinent objection, but it does not remove the obvious necessity for compelling the individual interest. Moreover it is easily met. A sub-committee can be appointed. Let it consist of a Scotch member, two from the North and Midlands, and two from London and the South. Five in all; a good working Committee. Moreover, the perfecting of the Society's scheme can be furthered in another direction. I propose to "ear-mark" an officer to attend specially to the work of organisation. Let it be his duty, in conjunction with the sub-committee, to keep the Council alive to every phase and development of our public life. I venture to suggest that the adoption of these proposals will make effectiveness not only possible, but will tend to make it inevitable, and that is precisely what marks a sound plan.

Work for the Organising Secretary.

Quite satisfied that there is work for the most voracious appetite, let me leave the organising committee and devote some attention to the detail work of the organising secretary. There is no difficulty about this appointment. Mr. Bremridge, the Secretary, can put his finger on a person of proved competence for the special work. That is the reason why I have no hesitation in pressing the matter. Call your man organising secretary. His business will be to gather the strings of organisation; to focus the work; to enable momentum to be well applied; to inform local opinion; to organise local opinion through divisional secretaries and local associations; to see to it that members of Parliament properly appreciate our demands, that they may see the really narrow limitations of these demands. Above all he must show that a question of monopoly does arise in the case of our opponents, and does not apply to our case. Similarly, regarding public opinion, endless opportunities occur for educating it, and if the profession of pharmacy is to become a definite serious item in the national economy, a profession with a recognised work and standing, we must neglect no chance and spare no effort which will give the public proper appreciation of our circumstances. Divisional secretaries should welcome any closer connection, any help, any suggestion, any information, and any co-operation which may assist them in their work will be gladly received. Members of Parliament, or candidates require interviewing; is that always done to the best advantage? For my part I know that divisional secretaries and members of the Society are busy people—full of their own harsh affairs. It is no reflection, therefore, to suggest that in many cases their work may possibly be improved. Again, the membership of a district is weak. How can it be strengthened? If need be, the organising secretary would go down and see to it. It should be done somehow; his business will be to see that it is done.

What Can be Done.

The interests of registered chemists are the interests of the Pharmaceutical Society. Show the apathetics that shouting with one voice is the way to adjust grievances; moreover, to be going on with, they will get value for their money. In co-ordination and guidance, in instilling interest and rousing enthusiasm, much can be done, which only a departmental officer can do, instigated and directed by a committee of the Council. Call him organising secretary, peripatetic secretary, or what you will; no matter what so long as life is breathed into the dry bones of pharmaceutical organisation. Waiting upon events is inexcusable to-day, for a fight can be made in a hundred ways, in which we can have the active support and alliance of the medical and dental professions. They recognise that a common principle is at stake, vital to them as it is necessary to us Besides, fight we must, willy-nilly, or surrender. But ours may not be such a hopeless war after all. Our present difficulties have been brought about by our own supineness and ineptitude. Our power has never been tested. Organise; again I say organise, and difficult and uphill. though the strife may be, success may come "Sooner than we wot of now." But assuredly success can never come except through "superior preparation, superior force at the point of action, and superior initiative."

ABSTRACTS—SCIENTIFIC AND TECHNICAL

A REVIEW OF CURRENT WORK IN PHARMACOPEDICS AND ALLIED SCIENCES

Europium and Its Salts.

By fractionally crystallising the nitrates of the rare earths from half a ton of monazite sands, and taking advantage of the isomorphism and intermediate solubility of bismuth magnesio-nitrate and that of the magnesio-nitrates of the rare earths, G. Urbain and H. Lacombe have obtained pure europium salts. Samarium and gadolinium being thus eliminated, the remaining magnesium salts of gadolinium and europium concentrated in the last fractions were finally separated by means of the greater solubility of the former. After some 3,000 crystallisations six fractions were obtained which gave no spectroscopic indication of the presence of gadolinium. No difference has been observed in the fractions of pure europium, and if this body be a mixture, it cannot at any rate be split up by fractionating as magnesium salts. Moreover, the atomic weight 151·79 remains constant. Europium sulphate, precipitated with alcohol, and recrystallised from water, forms neutral well-formed crystals, having a barely perceptible rose tint. Their formula is $Eu_2(SO_4)_3 + 8H_2O$. This salt is permanent in the air; it is rendered anhydrous at 375° C.; when calcined it is entirely converted into oxide at 1,600° which is of a distinctly rosy tint, whereas the oxide prepared from the oxalate at a low temperature is white, with only the faintest rose tint when seen in mass.—*Comp. rend.*, **138**, 628.

Action of Formaldehyde on Milk.

The use of formaldehyde as a milk preservative should, acccording to A. Trillat be forbidden, since it renders the casein less soluble and digestible, and at the same time always remains uncombined even at the time when the milk begins to show signs of decomposition. It seems therefore that even when the smallest effective quantity from 1 : 5,000 to 1 : 10,000 of formalin is employed, only a trace of this is fixed by the milk albuminoids. It follows that the use of such a formalin preserved milk is equivalent to the ingestion of so much formalin. In view of the known action of formaldehyde on the mucous membrane, and the facility with which it is absorbed by the tissues, even in extreme dilutions, the continuous use of such milk, especially by infants, cannot be regarded as harmless. The presence of formalin in milk does not prevent the action of the rennet ferment, but it lengthens the time necessary for curdling; the weight of the curd is approximately the same in normal and formalin-preserved milk. But when subjected to peptic digestion, the casein of the preserved milk invariably leaves a greater amount of insoluble residue than that from normal milk, the excess amounting to 5 or 6 per cent. When, however, freshly prepared casein from normal milk is brought directly into contact with formalin, in the same proportion, it is even more indigestible; the excess of insoluble residue after peptic digestion is then raised from 10 to 30 per cent. Possibly the fat present in milk prevents, to a certain extent, the action of the formalin on the casein. The rapidity and ease with which casein is altered by formaldehyde is shown by placing a little of that substance, previously dried, under a bell jar with a vessel containing formalin. On testing the solubility in dilute alkali of the casein thus exposed to formaldehyde vapour, it will be found to diminish rapidly; in twelve hours it will be quite insoluble, and be unaffected by pepsin, although its weight has not sensibly increased.—*Comp. rend.*, **138**, 720.

Liberation of "Locked-up" Energy.

The investigations into radio-activity have raised the question how to turn to practical use the immense amount of energy lying inert in matter. There is ground for hope that a means for rendering such latent power available may be found, for the phenomenon of what is known as secondary Röntgen radiation seems to satisfy, in principle at least, the very necessity of the case. Spontaneous evolution of energy, of course, only takes place from the few newly discovered elements, one of whose chief characteristics lies in their extreme rariety, though in the case of the newest, berzilium and carolinium, there is some hope of a better yield. But a new form of radio-activity is now made apparent where the "start" is given by an external agency. It is found, in fact, that if Röntgen rays strike a mass of matter, such as lead, the pulses break up the equilibrium of some of the contained atomic systems in such a way that the constituent positive shells and negative corpuscles are set free one from the other, each being able to assume its own independent velocity. Thus are produced the rapid penetrating β-rays and the Röntgen-like γ-rays, both of which have been detected. There is strong reason for expecting shortly the discovery of the α types—at present overlooked, probably owing to easy absorption. That a certain definite amount of Röntgen ray energy should be able to set free a definite amount (fifty times as much, it is believed) of external energy, locked up, as it were, is a fact of the highest significance. The amount produced may be at present hardly great enough for Fleet-lifting, but the difference is merely one of degree. And, in matters scientific, such a difficulty can hardly be permanent.—*Standard*, May 9, 1904.

Bourbon Geranium Oil.

The species cultivated in the Isle of Bourbon is *Pelargonium capitatum, ait.* It is grown at an altitude of 400 to 1,200 metres. Above this elevation the plant is killed by frost. In this zone extensive clearings have been made, and in the thick layers of humos exposed the plant grows luxuriantly. A kilogramme of oil is obtained from 700 to 1,000 kilos of leaves, and when freshly distilled is of a green colour. About 250 stills are still in operation. Until last year the industry was not taxed, but now a duty of 10 francs per still has to be paid. The leaves, after distillation are used as manure for potatoes, with excellent results. —*Rev. des Cult. Col.*, **14**, 180.

Arnisterin.

Klobb has succeeded in separating from arnica flowers a crystalline phytosterin, to which he gives the name arnisterin. Its composition corresponds to the formula $C_{28}H_{46}O_2$; it crystallises readily from alcohol with one molecule of alcohol of crystallisation. Klobb considers this substance to be the crystalline portion of the bitter arnicin of Walz and Lebourdais; he was unable to obtain the crystalline arnicin of Börner.—*Bull. des Sciences Pharm.*, **6**, 196.

Presence and Localisation of Orcin.

Up to the present it has been considered that free orcin occurs only in the genus *Pertusaria,* whilst in *Rocella* and *Dendrographa* it existed only in combination. Ronceray has been able to demonstrate that in the last two genera it also occurs in the free state, and is localised chiefly in the reproductive organs, the vegetative portion of the thallus being almost free from it. The reagent used was a mixture of sulphuric acid and vanillin carefully adjusted to give a fine red coloration with free orcin, but no coloration with combined orcin. Ronceray found the same conditions to obtain in other genera also (*Umbilicaria, Lecanora.*)—*Bull. des Sciences Pharm.*, **6**, 193.

THE STUDENTS' COLUMNS.

THE COMPOSITION OF SCIENTIFIC PAPERS.

In an article which appeared in these columns on December 5, 1903 (page 846) some general hints were given with respect to the manner of answering an examination paper, and illustrative examples were chosen from the subjects which form part of the pharmaceutical student's course. In this paper a few suggestions will be offered on the composition of scientific essays or papers. It is commonly held that the composition of a scientific or technical paper does not need the same measure of literary ability or precision as is required in writing on a subject of more general interest. Few students of science recognise that a clumsy style of writing is the mark of a clumsy habit of thought. But, as Professor Clifford Allbutt has remarked in a recently published book ('Notes on the Composition of Scientific Papers.' Macmillan. 3s.), "in scientific prose words should be used as carefully as symbols in mathematics." Unfortunately, the average student of natural or applied science has not had the advantage of a classical education. As a result, he is rarely or never versed in the more subtle niceties of language. To a still greater extent in many instances does he suffer by reason, first, of his disinclination to read any serious books except those bearing on his scientific studies, and, secondly, of his lack of common observation. Not only does the careless writer or the slovenly reader miss much that might be a pleasure throughout life, but, in these days of examinations, his commercial prospects are not seldom affected. For those reasons, we heartily commend Professor Allbutt's book to all students of pharmacy. To Professor Allbutt we make acknowledgment for much of this article.

The title of an essay is the first thing which meets the reader's eye, and conveys to his mind that first impression which may influence his judgment of the matter which follows. A title should, therefore, be concise, and should give, so far as its limits permit, a precise indication of what is to come. The subject chosen, facts must be collected, inferences formulated, and the whole presented with due proportion to its several parts, and in language as lucid as the author can command. Throughout, it is necessary to remember for whom the essay is intended. If, as is usual, the author of a scientific paper desires his work to be read and appreciated by those who approach the subject with less knowledge of it than he has himself, it will be well to begin with a summary of the material facts, theories, or opinions on which the essay bears. References to the writings of previous workers should be given, always and uniformly. If, for example, it is desired to quote from more than one article in the *Pharmaceutical Journal*, the author should not refer in one instance to a date and in another to a volume. Professor Allbutt thinks it well to compose a scientific essay, not on the inductive plan on which the research was pursued, but deductively. He recommends that more general views should first be expressed, and that from these the writer should proceed to closer and closer quarters with the particulars on which the position is to be established. Whether the matter be arranged inductively or deductively, the place of logic is to see that the order and development of thought are followed precisely from step to step. On the completion of a long thesis, it is well, remarks Professor Allbutt, "to draw up a syllabus of the argument and to place it at the beginning; in any case, let the conclusions be resumed succinctly at the end: it is not for the author to compel the reader to peruse his essay."

Specific instances of common mistakes are so numerous as to render the compilation of a full list impossible. But we may venture on a few examples of mistakes to which chemists and druggists are particularly addicted. In the sentence "it is well known that arsenic is slowly excreted," the writer did not mean to assert that arsenic is excreted, however slowly, but that the excretion of it is slow. Therefore "slowly" should come last. In the sentence "the dose is to be gradually increased," the adverb should have been placed at the end, as the context indicates that the adverb and not the verb is emphatic. "The patient *was given* a rhubarb pill" is bad, as are "the remedy *should be given* a thorough trial," "we *were shown* the insect under a lens," and "in the photograph the eruption does not *show*." "Give" and "show" are transitive verbs only with respect to the object given or shown, and take the dative, not the accusative, of the person to whom the object is given or shown. The word "also" is often misplaced, as in the sentence: "I also placed some crystals of the salt in the solution," where "also" is not meant to qualify "placed," but should come after "placed" or after "salt." The mixed metaphor is a trap which often catches the unwary. Just before correcting the proof of this paper, the writer has seen, in an article written by a chemist, "what seems uncommonly like the thin end of the wedge is about to make its *début*." One is reminded of the Liverpool city councillor who gravely stated that "the shop-keepers would be the milch-cow which would have to pay the piper."

The use of "constantly" where "frequently" is meant, and that of "estimation" in place of "determination" (in chemical analysis) have been pointed out already in the *Pharmaceutical Journal*. Professor Allbutt complains also of "standardisation," which he calls "a grievous vocable." He adds "I fear we are in for it, but let it serve as a warning." It would not be fair to Professor Allbutt and his publishers to quote at greater length from the 'Notes on the Composition of Scientific Papers.' But enough has been extracted to show the merit of the book. In conclusion, however, a list may be given of the authors whose works the student is advised to read. "Of graver authors, Jebb, John Morley, Goldwin Smith, George Trevelyan, Mackail; of lighter authors, Thomas Hardy and Barrie; of scientific and medical authors, Latham, Watson, Tyndall, Paget, Michael Foster."

In the next examination-paper for students, which will appear in the *Pharmaceutical Journal* for May 28, a question will be set requiring the composition of an essay. Any essays then received, which may be adjudged to be of sufficient merit, will be printed in the *Pharmaceutical Journal*, and paid for at the ordinary rate.

THE CHARACTERISTICS OF SOME ALMOND AND ALLIED OILS.[*]

BY DR. J. LEWKOWITSCH, F.I.C.

A hitherto unsolved problem in fat analysis is the detection of apricot and peach kernel oils in almond oil. The ordinary quantitative reactions applied in fat analysis are of hardly any use here.

It is well known that most of the commercial "almond oil" is apricot kernel oil, and in the trade an oil described as "oil of sweet almonds, French" (Oleum Amygdalarum Gallicum), nothing else but apricot kernel oil or peach kernel oil. Genuine almond oil is sold under the name of "almond oil, English."

Through the kindness of Mr. Brewis and Mr. W. C. Allen, I have been placed in possession of several samples of almond oils, apricot kernel oils, and peach kernel oils of undoubted genuineness (Nos. 2 to 9 in the following table). It may, perhaps, be useful to collate the numbers which are usually ascertained in the examination of fats. I have added the values obtained for a genuine sample prepared for me some ten years ago by a German firm from pure Valencia almonds.

Description of Oil.	Specific Gravity at 60° F. (Water 60° F. – 1.)	Saponification Value.	Iodine Value.	Butyro refractometer at 40° C.	Acid Value.	Fatty Acids.		Colour Tests.	
						Neutralisation Value.	Saponification Value.	Bieber's Test.	Phloroglucinol Test.
Almond oils, expressed from:									
1. Valencia sweets	0·91995	207·6	99·4	57·5	5·16	207·8	207·6	Colourless	No coloration
2. Blanched Valencia sweets	0·9182	191·7	103·6	57·5	2·9	196·4	201·7	Colourless	No crimson coloration
3. Sicily sweets	0·9178	183·3	100·3	57·0	0·79	198·8	202·2	Colourless	No crimson coloration
4. Mazagan bitters	0·9180	188·6	102·5	56·5	3·1	196·8	203·1	Colourless	Slightly crimson
5. Small Indian almonds	0·91907	189·2	96·65	57·0	2·9	195·8	200·7	Colourless	Slightly crimson
6. Mogador bitters	0·9183	194·98	104·2	57·0	1·3	197·1	203·2	Colourless	No crimson coloration
7. Peach kernel oil	0·9198	191·4	95·24	57·5	3·0	196·8	205·0	Colourless at first, then pink	Deep crimson coloration
8. Apricot kernel oil	0·9200	192·4	107·4	58·0	2·3	198·0	202·0	Pink coloration	Deep crimson coloration
9. Apricot kernel oil from Mogador kernels	0·9172	198·2	107·9	57·0	2·8	194·0	200 7	Slightly pink	Less deep crimson than 8
10. Californian apricot kernel oil	0·92026	190·3	108·7	58·0	1·2	197·8	202·8	Very slightly pink	Less deep crimson than 8

Mr. Ross, to whom my best thanks are due, was kind enough to determine the refractive indices of the ten oils for different rays. Unfortunately, the numbers given below do not furnish an analytical means of differentiating almond oil from the related oils.

Refractive Indices at 20° Centigrade.

	D.	C.	F.	G.
No. 1.	1·4715	1·4688	1·4780	1·4835
No. 2.	1·4715	1·4688	1·4780	1·4836
No. 3.	1·4711	1·4685	1·4777	1·4833
No. 4.	1·4712	1·4686	1·4778	1·4834
No. 5.	1·4710	1·4685	1·4777	1·4833
No. 6.	1·4714	1·4688	1·4780	1·4835
No. 7.	1·4710	1·4685	1·4776	1·4832
No. 8.	1·4717	1·4692	1·4784	1·4839
No. 9.	1·4715	1·4690	1·4782	1·4837
No. 10.	1·4725	1·4700	1·4792	1·4847

It will be seen that no information of a discriminative nature can be gained from the figures contained in the foregoing tables. Recourse must therefore be had to colour reactions. Much in vogue, and in fact the only one that gives some indications, is Bieber's test. This consists in treating 5 measures of the oil with 1 measure of a mixture consisting of equal parts (by weight) of sulphuric acid, fuming nitric acid, and water.

Pure almond oil does not change colour, whereas peach kernel oil assumes a peach-blossom tint.

It is best to prepare Bieber's reagent afresh for each set of tests. It should also be noted that the colour reaction is much stronger in the case of fresh oil than with a sample which has been kept for half a year or longer.

Mixtures of almond oil and apricot kernel oil containing one-third of the latter are coloured distinctly, but mixtures containing 25 per cent. of apricot oil only slightly, so that it would be certainly somewhat hazardous to pronounce adulteration on the strength of this colour test. Peach kernel oil gives the same colour reaction, but in a much fainter degree, and only after standing for some time. It will be more risky still to judge from this test as to adulteration of a given sample of almond oil.

Maben's statements as to the differences in the elaïdin tests are unfounded. Although with concentrated sulphuric acid apricot and peach kernel oils give darker colorations than almond oil, this test is perfectly useless. The same criticism holds good with regard to Maben's zinc chloride test.

Recently, phloroglucinol[†] in $\frac{1}{10}$ per cent. ether solution in the presence of nitric acid, specific gravity 1·45, has been proposed as a test for apricot kernel and peach kernel oils. Undoubtedly, apricot kernel oil and peach kernel oil give a distinct deep crimson coloration with the reagent, in contradistinction to some almond oils, yet some specimens of the above-described genuine almond oils show more or less strongly the same reaction. This test must, therefore, be employed with the utmost care.

Unfortunately, the quantities at my disposal did not permit me to examine the fatty acids, especially the liquid fatty acids, as thoroughly as I could have wished, since it may be hoped that differences between almond oils and the other oils can be established in the yield of the tetrabromides, the differences in the iodine numbers of the oils becoming much more pronounced in the liquid fatty acids than in the mixed fatty acids.

I have added in the last two columns of the table the neutralisation and saponification numbers of the fatty acids. These were ascertained, together with those of many other fatty acids, in view of Tortelli's and Pergami's statement that nearly all fatty acids contain small quantities of lactonic substances. These numbers will be published elsewhere, and I must content myself with stating that the experimental numbers did not wholly bear out the statements of those chemists. In fact, in some cases the difference between the saponification and neutralisation number was a negative one, the difference exceeding the experimental values. The numbers given for the first almond oil bring out the same fact.

Dieterich states that by Crismer's method of determining the critical temperature of dissolution differences between almond and the allied oils are observed. I have not yet been able to verify this experimentally.

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[*] Read at a Meeting of the Society of Public Analysts, and reprinted from the *Analyst*, April, 1904.

[†] Chwolles, *Pharm. Zeit.*, 1903, 109.

COREAN GINSENG.*

Songdo, or Kaising, a city of 60,000 people, is famous for its ginseng. No one can be in the Far East for many days without hearing of this root and its virtues. No drug in the British Pharmacopœia rivals with us the estimation in which this is held by the Chinese. It is a tonic, febrifuge, and stomachic—the very elixir of life—taken spasmodically, or regularly, in Chinese wine by most Chinese who can afford it. It is one of the most valuable articles which Corea exports, and one great source of its revenue. In the steamer in which I left Chemulpo there was a consignment of it, worth £140,000. But valuable as the cultivated root is, it is nothing to the value of the wild, a single specimen of which has been sold for £40. It is chiefly found in the Kange Mountains; but it is rare even there, and the search so often ends in failure that the common people credit it with magic properties, and believe that only men of pure lives can find it.

The ginseng season was at its height, and people talked, thought, and dreamed ginseng, for the risks of its six and seven years' growth were over, and the root was actually in the factory. I went to several ginseng farms, and also saw the different stages of the manufacturing process. All round Songdo are carefully fenced farms, on which ginseng is grown with great care and exquisite neatness, on beds 18 in. wide, 2 ft. high, and neatly bordered with slates. It is sown in April, transplanted in the following spring, and again in three years, into specially-prepared ground not recently cultivated, and which has not been used for ginseng culture for seven years. Up to the second year the plant has only two leaves; in the fourth year it is 6 in. high, with four leaves standing out at right angles with the stalk, and it reaches maturity in the sixth and seventh year. During its growth it is sheltered from both wind and sun by well-made reed roofs with blinds, which are raised or lowered as may be required. When the root is taken up it is known as white ginseng, and is bought by merchants who get it manufactured, about three and a-quarter catties of the fresh root making one cattie of red, or commercial, ginseng. The grower pays a tax of twenty cents per cattie, and the merchants sixteen dollars a cattie, for the root as received from the manufacturer. The annual time of manufacture depends on orders given by the Government. The growers and merchants make the most profit when the date is early; only two manufacturers are licensed and 150 growers. The quantity to be sold is also limited. In 1895 it was 15,000 catties of red ginseng and 3,000 of "beards." The terms "beards" and "tails" are used to denote different parts of the root, which eventually has a grotesque resemblance to a headless man. It is possible that this likeness is the source of some of the miraculous virtues which are attributed to it.

Everything about the factories is scrupulously clean, and would do credit to European management. The rows of houses used by what we should call the excisemen are well built and comfortable. There are two officials sent from Seoul by the Agricultural Department for the "season," with four policemen and two attendants, whose expenses are paid by the manufacturers, and each step of the manufacture and the egress of the workmen are carefully watched.

Ginseng root is steamed for twenty-four hours in large earthen jars over iron pots built into furnaces, and then partially dried in a room kept at a high temperature by charcoal. The final drying is effected by exposing the roots in elevated flat baskets to the rays of the bright winter sun. The human resemblance survives these processes, but afterwards the "beards" and "tails," used chiefly in Corea, are cut off, and the trunk, from 3 in. to 4 in. long, looks like a piece of clouded amber. These trunks are carefully picked over, and, after being classified according to size, are neatly packed in small oblong baskets containing about five catties each, twelve or fourteen of these being packed in a basket, which is waterproofed, matted, stamped and sealed by the Agricultural Department as ready for exportation. A basket, according to quality, is worth from £14,000 to £20,000. In a good season a grower makes about fifteen times his outlay. Ginseng was formerly a royal monopoly, but times have changed. The demon who is the tutelary spirit of ginseng is greatly honoured.

SHORT NOTES ON THE DETERIORATION OF DRUGS AND SUGGESTIONS FOR PREVENTION THEREOF.*

BY J. S. HILL, PH.C.

Certain drugs are prone to deterioration, and especially is this true of those drugs which are not frequently in use. The following are the chief agents in bringing about changes:—(1) Atmospheric conditions—variations of temperature, presence of much moisture and sunlight; these are active agents in bringing about such changes as oxidation. (2) Minute animal life—tiny beetles, mites and larvæ of various insects. (3) Fungal life—growth of moulds and other fungi producing fermentation and putrefaction.

1. Preparations containing volatile substances will deteriorate by evaporation. Examples:—Ethereal preparations, tinctures and all solutions of very volatile substances in less volatile liquids, such as spt. ether. nit., strong ammonia, collodion, etc. Exposure to the air will cause (*a*) efflorescence of some chemicals (*e.g.*, carbonate of ammonia, borax, oxalic acid and crystallised carbonate of soda); (*b*) certain substances to absorb water (potas. carb., the caustic alkalies and numerous others); (*c*) ferrous salts to become oxidised. In nearly all the cases mentioned so far the only preventive measures required are the following:—(1) Careful corking or stoppering of bottles to exclude air and prevent evaporation. (2) Storage in dry places not subject to extremes of temperature. (3) Sometimes protection from light by storing in amber coloured bottles.

2. The attacks of insects are almost wholly confined to entire drugs such as herbs and roots. We have seen samples of belladonna, aconite and taraxacum roots swarming with minute boring beetles. To prevent disappointment and loss through these pests we must keep our drug shelves clean and examine stock from time to time. Parcels found to be infected should be attended to promptly. Another word here. Examine new stocks and see that entomological specimens are not given in with the drugs. Carefully dried herbs, with care, will keep for a reasonable time. Old conf. sennæ is very liable to be mitey.

3. The microscopic fungi are responsible for much of the damage done to drugs and galenicals. This is not remarkable when we consider that our atmosphere is always laden with a great variety of spores of the lowest types of plant life. Parcels of moist drugs (*e.g.*, badly dried herbs, and drugs stored in damp places) offer a good home to numerous moulds and similar fungi. We have seen a 4 lb. parcel of powdered gentian bound together into a spongy brick by the growth of mould mycelium. Another similar instance was noted, the drug being powdered digitalis. Fermentation of liquids is usually accomplished by organised vegetable ferments. There are three types of organised ferments:—Moulds, yeast plants and bacteria. The

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* From 'Corea,' by Mrs. Bishop.

* Read before the Newcastle-on-Tyne and District Chemists' Association on Wednesday, April 20, 1904.

first two set up, as a rule, the alcoholic fermentation of sugary liquids, and the third produce the acetic, lactic, butyric and putrefactive fermentations. We have investigated the fermentation of some of the B.P. syrups, and we found *Saccharomyces ellipsoideus*, one of the wild yeasts, fermenting syrups of codeine, glucose and rhubarb. The rancidity of some oils and fats is due to the action of bacteria. To prevent, as far as possible, the deterioration of drugs by fungal growth, great care must be exercised in storing. So long as the present official formulæ for syrups are used, there is sure to be occasional fermentation. We have seen it suggested that elixirs should supersede syrups, because they would contain less sugar and more alcohol than the syrups. It will be worth while remembering that strong syrups are not so liable to ferment as thin and watery syrups—thus it is probable that simple syrup of sp. gr. 1·330 would never ferment. Alcohol from 15 to 20 per cent. is a good preservative. Pasteurisation will be useful for liquids which have to be stored; this consists in heating in a water-bath up to 70° Centigrade, it will destroy mould and yeast germs, but the first time the cork of the bottle is removed the contents are sure to be infected. We recommend careful sterilisation of all jars and bottles intended to contain drugs and galenicals which have a reputation for becoming mouldy or fermenting. Use recently boiled distilled water for making all stock solutions, do not buy large stocks of drugs which will be likely to deteriorate before you get through them. Remember that the drug warehouse requires as careful attention as the front shop. There is nothing new in these notes, but it is hoped that they will serve as a reminder that the chemist's duties require constant care and thought, and that relaxation of these will lead to disappointments and loss.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN.

LIBRARY, MUSEUM, SCHOOL, AND HOUSE COMMITTEE.

Attendance in Museum.

	Total.	Highest.	Lowest.	Average.
April	434	35	8	19

Donations to the Museum.

Mr. O. T. Elliott, Leicester:—Specimen of the fruit of a Strophanthus from the North of Victoria Nyanza.

Mr. J. Medley Wood, A.L.S., Botanic Gardens, Natal:—Specimens of the Kaffir poison bark known as "Indiyadiya."

Mr. J. W. Ramsden, Herne Hill:—Specimen of the fruit of *Capsicum annuum*, var. *grossum*, and powder prepared from it.

Mr. J. N. Fitch, F.L.S., London:—Fruits of *Ceratonia siliqua*.

Inquiries.

Fifteen specimens of drugs had been received for identification, seven specimens of flowering plants, twelve mosses, and twelve algæ. Twelve inquiries connected with botany and materia medica had been replied to.

Duplicates Distributed.

Thirty specimens had been sent to Professor H. Solereder, Erlangen University, and one to Mr. E. H. Farr.

Investigations.

The histological examination of the Indiyadiya bark had been undertaken by Professor H. Solereder.

Attendance in Library.

	Total.	Highest.	Lowest.	Average.
London Library, April	301	22	3	13

Circulation of Books.

	Total.	Town.	Country.	Carriage Paid.
London Library, April	214	103	111	£1 0s. 1d.
Edinburgh Library, April....	339	197	142	6s. 4d.

Donations to the Library (London).

Imperial Institute:—Technical Reports and Scientific Papers, 1903.

Mr. H. N. Ridley, Botanic Gardens, Singapore:—Agricultural Bulletin, 1903; Annual Report for 1903.

Mr. E. W. Lucas, London:—Lewis, New Dispensatory, 6th edition 1799.

Donations to the Library (Edinburgh).

Edinburgh Chemists', Assistants', and Apprentices' Association:—Gadd, Drugs, 1904; The Dioptric Review, 1903.

Purchase of Books.

The Committee authorised the purchase of the undermentioned books:—

For the Library in London.

Martindale and Westcott, Extra Pharmacopœia, 11th edition.

Squire, Pocket Companion to the British Pharmacopœia.

For the Library in Edinburgh.

Richter, Organic Chemistry, vol. 2.

PHARMACEUTICAL SOCIETY OF IRELAND.

MEETING OF COUNCIL.

Wednesday, May 4, 1904, at 67, Lower Mount Street, Dublin, Mr. Johnston Montgomery, President, in the chair.

After a number of letters had been read, the Registrar presented the examiners' reports on the recent examinations.

Mr. Ferrall said that for the Preliminary Examination 27 candidates entered and 16 went through. At the Examination for Pharmaceutical Assistants only 1 candidate applied, and he failed; while at the Examination for Registered Druggists 10 candidates entered, of whom 6 passed and 4 were rejected. In Belfast, at the same examination, 9 candidates presented themselves, of whom 4 passed. At the Pharmaceutical Licence Examination 27 candidates presented themselves, of whom only 7 passed.

A druggist wrote asking to be allowed to use the title "chemist and druggist," which his father formerly enjoyed, so that he might be able to use up a stock of printed stationery.

The application was refused.

The Election of Council Members.

At the last meeting of the Society a resolution was passed asking the Council "to take such steps as may be necessary to secure absolute secrecy in voting," and the matter now came up for consideration.

The Vice-President said that the system which had obtained for twenty-seven or twenty-eight years ought to be good enough. He was aware of only one occasion when a person put himself to the trouble of seeing how members voted, and he thought that that was not sufficient to cause them to upset a system which had been in use for so long without complaint.

It was decided to adjourn the matter to the next meeting.

Re-Election of Examiners.

Messrs. J. Michie, M.P.S.I., R. Watt, M.B., M.P.S.I., and H. O'Connor, M.P.S.I., were re-elected examiners to conduct the following examinations:—(*a*) The Practical Pharmacy Division of the Pharmaceutical Licence Examination; (*b*) the Registered Druggist Examinations at Belfast and Dublin; and (*c*) the Pharmaceutical Assistant Examination.

The remaining business was of a routine character.

BURNLEY CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Thursday, May 5, 1904, Mr. J. Brown, Vice-President, in the chair. There were five other members present.

The Pharmaceutical Council Election.

It was decided to vote for the six retiring members of the Council and Mr. R. B. Betty. There was a general expression of opinion that, in view of the Pharmacy Bill before Parliament and the measure promised by the Government, it was not wise to change horses while crossing the stream.

The Retention of Clause 7.

Mr. Coates moved the following:—

> That the Pharmaceutical Society of Great Britain, by insisting upon the retention of Clause 7 in the Pharmacy Bill now before Parliament, will be voicing the unanimous opinion of the Burnley and District Chemists' Association, who would rather see any Bill thrown out than that it should pass with the omission of a clause which they consider embodies a principle of the most vital importance not only to pharmacy but to the safety of the public at large. They feel convinced that upon the retention of this clause the future welfare of the craft depends, and that its omission would mean the absolute obliteration of the individual chemist, upon whom the responsibility for carrying out the Act and the protection of the public devolves.

The opposition to the clause was due to the company element and the pressure they were exerting in Parliament, and the company element had got such a hold over the present Government that chemists must be up and doing if they meant to retain the clause. The vital principle in the clause was the protection of the public rather than the protection of the chemist. There was talk of a compromise, and they did not want compromise. The suggestion was that the dispensing of prescriptions should be restricted to chemists and the remainder of Clause 7 dropped. That would allow companies to seize the title which chemists had worked for. [Not if Clause 11 be retained. Clause 7 has nothing to do with "titles."—Ed. *P.J.*]

The Chairman said they had never got Mr. Mitchell, M.P. for Burnley, to commit himself, but Mr. Shackleton, M.P. for the Clitheroe Division, had promised to support the Bill in its entirety.

After further discussion, the motion was unanimously passed.

GLASGOW AND WEST OF SCOTLAND PHARMACEUTICAL ASSOCIATION.

ARRANGEMENTS FOR SUMMER EXCURSION.

It has now been finally arranged that the summer excursion of the Glasgow and West of Scotland Pharmaceutical Association shall take place on Tuesday, June 7, to Lanark, for the Falls of Clyde, and Craignethan Glen and Castle, the "Tillietudlem" of Scott's 'Old Mortality.' Tickets, 10s. 6d. inclusive, may be had from Mr. J. P. Gilmour, 312, Cathcart Road, Mr. W. L. Currie, 223, Byres Road, any member of Committee, or the local wholesale drug houses. The Edinburgh chemists, as represented by the Edinburgh District Chemists' Trade Association, have signified their intention of joining forces with the Glasgow contingent at Lanark for the day's outing. Tickets, and all information respecting the trip, will be supplied by the Hon. Secretary of the Association, Mr. G. H. C. Rowland, 117, Prince's Street, Edinburgh. The route covered by the excursion is remarkable for some of the loveliest woodland and riverside scenery in Scotland, and is replete with topographical, historic, and scientific interest. The most elaborate arrangements have been made by a deputation of the Excursion Committee, which has made a survey of the route to ensure the comfort and enjoyment of intending excursionists, and a large turn-out is expected both from east and west.

STOCKPORT CHEMISTS' ASSOCIATION.

MONTHLY MEETING.

Wednesday, May 4, 1904, at the Albert Hall, Stockport, Mr. Wm. Dodge in the chair.

Letters and addresses were read on behalf of the candidature of Mr. Hagon, Mr. Sargeant, and Mr. Gibson, for the Council of the Pharmaceutical Society. It was decided to support Mr. Hagon, of Cardiff. As to the other candidates, it was decided to leave the matter to the individual discretion of members. It was proposed, seconded, and carried, *nem. con.*, that the meetings should now be adjourned to the month of October.

PRESTON CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Monday, May 9, 1904, at the Moor Park Pharmacy, Preston.

The Pharmaceutical Council Election.

Mr. Arkle said that he was not in favour of any interference with the right of a man to vote as he thought best, but, as the approaching election promised to be more than usually interesting, it had been thought fit to break through the usual routine. It appeared certain that all the candidates were in favour of the Pharmacy Bill, and almost equally certain that the Bill would not pass this year. To his mind the most urgent object was to insist upon the re-imposition of the Preliminary Examination. He did not notice that any candidate even so much as mentioned it, but they did know that Messrs. Sargeant, Gifford, and, he thought, Currie, were going for it.

It was decided not to recommend the members of the Association to vote for any particular candidates, but the following resolution was proposed and agreed to:—

> That this Association is of opinion that the Council should be strengthened by the election of more members connected with the retail pharmacy, believing such addition would tend to the increased welfare of the important interests associated with the profession.

GREAT YARMOUTH PHARMACEUTICAL ASSOCIATION.

ORDINARY MEETING.

Thursday, May 5, 1904, at 156, King Street, Great Yarmouth, Mr. W. G. Poll in the chair.

The Secretary had much correspondence to read, mostly dealing with the coming Council Election, and one letter from the Federation giving notice of annual meeting in August. It was decided that it would not be possible to send delegates to that meeting. A letter from the P.A.T.A. was next dealt with, and after discussion it was decided to support the P.A.T.A. and the minimum wholesale prices.

PETERBOROUGH AND DISTRICT CHEMISTS' ASSOCIATION.

ANNUAL MEETING.

On Thursday, May 5, 1904, at the Grand Hotel, Peterborough, Mr. J. H. Pearson, President, in the chair. There was a good attendance of members, who were so thoroughly satisfied with the report of the year's work that they decided to have the report, balance-sheet, rules, and list of members printed and circulated among all the chemists of the district.

Election of Officers.

The following officers for the ensuing year were elected:—

President.—Mr. J. S. Prior, of Stamford.

Vice-Presidents.—Messrs. J. H. Pearson (Peterborough), F. Oldham (Wisbeach), and J. H. Sturton (Peterborough).

Council.—Messrs. C. Bayley (Uppingham), W. R. Girling (Wisbeach), J. Farr (Yaxley), T. M. Baxter (Bourne), F. W. Whitwell, T. J. Calcutt, and H. E. Noble (Peterborough).

Joint Secretaries.—Messrs. J. E. Saunders and J. W. Hall (Peterborough).

Auditors.—Messrs. Fred Sturton (Peterborough) and F. Dickinson (Stamford).

The usual votes of thanks terminated the business, and the members then trooped downstairs for the first

ANNUAL DINNER.

Mr. Pearson again presided. On his right sat Mr. Glyn-Jones and Mr. W. Elborne, on the left Mr. Campkin and Mr. Bremridge, while at the other tables about forty members and friends were seated. The dinner was excellent and well served. After the usual loyal toasts, Mr. J. S. Prior, the newly-elected President, proposed the toast of

The Pharmaceutical Society.

Mr. Prior remarked that this toast included "our most noble selves." At the same time he thought the Society had certainly left undone those things it ought to have done and had done those things it ought not to have done. But it was the duty of every chemist to join the Society, if only for the pleasure of criticising it. Mr. Prior went on to refer to the time when he passed the qualifying examination and wrote a letter to the Journal. As he believed was the fate of a good many letters at that time, his letter was somewhat mutilated; and, if he remembered rightly, the Editor stated that the letter was from a young man who wanted an energetic Council. That was what was wanted at present, and there was one Councillor at that dinner who, he believed, was very energetic—Mr. Glyn-Jones. He had not had the pleasure of meeting Mr. Glyn-Jones before, and he took that opportunity of congratulating him on leaving the ranks of pharmacy. There was also present a new member of Council—Mr. Campkin. He hoped Mr. Campkin would prove himself a very energetic member. Mr. Prior then mentioned the various Pharmacy Bills promoted by the Society since 1868, spoke favourably of Clause 7 of the present Bill, and concluded with the remark: "We are told the Pharmaceutical Society exists for the protection of the public; there is one thing I should like, and that is that the public should pay for its protection." He coupled with the toast the names of Mr. Glyn-Jones, Mr. Campkin, and Mr. Bremridge.

Mr. Glyn-Jones, who spoke vigorously for about sixteen minutes, was cordially received. He thanked the Association for its invitation, and expressed pleasure at its resuscitation. Then he began some plain talk about the attitude of chemists towards the Pharmaceutical Society, and said they were too apt to confound the Society with the present members who make up the Society, and overlooked the circumstance that from 1841 right on to the present time the Pharmaceutical Society of Great Britain had constituted all that was best in pharmacy. He was obliged to Mr. Prior for admitting that it was necessary to join the Society in order to criticise it, and if every chemist who wished to criticise would take that necessary step there would be less room for criticism. Mr. Glyn-Jones then dealt with organisation, local and national, and said it sometimes occurred to him that what some chemists really wanted was an arrangement whereby a subscription of one guinea to the Pharmaceutical Society would bring them thirty shillings in return. There had been too great a desire for hard cash, but he thought there was now a tendency to get away from that narrow-minded view. The prospects of pharmaceutical legislation were next touched upon, and the fact was pointed out that any legislation which would be of benefit to the craft must come through the Pharmaceutical Society. The Government would do nothing but what it was absolutely forced to do by the chemists of the country. The report of the Departmental Committee on Poisons was referred to, also the statements made before the Committee that chemists were not qualified to advise horticulturists on plant diseases and insect pests. Mr. Glyn-Jones waxed quite eloquent upon this subject. For the purpose of argument, he supposed the case of a horticulturist who took a diseased vine-leaf to the local chemists for advice, and he ventured to say that of the first fifty chemists to whom the man applied not more than five would be able to give the desired advice. That was a state of things which ought not to exist, and he thought chemists should make a more practical application of the botanical and chemical knowledge they were bound to acquire for the qualifying examination. Referring to Mr. Prior's congratulations, Mr. Glyn-Jones said if he was congratulated on leaving pharmacy, then those congratulations had come too late, for, since he acted as dispenser in a doctor's surgery, he had really very little to do with pharmacy, unless by "pharmacy" was meant the business of a chemist and druggist; but he hoped he should always remember that he was a pharmacist.

Mr. Campkin also responded to the toast, in a speech of great eloquence. After a few complimentary remarks respecting Mr. Glyn-Jones and a brief reference to his own public work, Mr. Campkin said his first visit to the Council had impressed him very favourably with his colleagues, and he was sure that if they were properly backed up by the chemists of the country the energy and influence of the Council would be exercised to an even greater extent than at present for the good of pharmacy generally. He went on to refer to that section of the community which takes as its motto, "Our Trade our Politics," and said chemists might well take as an example of organisation that set by the trade which has secured such immense influence with the Legislature, and had obtained what might be termed a monopoly. Chemists did not wish for a monopoly; but they ought to be in a position to put their views on pharmaceutical matters before Members of Parliament in such a manner as to convince them of the justice of their cause. With regard to the Pharmacy Bill, he believed in every clause of the Bill, though Clause 7 was one upon which it might possibly be wrecked, and he was not very sanguine that the Bill would pass into law this year. He believed there would be introduced into Parliament a Government Bill proposing to create free trade in certain poisons. But to introduce any Bill of that character would be a retrograde policy, and would carry pharmaceutical legislation back far beyond 1868. There was everything to be gained by time, and he urged chemists and druggists to support the Pharmaceutical Society in its endeavours to bring members of Parliament to a thorough understanding of the provisions of the Pharmacy Bill. Mr. Campkin next dealt with local organisation and the need for missionary work, and went on to refer to the work of the Benevolent Fund, which he graphically described. The speech was listened to with close attention, and created a very favourable impression of Mr. Campkin's qualifications for the position of Councillor.

Mr. Bremridge also responded to the toast. He was received with much enthusiasm, and, while protesting that he was "not accustomed to public speaking," proceeded to deliver a short, but effective, speech, in the course of which he referred in complimentary terms to the previous speeches, mentioned his former visit to Peterborough, and congratulated the Association on the success it had achieved during the past year. He then proposed the toast of the

Peterborough and District Chemists' Association.

Mr. Bremridge said the multiplication of local associations was a good thing for local organisation. The more associations were formed the better it would be for pharmacy, and he was selfish enough to say the better for the Pharmaceutical Society, because he believed that as soon as chemists realised the good there was in gathering together in local associations the more they would be inclined to back up the parent Society. He coupled with the toast the name of Mr. John Sturton.

Mr. Sturton briefly responded, and, on a call being made for "Mr. Saunders," that gentleman also responded.

Mr. Saunders thanked those who had helped to make the Association a success, and said he did not see why the Association should not continue to prosper, particularly if chemists in the surrounding towns would co-operate.

Mr. Southwell then proposed the toast of

The Town and Trade.

Councillor Whitwell replied. He caused much amusement by making the toast a peg on which to hang a little forcible criticism of the Pharmaceutical Society, of which he confessed he was not a member, and a hearty appreciation of Mr. Glyn-Jones's services to the craft. Referring to Mr. Glyn-Jones's remark about horticulturists and diseased vine-leaves, Mr. Whitwell produced a roar of laughter by exclaiming, "Yes, and when the chemist has given the horticulturist the information he wants he will turn round and say, 'Well, I think I'll take a pennyworth.'" "Is the game worth the candle?" asked Mr. Whitwell.

Other Toasts.

Mr. C. Bayley proposed the toast of "The President."

Mr. Pearson replied, and remarked that he thought the Association had acted very wisely in electing Mr. Prior as the new President.

Then followed an exciting but good-humoured little episode. Mr. Glyn-Jones, who had been observed whispering with the President, suddenly rose and proposed a toast not down on the programme, viz., "The New President and Secretary." On that seemingly innocent toast Mr. Glyn-Jones proceeded to reply to Councillor Whitwell's criticism of the Pharmaceutical Society and his remarks about diseased vine-leaves. Councillor Whitwell rose to a point of order, but was overruled, and Mr. Glyn-Jones, hitting straight out from the shoulder, suggested that Councillor Whitwell ought to join the Pharmaceutical Society and help to make it what he thought it should be.

Mr. Prior and Mr. Saunders replied to the toast, and Mr. J. W. Bodger then proposed "The Visitors."

Mr. G. Hampton, of Leicester, and Mr. W. Elborne, city analyst, responded.

Songs were rendered during the evening by Messrs. Ellis, F. Sturton, and H. Noble, and a very successful gathering terminated with the singing of the National Anthem and "Auld Lang Syne."

SOCIETY OF PUBLIC ANALYSTS.

ORDINARY MEETING.

Wednesday, May 4, 1904, the President, Mr. Fairley, in the chair.

Mr. J. F. Liverseege, Ph.C., F.I.C., public analyst for Birmingham, read a paper on—

Cod-liver Oil and Other Fish Oils.

The author found the following results on analysis of various kinds of oil:—

Specific Gravity.—Cod-liver oil, 0·926 to 0·928; shark oil, 0·962; arachis, hoi, whale, and dugong oils, below 0·920.

Zeiss Refractometer at 25° *C.*—Cod-liver oil, 76·3 to 80; most other oils decidedly different; menhaden, 80·7; and brusmer, 75, being nearest.

Polarised Light.—Hoi was the only oil that gave a notable rotation −4° in 200 Mm. tube.

Hubl Value.—Two absorbed 154 per cent. iodine, seven others 160 to 168 per cent.; menhaden, 174; haddock, 179. The other oils were below cod-liver oil; brusmer, 138, being nearest.

Acidity and Saponification Values.—The free acid of shark oil required 2·2 per cent. of KHO to neutralise, the total value being 6 per cent. None of the other oils required more than 0·6 per cent. for free acid. Total values: cod-liver oil, 18·5 to 18·9 per cent.; dugong (highest), 20·2.

Valenta Test.—Cod-liver oil, 93° C. to 96° C. Nearest others: whale oil, 100°; cotton-seed oil, 90°. "A useful test, easily applied."

Acetyl Values.—Useless for seal or ling oil, but might be of use to detect haddock oil. Determination very tedious.

Sulphuric Acid Test.—Cod-liver, brusmer, hoi, and ling oils gave a violet colour. Brusmer rapidly turned black. Other oils gave brown instead of violet.

Nitric Acid Test (B.P.).—Most cod-liver oils and none of the other oils gave the albumen ring.

Cooling.—One Newfoundland oil and dugong, whale and arachis oils gave large deposits.

Nitric Acid Colour Test.—Cod-liver oil gave a fiery red colour. None of the other oils did so.

CARDIFF AND DISTRICT PHARMACEUTICAL ASSOCIATION.

SOCIAL EVENING.

Wednesday, May 4, 1904, at the Bungalow, High Street, Cardiff. Members and friends assembled to the number of nearly eighty to take part in a whist drive. The prizes were distributed by Mr. J. A. Jones, and during the evening wishes were freely expressed for the success of Mr. A. Hagon (a past-President of the Association) in his candidature for a seat on the Council of the Pharmaceutical Society.

BLACKPOOL AND FYLDE CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Friday, May 6, 1904, at the Palatine Hotel, Blackpool, Mr. Turver in the chair.

Letters were read from Mr. Gibson, Mr. Hagon, Mr. Currie, and Mr. Betty, soliciting support at the Pharmaceutical Council election, and also from Mr. Watson-Will, soliciting support for Mr. Currie. After discussion, it was unanimously resolved to support the candidature of Messrs. Newsholme, Gifford, Robinson, Currie, Sargeant, Higgs, and Hagon.

LONDON CHEMISTS' ASSOCIATION.

GENERAL MEETING.

Wednesday, May 11, at the Argyll Hotel, Argyll Street, W., Mr. A. C. Wootton in the chair.

The Secretary, Mr. R. B. Betty, read the annual report and balance-sheet, which were adopted. The latter showed that the Association had a balance in hand of £30 18s. 6d.

Mr. F. W. Truman read an interesting paper on

Old Recipes and Their Trade Value to Chemists.

There always seemed a tendency, said Mr. Truman, to deprecate anything that was not modern and up to date, and in nothing was this tendency more marked than in physic. A disposition was most frequently exhibited to ridicule old-fashioned recipes, and to denounce them as "old women's remedies," and not the slightest regard was paid with reference to any change of formulæ that might have taken place since the origin of the recipe—with the result that in many cases the therapeutic effect which the recipe formerly had was completely destroyed. By the want of a little forethought, the chemist was, in the case of these old recipes, not only overlooking a valuable asset, but was also bringing himself down to the level of big stores and "companies limited." As an example of the effect of using new ingredients in old remedies, Mr. Truman instanced the mixture known as "Chelsea Pensioner," composed of guaiacum, milk of sulphur, etc., made into an electuary, and taken as a remedy for rheumatism, etc. The formula is more than half a century old, and, when it was written, such a preparation as sulph. precip B.P. was commercially unknown. Made up with the article of the present B.P., it failed to give satisfaction to the customer; whereas, made with the old milk of sulphur, the result was distinctly beneficial, and hence the recipe got repeated over and over again at the establishment from which good results had been obtained. Even some simple recipes were capable of bringing recurring grist to the chemist's mill. The reader of the paper instanced a very familiar aperient, not only used as a family recipe, but also frequently prescribed by physicians even at the present time—namely, a mixture of calomel and sugar. When that admixture was first prescribed, beet sugar was unknown, and, as powdered sugar was not kept, calomel was rubbed down to an impalpable powder with lump cane sugar. When that was done the powder acquired a faint straw colour, quite distinct from the mere admixture of calomel with powdered sugar of commerce, and a dose containing three grains of calomel was a very mild and pleasant laxative; whereas, made by simple admixture, it was a violent purge, and the public quickly learnt to discriminate between the two. So many changes of formulæ, without alteration of name, had been made during the last half-century or so, that in preparing an old recipe with the altered ingredients in use to-day, it frequently happened that the medicinal value of the preparation was impaired, and the prescription, which would have often been repeated to the benefit of both patient and pharmacist, was no longer used. In reference to this, he mentioned that many old-fashioned cough mixtures depended greatly upon ipecacuanha wine, and he did not think it fair to use vin. ipecac. of the present B.P., which was, when anything over a week or two old, nearly, or quite, inert, according to its age.

After a short discussion of this subject, Mr. Pond read a paper entitled:—

Why Doctors Dispense Their Own Medicines,

in which he stated that it was impossible for medical men to give up dispensing under their present existing conditions of life and practice. In addition to their being handicapped by the small fees, which medical practitioners were able to obtain for advice and medicine, they had to contend with the unequal competition of hospitals and other endowed institutions. People who could well afford to pay a doctor went to hospitals, where they got their advice for nothing, with the result that the practitioner was out of pocket. Mr. Pond seemed to suggest that if all the people who could afford to pay a medical man did pay him, and if, again, the medical men were paid by the State for giving advice to people who were unable to pay for themselves, the financial condition of the general practitioner would be such that he could afford to do without dispensing.

After the discussion which followed the paper, Mr. Betty proposed, Mr. Truman seconded, and it was carried, that the Association make a subscription of £5 5s. to the Benevolent Society of the Pharmaceutical Society, Mr. Betty stating that he intended making a personal subscription of £1 1s.

After other business, Mr. Pentney introduced a discussion of the Government Shop Hours Bill, in the course of which Mr. Pond remarked that it was "a disgrace to the Britisher to be compelled to do anything he does not want to do."

A vote of thanks to the Chairman brought the proceedings to a close.

BRISTOL PHARMACEUTICAL ASSOCIATION.

QUARTERLY MEETING.

Wednesday, May 11, 1904, at the University College, Bristol, Mr. G. T. Turner, Vice-President, in the chair.

Mr. H. E. Matthews, the Hon. Treasurer, presented his financial report. He stated that there were still subscriptions owing by several members for the year 1903, which he hoped to collect shortly, and this fact accounted for the funds in hand not being so good as usual.

The Recent Dinner.

Mr. Turner made a statement with regard to the dinner recently held at the Royal Hotel, the accounts in connection with which were passed, and Mr. Turner was very heartily thanked by all present for the way in which he had presided over the dinner, it being the general impression that it was the most successful dinner ever held by the Association.

The Council Election.

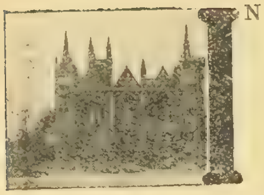
The forthcoming Pharmaceutical Council Election was next discussed, and the names of six candidates were decided upon. The Hon. Secretary was instructed to send a post-card giving particulars of the meeting's decision to all members not present, urging them to send in their voting-papers promptly.

Other Business.

Mr. G. T. Turner and Mr. H. E. Boorne were elected as delegates to represent the Association at the forthcoming B.P. Conference at Sheffield in August. The Early Closing of Shops Bill then came under the notice of the meeting for discussion, the resulting impression being that it would make but very little real difference to chemists if they were mentioned in the Bill, as there would have to be an exemption for them in regard to the supply of medicines, etc., and it would be very difficult to draw the line between necessary and unnecessary sales.

A VISIT TO PETERBOROUGH.

ITS TRADE AND ANTIQUITIES.



IN April, 1903, a meeting was held at Peterborough in connection with the Pharmaceutical Society's local organisation scheme, and Mr. R. Bremridge, as Secretary of the Society, pointed out to the chemists of the district the advantages of co-operation and organisation. The result was the resuscitation of the long-dormant Peterborough Chemists' Association, and at a subsequent meeting of the chemists of the city and the surrounding towns, Mr. J. H. Pearson (Peterborough) was elected President, with Messrs. John Sturton (Peterborough), J. S. Prior (Stamford), and F. Oldham (Wisbeach), Vice-Presidents, and Mr. J. E. Saunders (Peterborough) as Secretary and Treasurer, and forty-eight members were enrolled from the towns within the area of the Association. During the past year the Association has been working quietly, but none the less effectively, in fostering a spirit of co-operation among the chemists of the district. Mr. Bremridge has taken a kindly interest in this useful work, and when it was decided to arrange for a dinner to take place at the end of the first year, and to invite Mr. W. S. Glyn-Jones and Mr. A. S. Campkin, as members of the Pharmaceutical Council, to attend, it was unanimously agreed to invite Mr. Bremridge also. And on Thursday, May 5, those three gentlemen travelled to Peterborough, to be present at what it is hoped will be the first of a series of annual dinners in connection with the Peterborough and District Chemists' Association. A full report of the proceedings on that occasion will be found at page 655, but it has been thought that a brief reference to some of the antiquities of the city, and the condition of pharmacy in the district, may not be out of place here.

Trade in Peterborough.

Peterborough, in addition to being in the midst of an agricultural district, possesses large railway works, belonging to the Great Northern Railway, and is also the centre of a great brick-making industry. The business of the chemist and druggist at Peterborough is consequently of a varied character. A good trade is done in cattle medicines, agricultural chemicals, photographic materials, motor spirit, and the ordinary druggists' sundries. The "cutter," though not entirely absent, is not unduly aggressive. Pharmacy proper is affected little by the operations of the so-called "cash chemists," whose trade consists chiefly in stationery and fancy goods. As in other towns, many of the pharmacies of Peterborough are clustered together in the same thoroughfare, while the remainder are scattered about other parts of the town. The principal thoroughfare in this respect in Peterborough is that leading from the Market Place to the river Nene—known as Narrow Bridge Street and Broad Bridge Street. Here are situated the pharmacies of Mr. J. H. Pearson, Mr. J. E. Saunders, Mr. T. J. Calcutt, Mr. R. Bright, and Messrs. Sturton and Sons; Boots, Limited, have a branch shop there also, and another in Westgate, where Mr. W. T. Knight and Mr. H. E. Noble have pharmacies. Messrs. Heanley and Son have business premises in the Market Place, Mr. J. W. Bodger in Cowgate, Mr. Stephen Willson in Long Causeway, Mr. F. W. Whitwell in Lincoln Road, and Mr. Noble also has a shop in New Road. Some of the chemists at Peterborough are interested in the brick-making industry, and have more than a casual knowledge of the nature and quality of the various kinds of clay. In the course of a conversation with Mr. J. H. Pearson, possibly the oldest chemist in the city, the desirability of chemists making some practical and profitable use of the scientific knowledge acquired while studying for the qualifying examination was referred to, and the subject of clay analysis was mentioned. The *P. J.* representative commented on the peculiar nature of a dark grey clay which is now being brought to the surface by the contractors engaged in constructing the Finsbury Park to Charing Cross Tube Railway. "Ah!" said Mr. Pearson, "I believe our city analyst has had a sample of that clay sent to him for examination and report as to whether it can be put to more profitable use than that of dumping it on the fenlands." And, reaching for his hat, Mr. Pearson invited our representative to accompany him to the City Analyst's laboratory.

A Unique Laboratory.

In all probability the laboratory of the Peterborough City Analyst is unique. Facing the market-place, on which stands a curious old sixteenth-century building, now used as a town hall, is an arched gateway, leading to the famous Peterborough Cathedral. The cathedrals of Peterborough—three in number—date back to the time of Peada, King of the Mercians, who founded the first in 656. The present building is one of three Norman cathedrals in England, and is noted for its fine west front. Its foundations were laid in the year 1117, but 120 years elapsed before the building was completed, and it was not consecrated till October 4, 1237. Adjoining the cathedral is the Bishop's Palace and the old minster precincts. The school of art, science, and technology, in founding which Mr. Pearson took a prominent part, occupy a portion of the precincts, and that part known as the old King's Gaol is now a chemical laboratory. The entrance to this unique laboratory is a few paces beyond the gateway already mentioned, on the right-hand side, and on opening the door the visitor passes through a low arched doorway, down a few steps into a crypt-like apartment, with massive stone pillars and arches and bare stone walls. Fixed in the walls still remain the iron rings to which prisoners—murderers, sheep-stealers, and others—were chained while confined, prior to being hung in the immediate vicinity.

The Analyst and His Work.

Among such surroundings Mr. Pearson introduced the writer to Mr. Wm. Elborne, M.P.S., analyst to the city of Peterborough. But an introduction was scarcely necessary, for Mr. Elborne is an old friend, who, while holding the position of pharmacist to University College Hospital, was an occasional visitor to the editorial office, and a contributor to the pages of the *Pharmaceutical Journal*. Mr. Elborne was busily engaged in examining a sample of cheese when the visitors entered his laboratory, but no sooner was the object of the visit mentioned than he "fished" out, from a dungeon-like recess, a brown-paper parcel containing several pieces of the clay previously referred to. Other samples of clay were also produced, and Mr. Elborne explained many little peculiarities of clay, in the analysis of which he takes a special interest. After carefully re-packing the samples, Mr. Elborne lighted a candle, and under his guidance the visitors investigated the old cells and culverts in and about the laboratory, and on regaining the principal apartment, which for the past twelve years has been fitted with all the paraphernalia of the modern analyst, one could not help remarking on the uniqueness of his laboratory.

NEW REMEDIES.

The Notes in this column embody recent suggestions in therapeutics, for the information of dispensers; they deal with novel applications of drugs and preparations in common use, in addition to new remedies strictly so-called.

Pilocarpine Nitrate In Sciatica and Lumbago.—Dr. S. Farquhar finds the injection into the painful area of ⅓ grain of pilocarpine every, or every alternate, night, with the exhibition of a saline purge and 1 minim of croton oil once week, to give relief even in the most obstinate cases.—*Brit. Med. Journ.*, 1904, **1**, 893.

Alsol as a Remedy in Eye Diseases.—L. Pick records the results of the use of alsol, aluminium aceto-tartrate, for eighteen months. It is found to be generally useful and efficacious as an antiseptic astringent collyrium in blennorrhœa neonatorum, acute and chronic conjunctival catarrh, chronic trachoma, and other affections. It is generally prescribed as follows:—Alsol, 5 per cent. solution, 6 fl. oz. One teaspoonful to be mixed with a cupful of boiled water and used to bathe the eye as directed. The washings are frequently directed to be continued for half an hour at a time, and repeated morning and evening.—*Therap. Monats.*, **17**, 349.

Sodium Silicate as an Application for Lupus.—A. Plicque (*Journ. de Méd. et de Chirurg. Prat.*) advocates the painting of the ulceration of lupus, night and morning, with a solution of sodium silicate, 1, in water, 8. The application gives rise to no inconvenience except that of producing a whitish pellicle as it dries. This may be rendered less noticeable by previously tinting the solution with a little fuchsine. The method is still on trial, but the results obtained in long-established cases are most encouraging.—*L'Union Pharm.*, **45**, 10.

Adrenalin in Hæmorrhage of Typhoid.—Graeser has found adrenalin hydrochloride, given internally, to be efficient in arresting a grave hæmorrhage in a case of typhoid fever, which other remedies had failed to resist. Thirty drops of solution of adrenalin chloride in saline solution every three hours were given, and, although the patient at the commencement of the treatment was almost pulseless, the hæmorrhage was arrested, and an ultimate recovery was effected. No ill effects were observed resulting from the use of the drug.—*Brit. Med. Journ. Epit.*, **21/1903**, 76.

Adrenalin in Pulmonary Hæmoptysis.—Dr. A. S. Hedley. confims the statement of Bird and others as to the value of adrenalin, given internally, in arresting severe pulmonary hæmorrhage, citing two severe cases in which the remedy was given in doses of a teaspoonful of a 1 : 5000 solution, with the result that the bleeding was arrested. In one of these cases. most of the recognised remedies had been fruitlessly employed before the use of the adrenalin solution. The author has also found the remedy of value in the treatment of *post-partum* hæmorrhage.—*Brit. Med. Journ.* [1], 1904, **1**, 365.

Modified Potassium Permanganate Application.—L. Butte employs a mixture of 10 per cent. finely powdered potassium permanganate with a basis of gelatinous aluminium hydrate, obtained by precipitating a solution of alum with potassium carbonate, as a dressing for psoriasis. The application is applied for twenty minutes, then washed off with tar, ichthyol, or cade oil soap. The dark stain left on the skin is removed by means of the application of hydrogen peroxide. The addition of sodium silicate solution to this permanganate mass gives a varnish which is useful in other forms of skin disease.—*Pharm. Centralh.*, **44**, 802.

Oatmeal Diet for Diabetes.—According to K. v. Noorden, a regimen consisting of oatmeal, 5; albumin, 2; butter, 6; in the form of a porridge, as the exclusive source of nourishment, with the accompaniment of a little cognac, wine, or strong coffee, is a radical cure for diabetes. After a few days the urine becomes completely modified, sugar and acetone disappear; gradually the patient is able to resume a more or less mixed diet.—*Berl. Klin. Woch.*, through *Bull. gén. de Therap.*, **146**, 794.

PERSONALITIES, BUSINESS CHANGES, &c.

Mr. W. E. Tanner, M.P.S., has purchased the business of Mr. J. T. Griffin, at 13, The Parade, Chingford.

Mr. W. W. Hellyer, chemist and druggist, of the London Hospital, has passed the second examination of the Royal Colleges of Physicians and Surgeons in anatomy and physiology.

Mr. Frederick Raimes, head of the firm of Raimes and Co., wholesale druggists, of Stockton, York, and London, has been placed on the commission of the peace for the Borough of Stockton by the Lord Chancellor.

Mr. R. W. Tildesley, M.P.S., has purchased the old-established business at 48, Wellington Street, Gorton, Manchester, which has been carried on for a number of years as a branch by Mr. J. Dale, Steel Bank Pharmacy, Sheffield.

Mr. F. Benson Kirby, who has been awarded the bronze medal of the Pharmaceutical Society, received his education at the London College of Pharmacy, passing the Minor in January, 1904, and the Major in April, only a few days before the competition for the pharmaceutical prizes. This is the second year in succession that one of these awards has been secured by a London College student.

Mr. A. Sidney Campkin, J.P., member of Council of the Pharmaceutical Society, has just retired from the Board of Directors ot the Manchester Unity Friendly Society, with which he has been closely connected for twenty years. In 1890 Mr. Campkin was Grand Master of the Unity. Mr. Campkin was on Friday last re-elected Chairman of the Assessment Committee of the Borough of Cambridge, a position which he has held for many years past. The committee is composed of representatives of the University, Town Council, and Board of Guardians.

SCHOOL AND COLLEGE NEWS.

West of Scotland College of Pharmacy.—The fifth annual excursion of the students of the West of Scotland College of Pharmacy will take place on Victoria Day, May 23, to Stirling. The train leaves Buchanan Street Station at 10 a.m. Tickets (4s. each) may be had from Mr. W. Graham, 157, St. Vincent Street, Glasgow. Former students are invited to join the party on that day.

PHARMACEUTICAL COUNCIL ELECTION, 1904.

QUESTIONS TO CANDIDATES.

The following questions have been addressed to the thirteen candidates for the Council of the Pharmaceutical Society by the Honorary Secretary of the Edinburgh District Chemists' Trade Association, on behalf of the members or that organisation.

(1) Are you in favour of a scheme of territorial representation such as that outlined by Mr. J. F. Tocher?

(2) Are you in favour of the total repeal of the Medicine Stamp Acts?

(3) Are you in favour of the immediate division of the Minor Examination so as to relieve the present mental and physical strain involved in passing so many subjects at one time?

(4) Is it your opinion that no amendment of poison legislation should be accepted which does not absolutely conserve the present principle of the education of the vendor as the only effectual means of securing public safety?

(5) Are you in favour of steps being taken to stop the use of the titles "Pharmaceutical Chemist" and "Chemist and Druggist" by any person or company other than a person duly registered under the Pharmacy Acts?

(6) Are you of opinion that legislation which secures the *bonâ-fide* management of every shop kept open for the sale of poisons or dispensing of prescriptions by a registered chemist, and the responsibility of the owners for seeing that this is done, would be a satisfactory settlement of the situation created by the House of Lords' decision regarding limited companies?

REPLIES TO QUESTIONS.

The following replies have been received and sent for publication:—

Mr. R. Lord Gifford.

(1) To have the Council perfectly representative is, of course, desirable. That Mr. Tocher's scheme would—*per se*—effect this object I doubt. Perfect organisation is a condition precedent to perfect representation. We have a paper organisation.

(2) Not answered.

(3) These qustions of examination depend upon the nature of the qualification.—Is it an owner's—*i.e.*, a personal—or an assistants' qualification? Settle that, then deal with the examinations.

(4) Yes.

(5) The Acts of Parliament order examination to precede use of titles. To permit use without qualification is senseless.

(6) *Bonâ fide* by a person, subject to orders from unqualified persons, is a contradiction in terms. "*Bonâ-fide*" control only is satisfactory.

Mr. Octavius Corder.

(1) Yes.

(2) Yes. If poisonous substances are to be notified.

(3) Yes.

(4) Yes.

(5) Yes.

(6) It appears to be the only settlement of the question.

Mr. R. B. Betty.

(1) I am in favour of some form of territorial representation, and, if elected, would endeavour to get it referred to a committee.

(2) Although the Act is ambiguous, no government will entirely repeal it, on account of revenue. I am prepared to see if it can be simplified in any way.

(3) Not in favour of an immediate division of the "Minor" until a curriculum is introduced, but am in favour of a much more practical Minor Examination, which ought not to entail any very great strain.

(4) I am in favour of the minority report, as up to the present no evidence has been brought forward to prove that the farmers and trade are injured under the present law. If such cases can be proved to exist in remote parts of the country, would then consider what best could be done in these particular cases.

(5) I believe the title "Ph.C." is fully protected. In regard to the title "C. and D." it is necessary to have further legislation on it.

(6) I am in favour of Clause 7 of the Pharmacy Bill now before Parliament, as the directors of a limited company stand in the same position as an individual proprietor; each employ a manager, or can do so; and in a responsible business where the professional side is carried on, it is necessary that the directors or proprietor, who has capital in the business and social position, should be qualified, as he is, or they are, in a much better position to understand their responsibilities. This was understood by the Act of 1868, and I fail to see why the same principle should not hold good at the present time. The blockers of our Bill cannot understand the responsible position of qualified proprietors; and such being the case, how can they, or other unqualified directors, properly control the professional side of our business—viz., the selling and dispensing of poisons and the making up of prescriptions. I do not wish to say anything against managers, but they are not proprietors.

Mr. C. E. Pickering.

(1) A better system of voting is necessary; but, although I admire Mr. Tocher's scheme, it is far from perfect.

(2) As applied to a chemist's own specialties, I am.

(3) Certainly. Two subjects taken at a time are quite sufficient.

(4) The education of the vendor is a primary consideration. The facilities for obtaining dangerous poisons should not be increased, but the restrictions need greater enforcement. Poison legislation should most decidedly reserve to the qualified individual the right to protect the public from indiscriminate use and sales of poisons.

(5) Ever since 1880 I have, by frequent letters in the pharmaceutical press, urged that steps should be taken to stop the use of titles by persons who hold no diplomas, and as a first result, if elected, I am determined to press the matter before the Council. This is why I seek the electors' votes.

(6) Yes, to the first half of the question, and No to the second. By the acceptance of the affirmative to the question entirely, the owners of the business need have no knowledge of pharmacy whatever, and I consider this would hinder the progress of pharmacy, causing it to become a mere hunting-ground for profit only.

Mr. W. L. Currie.

(1) Yes.

(2) Yes.

(3) I am in favour of a division of the Minor in some way, as I don't think it quite fair that a candidate should require to be examined a second time in a subject, or subjects, he may have excelled in a first time.

(4) I am opposed to the third sub-division of the Poisons Schedule, and strongly uphold the principle that the education of the vendor is the only safeguard in the sale of poisons.

(5) I have always desired that this should be done, as I cannot understand why any but the qualified individual should be permitted to do so.

(6) A whole night could be spent in reply to this question, but shortly, I am not in favour of qualified *assistantship*, as against qualified *ownership*. I think that every shop kept open for the sale of poisons should be *boná-fide* managed by a registered man, and his name should appear on the premises. Registration of every shop should be insisted on, and if companies have to be recognised, then they should be under the same restrictions as individuals.

Mr. S. R. Atkins.

(1) No.
(2) No.
(3) Yes.
(4) Yes.
(5) Yes.
(6) Yes.

Mr. F. P. Sargeant.

(1) Yes.
(2) Yes.
(3) Yes.
(4) Yes.
(5) Yes.

(6) No. Regarding this question, I should regard as "satisfactory" no arrangement which did not at least ensure the personal qualification of those who, in fact, overlook such shops, that is, the directors in the case of limited liability companies. With this qualification I should answer this in the affirmative.

Mr. Albert Hagon.

(1) As a candidate standing for Wales, nationally and territorially, I am consequently an advocate of territorial representation.

(2) No.
(3) Yes.
(4) Yes.
(5) Yes.
(6) No. It does not go far enough.

Mr. James Paterson.

(1) Yes. I think a scheme of territorial representation would lead to the trade generally taking a livelier interest in the affairs of the Society than they do at present. Mr. Tocher's scheme seems to provide as fair a representation of the various districts on the Council as is practicable to devise.

(2) No. I think it would not be prudent, in view of the advantageous position which qualified chemists occupy, as against companies, under the Acts, to commence or support an agitation for their repeal.

(3) Yes. I have all along supported the movement for a division of the examination.

(4) Yes. The reasons which induced Parliament to pass the Act of 1868 are as valid and cogent now as then.

(5) Yes. These titles ought not to be assumed by any person, or corporation, unless the person or members of the corporation can show that they are duly registered under the Pharmacy Acts.

(6) No. The only logical position for us to take up is, that the proprietor of each business should be a person qualified under the Pharmacy Acts, and that no branch shop should be allowed unless there is a partner, also qualified, able to be there and take charge of it. If any compromise of this position is attempted to be made, I think it ought to be resisted until Parliament is prepared to legislate—putting doctors, dentists, solicitors, midwives, etc., on the same footing as the legislation indicated in this question would place chemists. I can see no reason for any distinction being made between the several classes to our detriment. The recent decisions under the Dentists Acts will hasten the solution of this problem.

Mr. R. A. Robinson.

"I think it better that members of the Council should be elected as representatives who will give their best consideration to the work before them, after full enquiry, rather than to pledge themselves to specific points beforehand, which they might find fettered their judgment unduly. I therefore desire to inform you that my policy, if elected, would be to continue, as heretofore, to maintain the best interests of our business and profession as a whole, and you may possibly know that I have striven to get the Minor Examination divided. The education of the vendor is most important as regards the sale of poisons, and we are all most anxious to preserve that principle. Titles should only be used by those who have passed the examinations and gained the right to use them. I approve of our proposed Pharmacy Bill, and am trying to get approval of the same by Government and members of Parliament."

Mr. W. H. Gibson.

(1) Yes.

(2) I should not be in favour of the repeal of the Medicine Stamp Acts, as I do not consider that Free Trade in proprietary articles would be advantageous to the chemist; and as the revenue from patent medicine stamps exceeds £300,000 and is easily collected, I doubt very much if the Government would agree to the abolition of the duties.

(3) Yes. As soon as it can conveniently be arranged.

(4) The retailing and dispensing of poisons should be in the hands of qualified men only.

(5) Titles should be restricted to qualified individuals or companies, the directors of which should all be qualified.

(6) I should be satisfied with nothing short of the individual qualification of every director of a limited company.

Mr. Alfred Higgs.

(1) Not having Mr. Tocher's scheme before me, I am unable to write definitely of his projects. Territorial representation has my sympathy and support, so much so that I base one of my claims to a seat on the Council from the fact that the district of London—south of the Thames—and the S.E. counties of England, containing, approximately, one-eighth of the population of Great Britain, has no direct representative on the Pharmaceutical Council.

(2) Total unconditional repeal would be prejudicial to chemists' interests, and repeal or amendment would be very desirable on somewhat similar lines to that adopted on the Continent—viz., Persons preparing medicines for the alleviation and cure of disease should be competent and qualified, which in this country would only include doctors and chemists.

(3) Yes.

(4) Yes. The educated vendor is the necessary and only security in the distribution of all poisons.

(5) The titles Ph.C. and C. and D. are personal qualifications, and I am of opinion that if suitable cases of misuse were investigated, conviction would ensue; and failing which, steps should be taken to further protect these qualifications.

(6) No. This state practically exists now, by virtue of which sales of poisons can only be made by registered chemists. I base my contention on the Act of 1868—"unlawful for any person to keep open shop"—consequently it should be unlawful for persons, unless the controllers (directors), principals, or proprietors are qualified persons.

LEGAL INTELLIGENCE.

Sale of Food and Drugs Acts.

"Chlorodyne" Lozenges.

On Thursday, May 5, 1904, before the Swindon magistrates, a summons was heard against Alfred J. Manners, confectioner, of 185, Victoria Road, Swindon, for selling chlorodyne lozenges which were not of the nature, etc., demanded.

Mr. H. Bevis, who conducted the prosecution, stated that Mr. Smith, the inspector under the Act for North Wilts, had one day last month called at defendant's shop and asked for 2 lb. of chlorodyne lozenges, and was supplied with linseed, liquorice, and chlorodyne lozenges which were not of the nature demanded. A sample was forwarded to Dr. Dyer, the county analyst, whose report stated that the sample contained no appreciable quantity of chlorodyne, and, that being so, defendant had committed a breach of the Act. Chlorodyne, he proceeded, was a fancy word which had been in use for about fifty years, and about which at one time there had been a good deal of litigation. The original chlorodyne was claimed in the 60's, and was still claimed, to have been prepared by Dr. Collis Browne. There were other preparations sold by various manufacturers, but they had all one common feature—they were sold under cautionary labels because the ingredients were poisonous. Anybody could eat a lot of those lozenges without experiencing the slightest harmful result, but if that was repeated with genuine chlorodyne lozenges the result would be harmful indeed.

Mr. Smith, the County Council inspector for North Wilts, said he had fourteen years' experience as a practical chemist. He spoke to making the purchases on the day in question from Miss Priest, defendant's assistant, and after bearing out the statements made by Mr. Bevis in opening, informed the Court that when chlorodyne was put up as a patent medicine the labels bore reference to the fact that the preparation was poisonous by reason of the ingredients—morphine and chloroform—which were in it.

Mr. Withy intervened in the examination of witness to argue that the article sold was not to the prejudice of the purchaser, but rather to his advantage. They sold the customer lozenges which he could eat without harmful results.

Mr. Bevis submitted that it was to the prejudice of the customer if he could one day purchase lozenges which were not harmful, and on another day purchase what were ostensibly the same and eat them with harmful results.

Dr. Dyer said he could only discover a minute trace of what might be chloroform. He could not say there was none, but he could put a limit upon the quantity present. At the utmost there was no more than the 150th part of a grain in an ounce; and for practical purposes that was none. The lozenge was a perfectly harmless one, but if lozenges containing chlorodyne were taken in large quantities it would certainly be harmful. Although chlorodyne was volatile, it was retained with remarkable tenacity by the sugar, and it could be detected immediately the lozenge was bitten or broken.

Mr. Withy said the prosecution could not succeed upon the word "drug," because Mr. Manners was a confectioner and not a chemist. In the Sale of Food and Drugs Acts there was no definition of drugs, but there was a definition of food, which was held to include flavouring matters and condiments. The lozenge in question was not a drug, its constituents being sugar and liquorice. They had not been selling medicated lozenges, but flavoured sweetmeats. Even if they desired they could not sell drugs, because they were not fully-qualified chemists. After pointing out that there was no standard of chlorodyne, he further contended that the summons should be dismissed, because chlorodyne lozenge was a proprietary article. He also argued that if there was any trace of chlorodyne, however minute, in the lozenge, there could be no offence, and pointed out that there was no fraud alleged.

Mr. Bevis did not allow that the lozenge was either flavouring matter or condiment. He had called witnesses to prove that chloroform and morphine were constituents of a formula which was recognised.

The Magistrates retired to consider their decision, and on their return the Chairman intimated that there were several points which required consideration. The case would be adjourned for a fortnight.

A similar summons against Brash Goldwin, confectioner, Swindon, was also adjourned.

Cream of Tartar.

On Friday, May 6, 1904, at the Lambeth Police Court, Mary Robertson, of East Street, Walworth, was summoned before Mr. Francis for selling to the prejudice of the purchaser purified cream of tartar which was not of the nature, substance, and quality of the article demanded.

Mr. G. C. Topham said this was a summons for selling cream of tartar containing lead compounds equivalent to metallic lead to the extent of 0·6 grain to the pound.

The defendant's manager admitted the sale, but pointed out that the defendant's business had been conducted for forty-seven years without complaint.

Mr. Passmore, solicitor, remarked that although he was not instructed in this case he thought he might be allowed to say in favour of the defendant that until recently the presence of lead in cream of tartar was never suspected. There was no suggestion that the lead was deliberately put in for the purpose of adulteration. Its presence was believed to be due to the preparation of the article in leaden vessels. Although the last edition of the Pharmacopœia was published in 1898, there was no case of this kind brought before the Courts until last July, so that chemists were hardly aware of the matter.

Dr. W. Scott Tebb, public analyst for the Borough of Southwark, giving evidence in support of the summons, said the lead got into the article in course of manufacture. It was quite possible to get cream of tartar without lead. It was used in medicine and in cooling drinks; it formed a large proportion of a good many baking powders, and it was also used in the manufacture of ginger beer. There was a danger to health in the presence of lead. There were two kinds of cream of tartar sold—the commercial and the B.P. purified.

Mr. Francis ordered the defendant to pay a nominal penalty of 5s. and £2 2s. costs.

Richard Banbury, of Walworth Road, answered a similar summons, but the percentage of lead compounds was slightly higher—viz., 0·8.

In this case Mr. Passmore, solicitor, set up a warranty, but Mr. Topham submitted that the defence must fail on the ground that the article described on the invoice was "1 cwt. best powdered cream of tartar," which was not the article asked for, and which the defendant purported to sell. The article the defendant purchased was the commercial article.

In answer to a question by Mr. Passmore, Inspector Weatheritt said many samples had been taken at the defendant's shop for analysis, but this was the first time any proceedings had been instituted.

Mr. R. Banbury, the defendant, gave evidence on his own behalf. He purchased the cream of tartar from Messrs. Pink under the invoice produced. The firm kept two qualities, and he purchased the best kind—the best powdered cream of tartar. He thought he was getting an article which answered the B.P. test. He sold it just as he bought it. He had not purchased any of the article since February, 1903, the date of the invoice.

Mr. Topham: I take it for granted that the British Pharmacopœia is your guide, philosopher, and friend, and that it is your business to know it by heart.

Defendant: I knew it when I went up for examination, but it has been altered since then. In further cross-examination the defendant said he had never heard until this last week or two that lead had been found in cream of tartar.

In addressing the Court for the defence, Mr. Passmore pointed out that on the invoice Messrs. Pink gave a guarantee under the Food and Drugs Act. He was authorised by Messrs. Pink to say that they intended it as a warranty, and that since the presence of lead in cream of tartar had been suspected they had permitted no cream of tartar to enter their premises until it had been tested for lead.

Mr. Francis said he did not see how the defendant could escape a conviction because the article described on the invoice was not the article asked for in this case. The article, however, was purchased at a time when there had been no proceedings in regard to its sale, and he should only order the defendant to pay a nominal penalty of 5s. and £2 2s. costs.

Two other similar summonses against other defendants were withdrawn, and the hearing of a third was adjourned for a week.

Cream of Tartar.

On Friday, May 6, 1904, at the Guildhall Justice Room, Boots, Cash Chemists (Southern), Limited, Station Street, Nottingham, appeared by their counsel, Mr. Leese, to answer an adjourned summons charging them with having, on March 3, at their shop, 150, Bishopsgate Street Without, sold cream of tartar which was not of the nature and substance demanded, and containing 0·025 per cent. of lead in combination, equal to 1·75 grain of lead to the pound.

Mr. T. G. Vickery (Assistant City Solicitor) appeared in support of the summons, which had been adjourned at the request of the defendants for the report of the Government analyst.

Mr. Leese: The Government analyst's report is ½ grain of lead in defendant's favour.

Mr. Vickery said cream of tartar could be bought free from lead, as was shown by the fact that similar samples taken from other shops of Boots, Limited, upon analysis had been found to be entirely free from lead.

Mr. Leese submitted that Messrs. Boots ought not to have been summoned at all after the decision in the Boutall case, and it was not right that a firm of retail chemists should be picked on for the purpose of a test case. He suggested that before the City proceeded in a test case they should give notice to other chemists.

Mr. Vickery said he had no idea of making this a test case. He was not asking for a heavy penalty.

Evidence having been given as to the purchase of the twopennyworth of cream of tartar,

Dr. Frank L. Teed, public analyst for the City of London, handed in his report showing the percentage of lead he found, as set forth in the summons. Everything in the world contained a certain percentage of everything else in the world, but he had sometimes found cream of tartar quite free from lead. He should doubt if one would get arsenic in it if made in earthenware vessels. Dr. Collingridge, the Medical Officer of Heath for the City, recommended the prosecution. Witness considered the lead injurious to health. The cream of tartar was used largely in baking powder. The proportion of lead found was about one in 6,000. There was a cream of tartar sold which was opposed to the purified cream of tartar. The commercial was sold at 1s. per lb., whereas the best was 2s. 6d. to 3s. 6d. per lb. It depended on the strength of the bi-tartrate of potash. The ordinary generally contained 5 to 10 per cent. calcium tartrate, and the purified should not contain more than 2 per cent. Neither should contain lead. Lead was no constituent part of cream of tartar.

Mr. Leese, when the case for the prosecution concluded, said that there was no personal charge that could be made against Messrs. Boots, because they did not manufacture the drugs themselves. He thought there was no need to prove a commercial standard. There was one, and he could prove it. There was such a thing as purified cream of tartar, and a man could ask for it if he wanted it. As a matter of fact, it was very difficult to obtain. His case was that the inspector had asked for the wrong thing, and the other anyone must know contained an amount of lead.

Mr. Ernest J. Parry, B.Sc., called for the defence, said he had never found a sample of cream of tartar quite free from lead. No one would offer it on the London market as being quite free. A man would have to eat half a pound of bread (containing cream of tartar) a day for five years to get one grain of lead.

Dr. E. G. Whittle, F.R.C.S., of 9, Regency Square, Brighton, dealt with the matter, and said he had over thirty years' experience in the effects of lead as a medicine, given both internally and externally. He did not think the cumulative properties would be prejudicial to health. The acid in cream of tartar would militate against the effects of the lead. He had never heard of ill results from cream of tartar.

Cross-examined: A quarter of a grain of lead in a gallon of water would act as a poison. He was not surprised to hear that in the Sheffield poison case the amount of lead to the gallon was 1/10th of a grain. Lead in water was much more dangerous than in acids such as cream of tartar.

On Tuesday, May 10, Mr. Alderman Smallman gave his decision.

The Alderman said: The prosecutor, by his agent, asked for "cream of tartar." In the last edition of the British Pharmacopœia, under the head "Acid Potassium Tartrate," the synonym "purified cream of tartar" was given. In this edition there is a description of "purified cream of tartar" only, and it is said that this should yield no characteristic reaction in the tests for lead. These words do not appear in the previous edition of 1885, where the synonym "cream of tartar" is given. In the article supplied in this case there was 0·0173 per cent. of lead, equal to 1·21 gr. per lb., a quantity not proved to be injurious to health. In the article commercially known as cream of tartar there are many grades. It is not the pure acid potassium tartrate, and very often—practically as a rule—contains lead from the leaden vessels used in the manufacture, although it need not do so if made in porcelain vessels. It has not been proved to my satisfaction that prosecutor did not receive an article of the nature, substance, and quality demanded by him. I therefore dismiss the summons.

Mr. Leese asked for costs, and reverted to the Mansion House case, which was dismissed, and said the prosecutor might have accepted his suggestions and withdrawn this case. The defence had had to bring expensive witnesses, and he saw no reason why costs should not be given.

Mr. Vickery (Assistant City Solicitor) said the Health Committee of the Corporation had acted in their discretion in applying for the summons, and he did not consider it was altogether loss of time. There was no suggestions against the defendants except that they had been a little careless. The general public were not aware that there was a commercial standard as well as the British Pharmacopœia standard for cream of tartar.

The Alderman made no order as to costs.

Solution of Ammonia.

On Tuesday, May 3, 1904, at Evesham, Henry Smith, chemist and druggist, of High Street, Evesham, was summoned for selling strong ammonia for solution of ammonia on March 18.

Defendant pleaded that the offence was committed through an error.

A female named Long stated that she was sent by the police to defendant's shop for some solution of ammonia, and Dr. Duncan, county analyst, certified that the sample was strong solution of ammonia and not solution of ammonia. Samples of other drugs purchased were found to be up to the standard.

Dr. Duncan said that although no harm had been done in this case, it was the principle of giving a stronger article than was required that should be called attention to.

Mr. Smith informed the Bench that he was under the impression that strong ammonia was required. It appeared to him that it was for some chemical purpose in connection with the other drugs asked for. It was used for cleaning purposes, and he judged that this was for that.

The Bench imposed a fine of 1s. 6d. and £2 3s. 6d. costs.

Tartaric Acid.

On Thursday, May 5, 1904, at Swindon, Frank Clarke and Sidney Reardon, grocers, of Victoria Road, Swindon, were summoned for selling adulterated tartaric acid.

As the defendants desired an independent analysis at Somerset House, the case was adjourned for this to be done.

Brandy.

On Monday, May 9, 1904, at the North London Police Court, before Mr. E. S. Fordham, Stipendiary, the hearing was resumed in respect of a summons taken out by the Islington Borough Council against a local tradesman for selling as brandy an article certified by the public analyst (Dr. Teed) to contain 60 per cent. of spirit other than that derived from the grape. This was one of nine similar summonses, the defendant being Alfred Hillier, of Hornsey Road, who consented to his being taken as a test case. The brandy in question cost only 3s. for the bottle, and for the defence up to the present it has been argued that this was made from the spirit of the grape, though of an inferior one to that grown in the Charente district. Reference to the case has already been made in the *Pharmaceutical Journal.*

Mr. Bonsey, for the defence, called

Dr. Otto Hehner, who said he had analysed a portion of the sample in question. He had heard the results of Dr. Teed's analysis, but his findings did not agree, either with regard to the acidity, the ethers, or the furfurols, and Dr. Teed had not mentioned the aldehydes and the higher alcohols. The co-efficients found in this sample indicated to him that it contained the amount of impurities equal to those of many brandies. The amount of ethers was very small, but other elements were fairly normal. Brandy is distilled from wine of the grape. But there are several varieties, and all do not have the flavour or the bouquet of that made under the Cognac system. My analysis is that this is a brandy as distinguished from the Cognac. There are no means of distinguishing the alcohol which is made from potatoes, grain, beet, or the grape. Alcohol is alcohol, no matter where got from—wood or other things. The analyst could only determine as to the relative strengths.

By Mr. Bonsey: Nobody could say definitely whether the particular alcohol was derived from the grape or any other alcohol-producing source. He had analysed samples of brandy made in Australia, Spain, and other places, and, though there is a distinction with regard to the quantity of ether, there is no means of saying they were from the spirit of the grape.

In reply to other questions, Dr. Hehner said there was no legal standard for brandy. He had known a silent spirit derived from grapes for commercial purposes. Pure alcohol —and what was known as industrial alcohol—had for many years been made from grapes, and it was possible to make a drinkable brandy from it.

Mr. C. Chapman said he had never heard of any standard for brandy. He would hesitate to express an opinion as to what this particular spirit was derived from. He could differentiate only between the grape and the grain spirit by the quantity of higher alcohols as compared with the ethers. Pure spirit was not brandy. As a member of the public, he only valued brandy from its smell and flavour.

Mr. Edward J. Bevan, public analyst for the County of Middlesex, gave an opinion that an analyst might have a shrewd suspicion that brandy with a small proportion of ethers was not entirely from the spirit of the grape, but it could not be definitely stated.

M. Lefort, director of a distillery near Paris, said that not half of the manufactured brandy came from the Cognac district. The productions of the various wine districts of France were mixed and blended, but he did not know for a fact that the two alcohols were mixed in the manufacture of brandy.

The case was again adjourned.

Claim for Damages.

Kilno's Foot Drafts.

On Thursday, May 5, 1904, at Cardiff County Court, Daniel Davies, commercial traveller, claimed £50 damages from the Good Health Alliance Company. Mr, Parsons appeared for plaintiff, and Mr. W. Frampton defended.

According to the evidence, a few months before February last plaintiff suffered from rheumatism. He saw an advertisement in a London paper announcing a cure called Kilno's Foot Drafts, a pair of which he ordered. He put them on his feet on April 27, and wore them until March 5. Considerable irritation set in, and blisters developed, with the result that for six weeks he was not able to follow his occupation.

Dr. Buckham spoke to attending the palintiff on March 9, and found both his feet most acutely inflamed, and with large blisters extending from his heels to the balls of his toes. It was perfectly absurd to say that the foot drafts could draw uric acid out of the system through the pores of the feet.

Cross-examined, witness had not analysed the foot drafts, but from an examination he had made of them he concluded that they contained tar.

Mr. Morris, chemist to the company, said he made the foot drafts, and also prepared the ingredients himself. There was nothing of a poisonous nature in the ingredients. He had taken some of the ingredients for internal treatment.

His Honour said his private opinion was that if people chose to take "patent" medicines of some advertising firm for consumption or cholera they were very foolish, and, perhaps, deserved all they got. In this case the cure was described as perfectly harmless, but the defendant company was liable, as they did not warn the purchaser what effect the plasters might have. Judgment for the plaintiff for £20 was given.

POISONING CASES AND INQUESTS.

The deaths from poisoning reported during the seven days ended Wednesday, May 11, 1904, numbered twenty-one, thus:—

Poison.	Accident.	Suicide.
Alcohol	1	—
Ammonia	—	1
Carbolic Acid	—	3
Carbonic Acid Gas	2	—
Chloroform	2	—
Hydrochloric Acid	—	3
Hydrocyanic Acid	—	1
Laudanum	—	1
Nitric Acid	1	—
Oxalic Acid	—	1
Phosphorus	—	1
Potassium Cyanide	—	1
Ptomaine		—
Kind not stated	—	2
Total	7	14

Alcohol.—A child of four years, at Oswestry, was given some whiskey by his father, a farmer, and death resulted from alcoholic poisoning.

Ammonia.—A single lady, living at Wandsworth Common, who was addicted to drinking, swallowed some strong solution of ammonia with suicidal intent.

Carbolic Acid.—Three deaths from carbolic acid poisoning are recorded—a married woman at Hurst, a single woman at Birkenhead, and a lady at Sawbridgeworth. The jury, in the latter case, added a rider to the effect "that carbolic acid should come under the Sale of Poisons Act, and that great restrictions should be put upon its sale."

Carbonic Acid Gas.—Two labourers at Leith descended to the bottom hold of a vessel to discharge a cargo of guano, but were overcome by the fumes. Another man tried to rescue them and was also overcome, but was brought out by a police sergeant, who collapsed on reaching the open air. Medical evidence showed that the two labourers had been suffocated by "carbonic acid gas, which had generated from the guano."

Chloroform.—Two patients died at University College Hospital while under chloroform, administered as an anæsthetic.

Hydrochloric Acid.—Three deaths have occurred from poisoning by spirit of salt—a man at Croham Hurst, a gas-fitter at Wandsworth, and a baker at Brighton.

Hydrocyanic Acid.—Dr. Herbert H. Horden (39), late of Brixton Hill, has died as the result of taking prussic acid.

Laudanum.—A bricklayer at Newcastle committed suicide by laudanum poisoning.

Nitric Acid.—On March 14 last, a man at Southwark drank some nitric acid in mistake for whiskey. He died last week from the after-effects of the poison.

Oxalic Acid.—A 'bus conductor of North Kensington took some oxalic acid with suicidal intent.

Phosphorus.—A girl at Lambeth soaked some matches in water, drank the solution, and died.

Potassium Cyanide.—A goldsmith of Soho swallowed some potassium cyanide, and died in Hyde Park.

Ptomaine.—A boy at Blackburn died after eating freely of tinned pineapple.

Kind Not Stated.—A soldier at Dublin committed suicide by taking a corrosive poison; and a domestic servant at High Fordon drank some poisonous mixture used for killing maggots on sheep.

Non-Fatal Doses.—Three cases of attempted suicide are reported, the poisons used being ammonia, laudanum, and poisonous lotion.

FRENCH NEWS.

(*By Our Paris Correspondent.*)

War Against Club Dispensaries.

Store pharmacies, such as the Army and Navy, are unknown in France, but cutting-chemists abound. Still, what seems suspiciously like store competition is about to begin over here. The Syndicate of the Mutual Aid Societies of Paris have, within the last few weeks, decided to create a sufficient number of pharmacies to meet the needs of such a large city. The project comprises the installation of one pharmacy in each arrondissement or ward; and, as there are twenty such wards, there will be twenty pharmacies distributed throughout Paris, with one central depôt from which to draw supplies. When the foregoing resolution was made known it very naturally provoked a general storm of protest from our Parisian *confrères*, and to consider what steps should be taken to meet the attack several pharmaceutical societies convened a meeting to discuss a plan of campaign. The medical associations have thrown in their lot with the chemists to protest against the impending evil, for medical men are also menaced by the action of this movement. At Châtellerault, Montaubon, and at Gannat both chemists and doctors are on strike, and a similar thing may happen in Paris if these societies fail to realise the gravity of the situation they are producing. To be deprived of the services of doctor and chemist, unless willing to pay regular prices, would be poor economy for the members.

The Late M. Duclaux.

By the death of M. Emile Duclaux, director of the Pasteur Institute, France has lost one of her most illustrious savants, known to and esteemed by the whole scientific world. He was born at Aurillac in June, 1840, and died May 3, 1904. His celebrity really dates from the day when Pasteur, greatly interested by his 'Traité de Microbiologie,' claimed him as one of his collaborators, with the intention of making him his successor. At Pasteur's death he was called upon to continue the work of the great savant, and he ever acquitted himself in a perfect manner, consecrating to it all his activity, all his energy, and all his time. The vacancy will in all probability be taken by Dr. Roux, assisted by Drs. Chamberland and Metchniffoff.

To Get Rid of Persistent Odours in Flasks or Other Vessels.

To get rid of the strong and disagreeable odours of iodoform, asafœtida, ichthyol, valerian, and similar substances, pour into the vessel some fresh mustard flour, then some cold water. Agitate well together, then let stand awhile, after which wash out and rinse with water. Every trace of odour will be removed.

PATENTS AND TRADE MARKS.*

New Patent Applications.

SURGICAL DRESSINGS (No. 9,792 of 1903).—A. Tertis, 144, Amherst Road, Hackney, N.E. Relates to the use of a dried material of fungoid growth of a species known as amadon, which is sterilised and treated by being soaked in water, or alcohol and water, in which boracic acid is dissolved. It is then allowed to dry or partially dry. As this material contains a certain percentage of free tannic acid, it has the properties of an astringent and styptic. It has also the power of absorbing blood and other fluids. It may be used attached to an absorbent pad or otherwise, and is specially suitable for rapidly healing minor surgical operations where the incision is more or less superficial. A special feature of this dressing is that it does not adhere to the wound.

MANUFACTURE AND PRODUCTION OF SOLUBLE ACETYLISED CELLULOSE DERIVATIVES (No. 10,243 of 1903).—R. M. Balston and J. F. Briggs, both of Springfield Mill, Maidstone. Relates to the direct acetylisation of normal cellulose in which, instead of employing a mineral acid as a dehydrant, there is employed an anhydro-chloride of a mineral acid. Example:—Ten parts by weight of dry fibrous cellulose are steeped in a mixture formed of thirty parts by weight of acetic anhydride in thirty parts by weight of glacial acetic acid, contained in a stoppered bottle, and to which have been added about 1·7 parts by weight of phosphorus oxychloride ($POCl_3$) or phosphorus pentachloride. The bottle is placed for about seven or eight hours in a chamber that is heated to and maintained at a temperature of about 55° C. The mixture may be stirred occasionally during reaction. When the required solubility in chloroform or phenol, which may vary according to the purpose for which the product is to be used, has been attained, as found by testing from time to time, the termination of the reaction may be brought about by adding water to the mixture under treatment.

MANUFACTURE OF PRODUCTS USEFUL IN THERAPEUTICS (No. 12,282 of 1903).—A. Zimmermann, 3, Lloyd's Avenue, E.C. (Communicated by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin, Germany.) If formic aldehyde be allowed to react upon oleum rusci or oleum fagi, and other kinds of wood tar, preferably with the use of a condensing agent, a dark-coloured product of condensation is formed, which in a dry powdered condition is a stable body, and which on heating easily splits off formic aldehyde. Example:—700 Gm. of a 40 per cent. solution of formic aldehyde is added to 700 Gm. of oleum rusci, and the mixture heated to boiling point; this mixture is then poured into 1·5 kilos of raw hydrochloric acid. After cooling, the liquid is poured off from the solidified mass, which is well washed with water. It is then powdered, and again washed until the water flows away colourless, and no longer has an acid reaction. The product of the reaction is a dry brown powder. On account of its disinfecting and drying qualities, it chiefly finds application in dermatology.

MANUFACTURE AND PRODUCTION OF COLLOIDAL PRODUCTS CONTAINING BISMUTH OXIDE (No. 12,773 of 1903).—G. W. Johnson, 47, Lincoln's Inn Fields, W.C. (Communicated by Kalle and Co., Biebrich-on-the-Rhine, Germany.) Example:—140 C.c. of solution of bismuth nitrate in glycerol (50 Gm. nitrate and 200 C.c. of glycerol), diluted with a little water, are added to a solution of 100 Gm. of sodium lysalbinate in 2,000 C.c. of water. A precipitate is thus obtained, which is dissolved in a small quantity of a pure 20 per cent. solution of caustic soda lye. A strong alkaline reaction takes place, and the solution is dialysed until the nitric acid and the free soda lye are removed. The contents of the dialyser are evaporated to dryness *in vacuo*. The product thus obtained contains about 11 per cent. of bismuth, and consists of a light yellow to brown-yellow powder, which dissolves very readily in cold water, the solution being yellowish. Other examples are given. These new products have very valuable medicinal properties.

Note.—Opposition to the grant of above patents must be filed at the Patent Office on or before June 13, 1904.

New Trade Mark Applications.

"**FLORANE**" ("Flor" disclaimed), for disinfectant fluids and powders, by H. S. Cochrane, The Millwall Disinfectant Company, 104-6, Leadenhall Street, E.C. 262,335.

"**HEP-VIR**," for a medicine for animal use; and a medicine for human use, by W. Purslove and Co., 142, Acre Lane, Brixton, S.W. 262,705-6.

"**RADICURA**," for cough mixture, pills, and ointment, by J. S. S. A. Bussell, 98, New Park Road, Brixton Hill, S.W. 260,692.

"**PINTINOL**," for a medicated compound for producing artificial sulphur baths, by Chemische Fabrik Vechelde, Aktien-Gesellschaft, Vechelde, near Brunswick, Germany. 260,950.

Note.—Opposition to the registration of above trade-marks must be filed at the Patent Office on or before June 11, 1904.

NOTES IN PARLIAMENT.

The Trade-Marks Bill.

In response to various requests that the aims of the Trade-Marks Bill recently introduced into the House of Commons should be stated plainly, and in language free from technicalities, Mr. Fletcher Moulton, K.C., M.P., who is responsible for the measure, has published the following details:—The object of the Bill is to simplify our trade-mark registration and render it more suitable to the needs of the commercial community. With this aim it proposes to consolidate into one Act the whole of the legislation on trade-marks. The definition of what may be registered as a trade-mark is made wider. The registrability will turn mainly on the question whether the proposed mark is in fact distinctive, which is the only matter of practical importance in the case of a trade-mark. The limitations that at present exist are highly technical, and have led to much controversy and litigation, without any commensurate benefit to the trading world. One very important point in this connection is that the Bill permits trade-marks to be registered in colour and limited to particular colours. This is of special importance in view of the difficulties often experienced in getting recognition of British registrations in foreign countries. The case of the use of trade-marks (such as labels) which, though registered as a whole as trade-marks, include marks which are separately registered, is dealt with. Such marks may be registered as associated trade-marks and be treated as a series. Provision is made to effectively make five years' registration conclusive evidence of the right to a trade-mark. This was undoubtedly the intention of previous enactments, but the language of the Acts has proved insufficient to carry out that intention.

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* These abridgments of new patent applications and particulars of new applications for trade marks have been specially compiled from official sources, for the *Pharmaceutical Journal*, by Mr. Reginald W. Barker, agent for procuring patents and registering trade marks and designs, 56, Ludgate Hill, London, E.C., from whom any information on the subjects may be obtained. Mr. Barker will also send copies of his 'Trade Mark Notes' and 'Patent Notes for Inventors' free on application.

MISCELLANEOUS NEWS.

Divisional Secretaries and other Members of the Pharmaceutical Society are requested to assist the Editor by sending local newspapers containing items of interest to chemists and druggists.

A Deceased's Chemist's Estate.—The inventory of the estate of the late Mr. James Robb, chemist and druggist, Hillhead, Glasgow, amounts to £2,076 8s. 11d.

Cow in a Chemist's Shop.—A cow, which was being driven through Melksham on Saturday, ran into the establishment of Mr. H. S. Annal, chemist and druggist, but was ejected without any damage being done.

An Exhibition of Flower Seeds under miscroscopes, arranged by Mr. C. Beck, F.R.M.S., will be on view at a meeting of the Royal Microscopical Society to be held at 20, Hanover Square, London, on Wednesday next, May 18.

Royal Photograpnic Exhibition.—The Secretary of the Royal Photographic Society writes to say that at the forthcoming exhibition of the Society it has determined to abolish the wall-space charges in the Competitive Pictorial Section and the Scientific and Technical Section.

Edinburgh Pharmacy Athletic Club.—The preliminary ties of the five-a-side football competition will be played at Powderhall Grounds, on Friday evening, May 20. Entries for the competition close without fail on Saturday, May 14, with D. S. Napier, sports secretary, Ruby Villa, Sciennes Gardens.

Drug Inspection at West Ham.—The Public Analyst of West Ham reported to the Corporation on Tuesday that of the 310 samples submitted to him during the past quarter, under the Sale of Food and Drugs Acts, three were of drugs (cream of tartar). Each of these three samples contained lead. In two cases the quantity of lead did not exceed one-fifth of a grain per lb., but the other sample contained as much as one grain of lead per lb.

The Cardiff Dispensary.—At a recent meeting of the Cardiff Board of Guardians, Mr. Henry Jenkin Owen, M.P.S., of Cadoxton-Barry, was unanimously appointed dispenser at the dispensary in Charles Street, in succession to Mr. Taylor. Mr. Owen is a native of Cardiganshire, and was for two years dispenser at the Westminster Dispensary. He has also served in various pharmacies in London, and has been in business at Barry for nearly twelve years. He holds the "Hall" certificate, in addition to the Minor.

The Royal Society.—At the latest meeting of the Royal Society the following candidates, who had been already selected by the Council, were duly elected Fellows of the Society:—Messrs. Thomas Gregor Brodie, Sidney Gerald Burrard, Alfred Cardew Dixon, James Johnstone Dobbie, Thomas Henry Holland, Charles Jasper Joly, Hugh Marshall, Edward Meyrick, Alexander Muirhead, George Henry F. Nuttall, Arthur Everett Shipley, Morris William Travers, Harold Wager, Gilbert Thomas Walker, William Whitehead Watts.

A Twin-Egg.—The *Stock Keeper* for May 6 last remarks that it would be interesting to know if any poultry lover has ever heard of a twin-egg such as was laid by a buff Orpington pullet in the possession of Mr. Sykes, chemist, of 75, High Street, Plumstead, on April 25 last. The egg is soft-shelled, and consists of two eggs connected by a tube; but the most curious feature is that the yolk only is contained in the smaller shell (about the size of a Bantam's egg) and the white in the larger, both together weighing about 1¾ oz. The curiosity was perfect when laid, and has been photographed.

The Formation of Radium.—Evidence is accumulating to show that helium may be produced as a result of the disintegration of the radium atom, and Professor Rutherford has suggested that radium itself originates from uranium. Mr. W. C. D. Whetham remarks, in a letter to *Nature*, that in the case of all samples of uranium oxides and salts which he has examined he has found greater amounts of radium emanation from old specimens than from recently prepared specimens of the same compounds. If it should be found by other investigators that this is so in all cases, strong presumptive evidence would be furnished that radium is formed by the disintegration of uranium.

Disputed Order for Drugs.—Messrs. Corbyn, Stacey, and Co., manufacturing chemists, recently sued a Mrs. Hayward at Westminster County Court to recover payment of an account in respect of goods supplied in the way of trade. The debt was in respect of perfumery and drugs supplied to the defendant in the way of trade. The defendant said she never ordered the goods, and knew nothing about them whatever. Personally, she carried on a wine business, but her husband was a chemist carrying on business quite apart from her, and had nothing to do with her whatever. His Honour, after hearing other evidence, gave judgment for the plaintiffs for the amount claimed, with costs.

Dispensing at Portsmouth Asylum.—In consequence of the death from chloral poisoning of four female inmates of the Portsmouth Lunatic Asylum, the Committee of Visitors have decided that the poison cupboard shall be enlarged, and that the only solution of chloral hydrate to be kept shall be a stock mixture of fifteen grains to an ounce of water, plus fifteen grains of potassium bromide. All other chloral hydrate in the surgery is to be kept in the crystalline form and in the poison cupboard. The senior assistant surgeon is to be responsible for the surgical instruments, and the junior medical officer, who is a lady doctor, for the up-keep of the stock mixtures.

Halifax Grocers and Proprietary Articles.—The members of the Halifax and District Grocers' Association have taken up the subject of proprietary articles and minimum prices, and have passed the following resolution:—"That in future no further agreements respecting minimum prices shall be signed by any private trader unless the co-operative stores have already signed that they will be bound by the same conditions." A letter was read from Messrs. Owbridge on the subject of co-operative store prices, to the effect that the firm could not see its way to interfere in the matter, pointing out that if the retail price was fixed at the face value, 1s. 1½d., they could not expect the "stores" to sell at 1s. 1½d. plus the amount of bonus.

Society of Chemist-Opticians.—A meeting of the Committee appointed to draw up the objects and rules of the Society of Chemist-Opticians was held at 42, Cannon Street, E.C., on May 11. There were present Messrs. Bunker (Chairman), Blanchford, Cornish, Cuff, Higgs, Maskew, Stooke, Wallace, and Woolley (Hon. Sec., *pro tem.*). Letters containing suggestions as to the rules were received from Messrs. Bennett, Curtis, Fairburn, Gibson, Phillips, and Tocher, members of the Committee who were unable to attend the meeting. The letter to the Spectacle-makers' Company outlining the concessions to chemists which the Society would like the Court to consider was approved by the Committee. The objects and rules of the Society were then considered, and the rules passed for presentation at the general meeting, to be held at the Holborn Viaduct Hotel, E.C., on June 2.

Alleged Bogus Chemists' Traveller.—At Southwark Police Court, on Tuesday, May 10, William James Barnes, 21, described as a clerk, of Gladstone Buildings, Willow Street, Finsbury, was charged, on remand, with obtaining postal-orders for £3 10s. 6d. from William James Green, chemist, Lower Marsh, on the false pretence that he was a representative of Messrs. J. Ismay and Sons, chemists, of Newcastle-on-Tyne. He was further charged with forging and uttering these postal orders, and also with obtaining 5s. by fraud from Mr. Frederick Oliver, chemist, and Mayor of Maidstone. In the first case it was alleged that he took an order for blood mixture and pills and received payment, and in the second he answered an advertisement for a book, inserted by Mr. Oliver, and obtained the 5s. on the promise that he would forward the book required. Mr. Arnold prosecuted for the Postmaster-General. Evidence was now given that the address in Shaftesbury Avenue used by the prisoner in his reply to Mr. Oliver's advertisement was a newspaper shop at which he received letters. The prisoner was committed for trial at the Old Bailey on the charge of forgery and two cases of fraud.

A Litigious Errand Boy.—At the Portsmouth County Court, on Thursday, May 5, Frederick James Gray, described as a chemist, but whose name does not appear on the Register of Chemists and Druggists, 1904, was summoned by his late errand boy for 4s. 6d., one week's wages.—The Plaintiff said that on the Monday preceding Easter he gave notice that he should leave his employment at the end of that week if he could not have more then 4s. 6d. a week, as he was then being paid. Mr. Gray did not assent, and when he did leave on the Saturday, in accordance with his notice, he would not pay him the week's wage that was due to him.—Defendant, in reply to His Honour Judge Gye, said that as his engagement was with the boy's mother he thought any alteration of it should also have been with her, and when the boy spoke to him about his money he told him to send his mother to speak to him. As she did not come, he did not accept the notice from the boy.—His Honour said that, notice or no notice, he ought to pay the boy for the week he had worked, and he added that the right to sue lay with the lad and not with his mother. If plaintiff had any claim upon the boy for damages for leaving without notice he should have laid a counter-claim; as it was, he could only now enter a separate action if he was so advised. There would be judgment for the plaintiff, with costs.

The Unduly Repeated Dispensing of Prescriptions.—The following is an extract from the Report of the Medico-Political Committee of the British Medical Association to the Council of that body, as printed in the Supplement to the *British Medical Journal*:—In the opinion of the Committee the construction of a prescription should be such that the prescriber retains the power of deciding how often it shall be taken. The necessity of this is obvious, since a prescription when handed to a patient becomes the property of the patient, and if no limit is expressed by the prescriber the prescription may be made up indefinitely. The Committee would therefore recommend: (1) That the prescriber should state on the prescription that "This prescription shall be dispensed   times only." (2) That it should be made the duty of the dispenser to stamp each prescription every time that it is dispensed, with the date of such dispensing. (3) That in every case in which a prescription shall, as shown by the date stamped thereon in accordance with the foregoing recommendation, have already been dispensed for the number of times indicated by the prescriber, and in every case in which the period indicated by the prescriber for the repetition shall have expired it should be the duty of every qualified dispenser to whom such a prescription may be submitted for dispensing to refuse to dispense the same. In the opinion of the Committee it would only be possible to carry out the foregoing recommendations by alteration of existing legislation. The Committee desires further to recommend that the Pharmaceutical Society be approached with a view to a conference on the subject.

The Remuneration of London Public Analysts.—The St. Pancras Public Health Committee has had printed a return, based on answers to inquiries made from the Metropolitan Borough Councils, as to the annual remuneration received by public analysts in London. The following is a summary of the information given:—Battersea, salary, £550, 700 samples; Bethnal Green, £10 10s. retaining fee, first 100 samples £1 1s. each, second 100 samples 10s. 6d. each, remaining samples 6s. each, 547 samples submitted during 1903; Camberwell, £500 for 800 samples, 7s. 6d. per sample above 800, 856 samples submitted during 1903; Chelsea, £100, no stipulation as to number of samples, 180 samples submitted during 1903; Deptford, £150 for 300 samples, 10s. per sample above 300, 302 samples submitted during 1903; Finsbury, £250 for 500 samples, 7s. 6d. each for additional samples, 610 samples submitted during 1903; Greenwich, £100 for 200 samples, 10s. for each additional sample, 306 samples submitted during 1903; Hackney, 10s. per sample, 600 samples submitted during 1903; Hammersmith, £200, 404 samples submitted during 1903; Hampstead, £50 retaining fee, 10s. 6d. per sample, 350 samples guaranteed, 366 samples submitted during 1903; Holborn, £250 for 500 samples, 511 samples submitted in 1903; Islington, 10s. 6d. per sample up to 800, 7s. 6d. per sample above that number and up to 1,200, the number ordered to be taken annually; Kensington, £400 for 500 samples (laboratory provided, and 6s. weekly allowed for bottle cleaning, etc.); Lambeth, £400 for 1,000 samples, 10s. each for additional samples, 1,010 samples submitted in 1903; Lewisham, £200, no number of samples stipulated, 451 samples submitted in 1903 (laboratory, chemicals, and assistance provided); Paddington, £250, no number of samples stipulated, 517 samples submitted during 1903 (a room provided, but only a portion of the chemicals, etc.); Poplar, £150 for 250 samples, 7s. 6d. for each additional sample, 373 samples submitted during 1903 (£40 allowed for a laboratory, chemicals, and assistance); St. Marylebone, £150, no number of samples stipulated, 618 samples submitted in 1903 (laboratory, chemicals, assistance, etc., provided, and no restriction as to private analyses in the laboratory); St. Pancras, £100 for 200 samples, 10s. 6d. for each additional sample, 500 samples submitted in 1903; Shoreditch, £50 retaining fee, 10s. each sample, 707 samples submitted in 1903; Southwark, £475, rising to £500, no number of samples stipulated, 2,004 samples submitted during the year (laboratory, chemicals, assistance, etc., provided); Stepney, £280, no number of samples stipulated, 1,200 samples submitted in 1903 (laboratory, chemicals, assistance, etc., provided); Stoke Newington, 10s. 6d. per sample, 122 samples submitted in 1903; Wandsworth, 10s. 6d. per sample and £1 11s. 6d. for water analysis, 729 samples submitted in 1903; Westminster, 12s. 6d. per sample, 1,800 samples submitted in 1903; Woolwich, 10s. per sample, 539 samples submitted in 1903. In the absence of notification to the contrary in the foregoing, a laboratory, chemicals, and assistance are not provided by the borough councils. Bermondsey and Fulham made no returns.

CHEMISTS' EXHIBITION.

The tenth of the series of chemists' exhibitions, held at the National Skating Palace, Argyll Street, London, W., and organised by the *British and Colonial Druggist*, was opened on May 9, and remained open until May 13. The whole of the available space was taken up by nearly a hundred exhibitors, whose attractively arranged exhibits gave to the hall a handsome appearance.

The Vinolia Co., Limited, was the first exhibit encountered on entering the building. In addition to their standard soap and perfume preparations the display (which was set off by a profusion of plants, flowers, and handsome showcases) included a number of new lines. Wall-flower soap and perfume, Savon Peau d'Espagne, violet soap and perfume and Mylissia soap were perhaps the most prominent among the latter, but space will not permit to mention more than a few of the high-class preparations for which the firm is so noted.

Parke, Davis, and Co. had a business-like show of fine pharmaceutical products. Noticeable among these were the physiologically and chemically standardised fluid extracts put up in 4, 8, and 16 ounce bottles; the value of standardisation has frequently been referred to in these columns, and it is hardly necessary to emphasise the convenience of these extracts in making tinctures and like preparations. Prominence was also given to the £5 display of Euthymol preparations, articles which are continually growing in popularity.

Camwal, Limited, occupied the enclosure adjoining the promoters' pavilion on the entrance tier. The stand was one of the cosiest in the exhibition, and in addition to the firm's well-known specialties, such as "Fontalis,' dry ginger ale, Limonette, etc., there was a large display of various waters in syphons. The syphon-holder and cooler was also in evidence; this is a useful and ornamental article which is growing in demand. A corner of the display was devoted to an interesting collection of apparatus used for testing the gas, and of the various preparations used in the production of sweetened and flavoured beverages.

Armour and Co., Limited, had two positions. One of these was devoted to a very fine display of pharmaceutical preparations, such as lactated pepsin, peptonising tablets, soluble beef, essence of pepsin, and other articles on the P.A.T.A. list. In addition to these, the exhibit consisted of the various forms of pepsin and pancreatin, glandular extracts, as well as suprarenalin (the active principle of the adrenal substance). The other position was occupied by a large assortment of high-class toilet soaps, most of which are already known to our readers. A medicinal series, including tar, sulphur, and carbolic soap may be specially noted as an excellent line.

Thos. Christy and Co.—A large variety of chemists' sundries and counter attractions occupied the space allotted to this firm. One of the most recent additions to the many high-class articles for which Messrs. Christy and Co. are so justly noted is "Snowdrift Crystal Cream," prepared either with witch hazel or eau de Cologne; it is an excellent toilet cream, put up in a most saleable form. The diagnostic lamp for the use of medical men and dentists in the examination of the throat and for other purposes is a contrivance which is bound to recommend itself to the profession. Space will not permit us to mention other articles on view here, but a further note of this specially interesting exhibit will appear next week.

The Crown Perfumery Co. had, as usual, an exceedingly fine display of perfumes and toilet articles. It is almost impossible to pick out from such a choice selection one or two specialties more worthy of note than the others. Among the new lines perhaps the most noticeable are "Crown Royala" soap and perfume, and "Sweet Pea" perfume, the latter being very fashionable just now. A new series, including Crown violet oatmeal soap, face cream, and bath powder, very artistically packed, was attracting considerable attention.

Hearon, Squire, and Francis, Limited, had, as on previous occasions, a business-like exhibit of high-class pharmaceutical preparations. Among these might be mentioned Elixir Heroin Co., Elixir Heroin Co. and Guaiacol, antiseptic cream, emulsion of cod-liver oil and hypophosphites, and liquor thymol co., all of which are perfect preparations. In addition to their standard preparations the firm was exhibiting a large variety of perfumes, cachet powders, and like articles. Unexcisable Coca Wine is another preparation which deserves the notice of retailers. The exhibit also included a showcase containing some interesting materia medica specimens, including, among others, fine samples of bismuth, mace and nutmeg, and cloves.

Idris and Co., Limited.—Perhaps the chief feature of this exhibit was the special syphon recently introduced. This is so manufactured that metallic contamination is absolutely impossible, the water coming only in contact with glass, porcelain, and a small piece of rubber at the outlet valve. In introducing this syphon Messrs. Idris and Co. have made a step in the direction of allaying the fears of that ultra-"hygienic" section of the community, which thinks to see a danger in the syphon now in common use. The names of some of the new waters which the firm has recently put on the market, such as "Salidris" and "Distilidris," ought to catch on. Soda-water fountains and numerous specialties formed part of the exhibit.

The Erasmic Co., Limited.—Toilet soaps, perfumery, and toilet requisites were displayed at the artistically draped stand occupied by this firm. It is not necessary to mention any particular line exhibited here; they are all sufficiently well known to the retail chemist. Samples and price-lists can be obtained on application by those who did not have the good fortune to view the very complete selection of goods collected together at the exhibition.

The Standard Tablet Co. were exhibiting the attractive showcase for the display of bottles of sugar-coated tablets which they are offering free with £5 orders. The stained mahogany and french-polished case will make a handsome addition to the chemists' counter. A complete assortment of compressed preparations, together with a show of glycerin lozenges, put up with customer's name and address, were included in this comprehensive display.

Potter and Clarke.—Interest centred round a guessing competition in progress at the stand occupied by this well-known firm of wholesale druggists and herb growers. The problem was to estimate the number of what looked like 6-grain cachous in what appeared to be a seven-pound jar; at least, these were the factors on the basis of which competitors seemed to be calculating. The result, which may possibly prove that the cachous were double that weight and the jar half the size, will be made known at the end of the week, when the winner will be presented with the jar of cachous, which he can count for himself. The display was very comprehensive, and included most of those packed preparations for which the firm has a great reputation.

Wright, Layman, and Umney, Limited, occupied two stands. One of these was devoted to a selected display of "Packed Pharmaceuticals," most of which have already been noticed in these columns. This exhibit was visited by a large number of customers, and those who were unable to see this collection should not fail to procure an illustrated catalogue from the firm. The other stand was devoted to Wright's coal-tar specialties, including the world-renowned "Wright's Coal-tar Soap," together with shaving soaps, dog soaps, dentifrice, liquor carbonis, and other preparations. At both stands good business seemed to be in progress.

Wyleys, Limited.—It would be impossible to enumerate here even a small proportion of the high-class manufactures of the Coventry firm, which occupied the same position as last year. Among the few which may be mentioned are the elegant capsules containing the equivalent of 1 drachm of syrup of glycerophosphates. Another preparation which the firm has recently put on the market is "Ung. Rusci Co.," a perfect ointment, containing an organic compound of bismuth with birch tar; this article, which can be had in bulk, to be sold as a proprietary for eczema and other skin complaints, has been largely prescribed by the medical profession. Tinctures, compressed tablets, perles, gelatin-coated pills, tube preparations, etc., etc., were well represented.

J. Sanger and Sons.—The attractive stand occupied by the varied display of this firm's goods was built at Messrs. Sanger's own shop-fitting department, which has recently been organised. As in previous years, the exhibit consisted of a number of well-known saleable and profitable lines, which are to be found on nearly every chemist's counter. Besides these, there were several articles which have more recently been introduced, and are likely to become as popular as the older ones.

Price's Patent Candle Co., Limited.—The soaps especially manufactured for sale by chemists only, which were commented on in a recent issue of the Journal, were shown in a cosy corner of the exhibition. These soaps are sure to be taken up, and those of our readers who were not able to see them for themselves would do well to get further particulars from the firm.

Schutze and Co.—All the goods exhibited by this firm were either those manufactured in their own factories or those for which they hold sole wholesale agencies. Nursing aprons, bathing caps, belts of all kinds, bath gloves, sponge bags, trusses, perfumes, etc., etc., were among the many articles shown. "The Hydrodot" douche is one of the most compact arrangements of the kind on the market, and readers are advised to obtain particulars about it.

A. de St. Dalmas and Co. had on view a complete assortment of all kinds of plasters and bandages. One of the latest novelties shown by this firm consisted of plasters in caddies; this way of packing plasters makes it very convenient for cutting off small pieces (the plaster being on a spool), while the tin keeps the plaster in perfect condition. Hospital strapping and rubber adhesive plaster spread on brown holland is another novelty which will commend itself, the brown holland giving a firmer grip.

F. Newbery and Sons.—Something topical in the way of Japanese goods was on view at this stand. The Imperial Brush Co., Osaka, Japan, was represented by an assortment of nail, hair, and tooth brushes from the Far East; these articles are of exceptional durability and fine finish, and the price is surprisingly moderate. All sorts of chemists' sundries were also shown, the latest novelty, perhaps, being a glass-topped case containing half-a-dozen assorted sprays for showing on the counter. Messrs. Warner and Co.'s pharmaceutical preparations occupied a corner of the stand, which was very neatly arranged.

Ford, Shapland, and Co.—All a chemist requires in the way of stationery, labels, handbills, and the like were neatly set off at the stall where this firm displayed its goods. Messrs. Ford, Shapland, and Co. were among the first to realise the importance of the new Inland Revenue regulations with reference to chemists' labels, and this fact, together with their up-to-date exhibit, testifies to the firm's enterprise.

W. Martindale.—Perhaps the most interesting exhibit shown by Dr. Martindale was the new edition of the 'Extra Pharmacopœia,' published on the opening day of the exhibition. From the point of view of scientific pharmacy the stand was undoubtedly the most important in the exhibition, but space will not permit us to go into detail concerning the many articles shown here; the list of exhibits occupied four pages of the catalogue, and included all the latest scientific discoveries in the form in which they can be used therapeutically. The exhibit was an education in the highest branch of pharmacy, and those who visited it were well repaid.

Cresswell Bros. and Schmitz.—A complete selection of every variety of sponge of interest to the chemist was exhibited by this firm, which occupied a pavilion whose walls were composed of sponges.

Photographic Exhibits.—The third tier of the Skating Palace was occupied by manufacturers and dealers in photographic goods. **W. Butcher and Sons** had an attractive display of cameras of all prices and descriptions. Most of the apparatus manufactured by this firm is already known to chemists, and full particulars will be found in the price-list, for which readers should apply. At another position demonstrations of development with Coxine were attracting considerable attention.—**Houghtons, Limited**, were well represented by everything which the photographic chemist is likely to be called upon to supply. The exhibit was varied, and those who paid it a visit were well repaid.—**J. E. Lockyer** had a complete assortment of Lockyer's photographic preparations, including all the well-known lines with which his name is associated.—**Tyler and England Bros., Limited, The Wizard Camera and Phonograph Co.,** and **A. and M. Zimmerman** were also showing photographic materials.

Other Exhibits.—Soaps and other toilet articles were shown by **James Ewen and Sons.** Filters and irrigators of various descriptions were shown by the **Berkefeld Filter Co., Limited.** Friedrichshall Water was exhibited by **Oppel and Co.**; the well-known toilet articles of **Papier Poudre, Limited,** were displayed. Pearson's antiseptic, a non-poisonous fluid disinfectant, and other equally good and saleable preparations, were shown by **Pearson's Antiseptic Co., Limited. Baiss Bros. and Stevenson, Limited,** gave prominence to samples of a perfect cod-liver oil emulsion. Every thing in the way of optical instruments and sight-testing apparatus was on the stand occupied by **Raphael, Wheway, and Redfern, Limited. The Tasmanian Eucalyptus Co., Limited,** had a varied display of their well-known eucalyptus preparations. Soemnoform and a special inhaler were shown at the stand of **C. de Trey and Co.** and **Mr. Frank Newbery** was exhibiting his shaving specialties. Further notes concerning some of these exhibits will appear in our next issue.

TRADE NOTES.

Maw's Saefinuse Thermometers.—We are requested to mention that the prices of Messrs. Maw's Saefinuse Thermometers, one minute magnifying, should be 37s. 6d. per dozen, and half-minute magnifying should be 50s. 6d. per dozen. The prices were wrongly printed in the advertisement which appeared last week.

The Photographic Dealers' Annual, 1904, has interesting and useful articles on the testing of photographic lenses, recent changes in modern chemistry, registration of designs and trade marks, patenting inventions, the care of photographic stock, tricolour photography, the packing of lime cylinders, and photographic raw papers, besides much miscellaneous information concerning matters of interest to the dealer in photographic goods. Those who have not a copy of this handy guide should write to the Publisher, 'Photographic Dealer,' Harp Alley, Farringdon Street, E.C.

COMPANY INTELLIGENCE.

Malteal, Limited.—Capital, £5,300. Object: To acquire patent No. 6,262 of 1896, and the business of manufacturing and selling the substance known as Malteal, under the said patent, to adopt an agreement with A. Smith, and to carry on the business of Malteal manufacturers, manufacturing chemists, etc. Registered office, Wortham House (near Diss), Wortham, Suffolk.

W. J. Bush and Co., Limited.—The report of W. J. Bush and Co., Limited, for 1903, to be presented at the meeting on the 12th inst., states that Mr. J. M. Bush has been appointed chairman in succession to the late Baron de Bush, and Mr. Alexander Bush, a large shareholder, has been elected a director. The accounts show that the gross profit for the year amounted to £80,034. The directors recommend that the holding in the Société Anglo-Française des Parfums Perfectionnés, Limited, which stands in the balance-sheet at £1,489, be written off, that the amount now standing as preliminary expenses be written off (in addition to the sum of £1,737 written off in the balance-sheet), £418, and a reserve created against the debt owing by W. J. Bush and Co., Incorporated, of £2,000. After paying a dividend on the ordinary shares of 5 per cent. for the year there remains to be carried forward £275.

Fuller's Earth.—The report of the directors of the Fuller's Earth Union, Limited, shows a balance profit and loss account for the year, after writing off the usual amount for depreciation, of profit amounting to £6,829, to which has to be added the sum of £785 brought forward, making a total balance of £7,615. The interim dividend on the preference shares paid in November has absorbed £1,088, leaving £6,526 to be dealt with. Out of this the directors recommend that a final dividend be paid on the preference shares for the half-year to March 31, at the rate of 5 per cent. per annum, and that a dividend of 5 per cent., free of income-tax, be paid on the ordinary shares, requiring together £3,368. From the balance then remaining it is proposed to carry 1,500 to the reserve fund, bringing this up to £4,000, and leaving, after payment of directors' fees, the sum of £858 to be carried forward.

MARKET REPORT.

The quotations given below are the lowest prompt cash prices for bulk quantities, to which other charges have to be added. It is important that this should be borne in mind in making any comparison between the prices quoted and those of the wholesale drug trade.

The Drug Sales.

London, Thursday, May 12, 1904.

An unusually large supply of old and new goods was brought forward at to-day's drug sales, the offerings comprising nineteen catalogues. The demand, on the whole, was very slow, and the sales dragged on until a much later hour than usual. In the particulars given below only the articles which found buyers are included. The auctions were practically without special feature, unless it was that the quantity of Ipecacuanha offered without reserve was somewhat large. Twenty-nine bales of Rio sold without reserve and with fair competition at from 4s. 2d. for fair to 4s. 8d. for good; the rest of the offerings of Rio were bought in at 5s. Eighteen cases of Cartagena sold without reserve at 4s. to 4s. 3d. These prices are from 3d. to 4d. lower than the last prices obtained in auction. Gum Asafetida was in good supply, and for the most part the quality was also good and the demand very fair. A very fine sample sold at 110s.; for good fair 70s. to 75s. was obtained; fair sold at 42s. to 45s., and ordinary stony at 9s. to 10s. The offerings which did not sell were firmly held. Eleven cases of Japanese Refined Camphor in tablets offered without reserve were sold at 2s. 6d. and 2s. 7d., and the offerings of English Refined were held for 3s. 6d. A case of Kobayashi Menthol sold without reserve at 16s., but the rest of the offerings, consisting both of "Kobayashi" and "Suzuki" brand were firmly held. Four bags of Ergot of Rye sold at 1s. 3d. for wormy Spanish; the same quantity of small Russian at 1s. 2d. and 1s. 3d. without reserve; and 5 bags of fair Spanish at 1s. 5d. Honey was in good supply, and a fair quantity sold at very full prices, from 16s. to 25s. 6d., according to quality. One lot of Indian Hemp fetched 4s. 3d. for good green heads. For Curoçao Aloes 25s. and 25s. 6d. were paid for dark livery, and 21s. 6d. for Capey. Zanzibar sold up to 57s. 6d. Gamboge sold at £14 for pickings, and £14 2s. 6d. and £14 7s. 6d. for fair unsorted pipe, the rest of the offerings being firmly held. A few cases of Gum Guaiacum sold at 6d. for ordinary drossy. Two bags of good East Indian Kola Nuts sold at 5d., "subject," and 5½d. was paid for good West Indian. Gum Myrrh sold at 92s. 6d. for sorts. Fifty-four serons of Crown Bark sold at 1s., and 1s. 1d. for fair Loxa rather strawy. Coca Leaves were bought for 11½d., 11½d. for yellowish-green Ceylon Leaf, and 6d. for damaged pickings. Five cases of Rhubarb sold at 11½d. for small flat high dried, and 1 case of good bold flat at 1s. 1d. Four bags of Turkey Galls sold at 53s. 6d. Twenty-four bales of Gentian Root sold without reserve at 20s. 184 bags of Cocculus Indicus sold without reserve at 6s. 3d. For Jamaica Sarsaparilla a bid of 11d. was accepted for good native, and 6½d. for sea-damaged. A few bales of Buchu Leaves sold at 7½d. for yellowish round leaf. Six cases of Gum Elemi sold at 30s. for fair good white. Twenty bags Colombo Root sold at 13s. 6d. and 14s. for very ordinary tongue sorts. Forty bags of Levant Aniseeds were disposed of without reserve at 17s. 6d. These were the more important transactions made. The next auctions will be held a month to-day.

General Markets.

ARROWROOT.—Of the 700 packages of St. Vincent offered on Wednesday 130 sold at 1⅝d. to 1⅞d. for good manufacturing.

CAMPHOR.—The prices are nominally unaltered.

CARBOLIC ACID.—Crystals, 39-40°, 6⅝d.

CASTOR OIL.—Easier. Belgium, firsts, spot, £19 15s.

CHLOROFORM.—The reduced price of B.P. is 1s. 7d. to 1s. 9d. per lb., according to quantity.

CINCHONA BARK.—The fifth of the series of London sales was held on Tuesday; the supplies were moderate, the total of all descriptions amounting to 1,703 packages, against 1,490 packages at the previous sale. The demand was fair, and about three-fourths of the offerings found buyers at rather below last London sales' rates, the average unit being 1⅜d. (the parity at the last Dutch sale was also 1⅜d.), against 1 7/16d. in April last.

CITRIC ACID.—Firmer at 1s. 0¼d.

CLOVES.—At the Spice Sales Zanzibar were bought in at 8½d. Ceylon sold at 8¾d. for fair picked.

COCAINE.—12s. 8d. to 13s. 3d. per oz. for the Hydrochloride, according to quantity.

CODEINE.—8s. 4d. per oz.

COD-LIVER OIL.—From 200s. is quoted from Lofoten.

CREAM OF TARTAR.—98 per cent. foreign powder, 87s.

GINGER.—At the Spice Sales part of the offerings of Cochin sold without reserve at easier rates. Jamaica was in good supply, and sold at about steady rates, bold and medium dullish hard at 50s., good bright washed at 49s., good middling at 45s.

GLYCERIN.—The price for 1·260, chemically pure, in tins and cases, is quoted 67s. to 69s. 6d. per cwt., according to quantity, the lower figure being for five-ton lots.

HYDRASTIS CANADENSIS—Is again dearer, and 5s. 1d. c.i.f. is quoted.

IODIDES. — Unaltered. Sodium Iodide, 11s. 10d. to 12s. 1d.; Potassium Iodide, 10s. 3d. to 10s. 9d.

ISINGLASS.—The fifth sales of the year were held on Tuesday. Smaller supplies were brought forward, amounting to 636 packages of all descriptions, as compared with 861 packages at the preceding sales. The demand was slow, and about one-third of the offerings found buyers at about steady prices. Brazil imports were in small supply; Para met a fair demand at a trifle easier prices for lump; tongue and honeycomb were steady. Penang met a fair demand, and a good proportion sold at generally steady prices. Russian, China, and Japan were all bought in.

MERCURIALS.—Unaltered. Calomel, 2s. 8d.; Corrosive Sublimate, 2s. 4d.; Red Precipitate, 2s. 11d.; White Precipitate, 2s. 11½d.; Mercuric Sulphate, 2s. 4d.

MORPHINE.—4s. 5d. per oz. for the Hydrochloride.

OPIUM.—The market exhibits a hardening tendency in Constantinople, and in some instances it would be impossible to do business at the rates prevailing a fortnight ago.

OTTO OF ROSE.—There are indications that a repetition of last year's moderate prices is not likely.

PEPPERMINT OIL.—There is no demand whatever, and quotations remain unaltered.

QUICKSILVER.—The following is abstracted from Mr. A. S. Pickering's monthly statement:—Imports: April, 1904, 5,084 bottles; January/April, 21,169 bottles. Exports: April, 661 bottles; January/April, 6,855 bottles. Average Price: April, 1904, £8 3s. 6d.; April, 1903, £8 12s. 6d.

QUININE.—The second-hand market has been quiet to-day; 11¾d. is the nominal price.

TARTARIC ACID.—Easier. 1s. 1¼d. for English.

IMPORTS OF DUTIABLE CHEMICALS.—The following table shows the amount and value of the chemicals which are subject to duty (in respect of the alcohol used in their manufacture) imported into the United Kingdom during the year 1903, together with the rate of duty:—

ARTICLE.	QUANTITY.	VALUE.	RATE OF DUTY.
		£	
Acetic Ether	4,393 lbs.	343	1s. 11d. per lb.
Butyric Ether	582 gallons	526	16s. 5d. per gal.
Sulphuric Ether	3,111 gallons	737	£1 7s. 5d. per gall.
Ethyl Bromide	67 lbs.	[illegible]	1s. 1d. per lb.
Ethyl Chloride	572 gallons	2,757	16s. 5d. per gall.
Ethyl Iodide	1 gallon	14	14s. 3d. per gall.
Chloral Hydrate	22,899 lbs.	2,601	1s. 4d. per lb.
Chloroform	5,080 lbs.	369	3s. 3d. per lb.
Collodion	330 gallons	120	£1 6s. 3d. per gall.
Transparent Soap (in the manufacture of which spirit has been used)	8,803 lbs.	412	3d. per lb.

OPIUM IMPORTS.—This table shows the amount and value of the opium imported into the United Kingdom during the years 1902 and 1903:—

	1902.	1903.	1902.	1903.
	Lbs.	Lbs.	£	£
From Foreign Countries	842 863	473,305	388,648	221,587
From British Possessions	122,756	65,015	63,374	35,057

QUININE IMPORTS.—The following table shows the amount and value of quinine and quinine salts imported into the United Kingdom from various countries during the years 1902 and 1903:—

—	1902.	1903.	1902.	1903.
	Ounces.	Ounces.	£	£
From Germany	543,234	246,613	26,648	12,628
From Holland	591,424	334,909	31,779	16,372
From France	56,468	34,782	3,264	1,766
From United States of America	229,520	114,250	11,310	5,530
From Other Foreign Countries	22,712	92,016	1,037	4,683
Total	1,443,358	822,570	74,038	40,979

COD-LIVER OIL.—This season's cod fishing in Lofoden is now closed, as well as in the other minor fishing districts. The total catch of cods this season up to date amounts to:—

	Barrels of Liver for Unboiled Cod-liver Oil.	Barrels of Crude Steam-boiled Cod-liver Oil.
1904, 39 millions of cods yielding	5,195	11,187
The results of previous years are as follow:—		
1903, $34\frac{3}{10}$ millions of cods yielding	4,310	1,900
1902, $36\frac{1}{5}$ millions of cods yielding	13,190	17,330
1901, $31\frac{3}{5}$ millions of cods yielding	18,020	28,700
1900, 25 millions of cods yielding	22,240	23,620
1899, $26\frac{4}{5}$ millions of cods yielding	20,260	26,900
1898, $30\frac{3}{10}$ millions of cods yielding	18,030	19,270
1897, $47\frac{1}{5}$ millions of cods yielding	16,690	26,470

Thus the result of this year's production of steam-refined cod-liver oil (according to Johan Thesen and Co.) will be far below the average, even including the Finmarken fishery (not yet finished), which generally does not give a great augmentation to the production. The cod fishing has in the last few weeks been carried on with good success, owing to the large presence of fish, and the favourable weather at the coast.

NAMES WANTED.—A letter has just reached the editor of *Commercial Intelligence* from a firm of wholesale druggists in California asking for the names of some of the heavy chemical houses in Great Britain. The letter continues: "At this time we are interested in bromides, sodium, potassium, and calcium in a large way, for use in metallurgical operations, and want the names of large manufacturers to whom we can write to secure quotations on the commodities in round lots; and if you have among your records the names of producers of bromides we would very much appreciate your sending us same."

THE COMPARATIVE IMPORTS OF VARIOUS COUNTRIES.—Statistics show that the imports of the United Kingdom are nearly double that of any other country. Germany comes next, then the United States, then the Netherlands, which is closely followed by France. As regards *per capita* imports, the order is as follows:—Netherlands, New Zealand, Belgium, Switzerland, United Kingdom, Commonwealth of Australia, and the United States.

CINCHONA BARK FROM AFRICA.—With one exception, the cultivation of cinchona has not hitherto been a success in Africa. Although at one time there were as many as 20,000 plants in St. Helena, in 1883 these had dwindled to 196 trees. In Reunion there were, in 1894, 80,000 plants, consisting chiefly of *C. officinalis*, *succirubra*, *Calisaya*, and *Ledgeriana*; but the percentage of alkaloid was very small, and the bark was all used by the inhabitants, none being exported. In the Island of San Thomé, in Portuguese West Africa, there were 2,500,000 trees in 1891, and in 1893 as much as 234,416 ℔. of bark of *C. succirubra* was exported. The bark contained 5·45 per cent. of total alkaloids, of which 1·40 consisted of quinine, 0·90 of cinchonidine, 1·46 of cinchonine, and 1·54 of amorphous alkaloids. Recently the cultivation of cinchona has been introduced by Germans into the Cameroons, plants having been imported there from San Thomé, and from Java in 1900 and 1902. So far as can be learned at present, the prospects of success in this industry are excellent.—*Schweiz. Woch.*, **42**, p. 243.

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BRITISH TRADE IN APRIL, 1904.

The total value of goods imported into the United Kingdom during the month of April, 1904, was £45,181,763, an increase of £1,379,436 on April, 1903. The total value of our exports (including re-exports) during the same period was £30,239,204, an increase of £513,767 on April, 1903. The total value of "Chemicals, Drugs, Dyes, and Colours" imported into the United Kingdom during the period under consideration was £852,637, being an increase of £101,416 on April, 1903. The exports of goods included under this heading are valued at £1,339,284 (an increase of £118,619), and the re-exports at £136,429 (a decrease of £895).

The following table shows the increase or decrease of the imports and exports of articles of interest to chemists during last month, compared with the corresponding month of the preceding year:—

IMPORTS.

Article.	Quantities.		Value.	
	Increase.	Decrease.	Increase.	Decrease.
Mineral Water	764 doz. bots.	—	£3,750	—
Ginger	4,082 cwts.	—	—	£1,318
Coco-Nut Oil	20,066 cwts.	—	—	29,278
Olive Oil	1,176 cwts.	—	40,781	—
Turpentine	17,430 cwts.	—	39,672	—
Gum Arabic	1,474 cwts.	—	—	1,364
Soda Compounds	3,572 cwts.	—	1,484	—
Borax	26,549 cwts.	—	10,737	—
Glycerin	2,466 cwts.	—	4,770	—
Peruvian Bark	—	1,574 cwts.	—	3,615
Quinine and Quinine Salts	172,684 cwts.	—	8,686	—
Unenumerated Drugs and Medcines	—	—	16,466	—
Soap and Soap Powder	13,178 cwts.	—	—	12,430

EXPORTS.

Article.	Quantities.		Value.	
	Increase.	Decrease.	Increase.	Decrease.
Aerated Waters	—	2,102 doz. bots.	—	£459
Scientific Instruments and Apparatus (other than electrical)	—	—	—	£1,038
Glycerin	—	5,440 cwts.	—	£10,074
Medicine (comprising drugs and medical preparations)	—	—	—	£19,978
Soda Compounds	15,005 cwts.	—	£12,535	—
Soap	—	16,205 cwts.	—	£7,830

BLOCK CAMPHOR DUTY FREE.—It has been decided that block camphor is crude camphor as far as the Customs authorities of the United States of America are concerned, and therefore is allowed to enter duty free.

REVIEWS AND NOTICES OF BOOKS.

'Practical Enlarging.' By John A. Hodges. Sixth edition. Pp. 142. Price 1s. London: Iliffe and Sons, Limited, St. Bride Street, E.C. 1904.

The introduction of cheap hand cameras, which are capable of producing fairly good pictures, has acted as a stimulant to the practice of enlarging by amateurs, and there are now many photographic beginners anxious to know how they may make enlargements from their quarter-plate negatives. This book just meets their requirements. It is brightly written by one who evidently has a practical knowledge of his subject, and deals with all the various methods of enlarging.

'The Half-Tone Process: A Practical Manual of Photo-Engraving in Half-Tone on Zinc, Copper, and Brass.' By Julius Verfasser. Third Edition. Pp. 292. Price 5s. nett. London: Iliffe and Sons, Limited, 3, St. Bride Street, E.C. 1904.

Though this is nominally the third edition, the work has been re-written throughout, and enlarged to such an extent that it is almost entirely a new book. The author has treated his subject from the standpoint of the practical process block maker, and the operations described are set forth in sufficient detail to make it a complete treatise of the half-tone process. At the same time, he has kept in view the requirements of a reader taking up the subject for the first time, though the reader is assumed to have a knowledge of ordinary photographic methods. The book is fully illustrated, and the various tools and appliances required, as well as the studio and its fittings, are described. Anyone desirous of becoming acquainted with what is meant by the term "half-tone" in its application to the making of blocks by photographic processes, and the practical method of making half-tone blocks, should have a clear conception of the principles on which the process is based after carefully perusing this book.

Sunbeam Bleach Co., Limited, v. Daniel Clarke.—In the Court of Appeal the hearing was commenced on May 12 of the plaintiffs' appeal from an order of Mr. Justice Kekewich restraining the defendant from carrying on business under the name of "Clarke and Co.," as a manufacturer of Clarke's Ammonia Bleaching Powder. The hearing was adjourned.

LETTERS TO THE EDITOR.

All Communications for the *Pharmaceutical Journal* must be addressed to the Editor, 17, Bloomsbury Square, London, W.C., and, if intended for publication in the current week's issue, should reach the Office not later than Wednesday, unless specially arranged for in advance. The matter should be written clearly and concisely on one side of the paper only and must be authenticated by the names and addresses of the writers, as no notice can be taken of anonymous letters. Articles submitted for the Editor's approval should be accompanied by stamped addressed envelopes, otherwise no guarantee can be given that they will be returned if not found suitable. Reprints of articles cannot be supplied unless the authors communicate with the Editor before publication. The right to reproduce all original matter and illustrations published in the Journal is strictly reserved.

The Council Election.

May I call your attention to the letters of some candidates which have appeared in the *Pharmaceutical Journal* recently? It seems to me that these gentlemen have taken advantage of your generosity in writing you letters advocating their candidature, and I suggest that the most fitting place for their letters would be in the advertising columns of your widely-read paper. We have had full particulars even of their earliest history in recent numbers, together with their portraits, and I submit they should not receive a gratuitous advertisement at the expense of the Pharmaceutical Society.

Hounslow, May 7, 1904. W. J. U. Woolcock.

Experience of previous elections reveals the regrettable fact that a large proportion of members do not vote. To this section, while there are still a few days (May 17) before the poll closes, I would urge the pressing necessity of exercising the privilege of the franchise. Whatever safeguards we have and any emancipation we hope to achieve must come from the official mouthpiece of the Society. Members can neither speak nor act with the most thorough conviction unless backed up by the united voice of the craft. Wales is rising to the occasion. We are forming Associations, rapidly recruiting members for the Society, and have with deliberation selected a candidate, who, we assert with all deference to the excellent qualifications of other aspirants, is a gentleman that we commend with every confidence to our English and Scotch colleagues. He is a typical pharmacist, who with earnestness and ability has devoted his best to the interests of his pharmaceutical brethren. We rely upon the traditional sense of British fair play, and when I touch that chord I have no fear of the response. Try us, gentlemen, and see whether a little Keltic fervour will not help the forward movement. But the main object of my remarks is to urge you, by every sentiment of intelligence, self-respect, and loyalty, to express your good opinion at the most critical juncture in the history of pharmacy, and vote. England, Scotland, and Wales expects every man this day will do his—voting.

South Glamorgan,
May 7, 1904.

W. R. Hopkins,
Divisional Secretary.

I notice that you have published in your correspondence columns letters from some of the Pharmaceutical Council candidates. With a view that Mr. A. Higgs—the candidate who is supported by the Thames Valley District Chemists' Association—might not be overlooked, I should like to state why he should be returned to the Council, and would make an excellent representative. The fact of Mr. Higgs being a magistrate, and, further, specially appointed by the Lord Chancellor as a justice to adjudicate in lunacy cases, is alone evidence of capacity and capability, and this recoils with credit upon the craft generally. If there in one member amongst chemists typical of the ordinary chemist who has and does bear the brunt of the heat and burden of the day behind a chemist's counter it is Mr. Higgs. Without exacting conditions and promises (which electors know too well are more often noted in the breach than in the observance), we have in Mr. Higgs a true representative of the 70 per cent. members of the Pharmaceutical Society who are middle-class chemists, and not at present adequately represented on the Council. If there is significance in territorial representation, Mr. Higgs, as South London and S.E. Counties' candidate—which district has no direct representative on the Council, and contains approximately one-eighth of the population of Great Britain—should receive support throughout the length and breadth of Great Britain, and help to verify the motto so suitably adopted by and engraven on the hearts of members of the Thames Valley District Chemists' Association, "Nihil sine unitate."

Fredk. Harvey, Hon. Sec.,
Thames Valley District Chemists' Association.

Surbiton, May 9, 1904.

As a Welsh Divisional Secretary, may I ask for a little space in your valuable Journal in support of the candidature of Mr. Hagon at the coming Council Election? Even on patriotic grounds alone Welshmen would feel proud to be represented on the Council of the Pharmaceutical Society. It is not, however, as a matter of sentiment that I would respectfully ask my fellow-pharmacists in England and Scotland to help us to secure the return of Mr. Hagon, for we believe that in him we have an ideal candidate—a successful retail pharmacist, living in a town where the business is "cut"; a man in the prime of life, full of energy, determination, and tact; and an able debater, whose words always carry weight. Mr. Hagon is alive to all the difficulties which beset the retail chemist, and in the present unsettled condition of pharmacy he is just the man to look after the interests of *bonâ-fide* chemists *versus* the ravages of the company octopus and the "free poisons" crusaders. I have every confidence, therefore, in asking my brethren across the borders to favour Mr. Hagon with their votes and interest.

H. Edward Ellis.

Llanfair, near Welshpool, May 4, 1904.

*** Letters have also been received from Mr. J. J. O. Evans, of Teignmouth, and Mr. O. W. Jones, of Flint, advocating the candidature of Mr. Hagon, and from the Committee of the Thames Valley District Chemists' Association—which includes Mr. Harvey and Mr. Woolcock—asking for support for Mr. Higgs.—[Ed., *P.J.*]

The Protection of Titles.

The paragraph in which you call attention to my remarks on the Pharmacy Bill, and refer me to Clause 11 as protecting the titles, deserves a little careful study. I spoke directly and to the point. To say that Clause 11 makes it an offence for any limited company to use the titles, etc., is an indirect assumption, which is subject to certain conditions. The words you use are not in the clause; there is no mention of titles in the whole Bill. To be strictly accurate, Clause 11 attempts to remedy what is considered a defect in the Pharmacy Act of 1868 by bringing the use of titles by companies within the jurisdiction of that Act. The logical synthesis of Clause 11 of the Bill and Clause 15 of the Pharmacy Act might result in a satisfactory compound if the disturbing elements were absent. The judicial interpretation of an Act of Parliament is subject to the conditions surrounding the Act. As far as the practice is concerned, the new Bill, *sine* Clause 7, would leave things practically as they are. Limited companies would be legally recognised, a distinction with the only difference that it would be more difficult to convince the judicial mind of their incompetence to describe the class of business which they were quite competent to carry on. As the law now stands, both the practice and the titles are personal matters. Impersonal companies have, however, for some years annexed the titles, and either they are within their rights or the Pharmaceutical Society has neglected its duty. It has been frequently reiterated, particularly for my information, that all limited companies are within their rights in the use of the titles. For the sake of argument, we will admit for the moment the legality of the lay decision, absurd as it is, that companies of unqualified persons may with impunity use the titles. The Bill will grant them the important claim of "existing rights" which were acknowledged to the individual, however shadowy, at the time of the passing of the 1868 Act. With such a precedent, is it probable that Clause 11 of the draft Bill will be retrospective? The same conditions applicable to the individual on his first statutory recognition in 1868 will be claimed as applying to the company on its first statutory recognition in 1904. We may blind ourselves to the influence of precedents, safeguards, and existing rights, but it will be small consolation to blame imperfect drafting when the Act is found wanting. With Clause 7 we should get an Act that would require the companies to take a share, though by no means a *pro rata* share, of the conditions and responsibilities which press heavily on individuals; without Clause 7 we should get a miserable Cash Pharmacy Bill, utterly incompatible with the scheme of systematic education we desire to promulgate.

Batley, May 9, 1904. R. Broadhead.

Sir Michael's Analogy.

There is more resemblance in the engine driver and the chemist than strikes one at first sight. The driver holds the post of responsibility—yea, has the lives of the people verily in his hand, likewise the chemist, whilst both are placed last in public appreciation and financial remuneration. Other attendants, who, by the order of things, get more into public and private contact, and so hold the key to personal appreciation, like the indoor pet dog. But when Sir Michael Hicks Beach tells me his reason for legislation upon the analogy, I am led to ask if others hold the like views, and if they are really serious in the thought that the contrast already existing between the qualified chemist and the State is not severe enough to merit a higher standard. The Charter of Incorporation granted our Society in February, 1843, clearly states, amongst other provisions, "and also for the protection of those who carry on the business of chemists and druggists," and I humbly submit that, without some form of protected field, pharmacy must slowly go to the dogs, because State recognition, as we are all feeling to-day, has prejudiced the public mind against us, and especially to the minds of those who are allowed to compete without education and examination.

Haywards Heath, May 4, 1904. R. O. Hayes, M.P.S.

Naval Dispensing.

In last week's Journal Mr. Park, a member of the Council of the Pharmaceutical Society, is reported as having said that he had made inquiries and found that dispensing in the Navy was satisfactory. In view of this astonishing statement, I should like to ask Mr. Park, through the medium of your paper, for the reasons on which he bases his benevolent conclusions. The real facts are patent to anyone who takes the trouble to study the current copy of the Navy List. There are twenty-six naval and marine hospitals and dispensaries scattered throughout the world, and *nine* only of these carry qualified dispensers, viz:—Haslar six, Plymouth four, Chatham two, Malta two, Haulbowline one, Bermuda one, Jamaica one, Hong Kong one, and Cape of Good Hope one. At the remaining hospitals the dispensing duties are performed by members of the sick berth staff. The pay of these men, it is true, nearly approximates to the princely reward of the "Square" licentiate, but their training in the handling of drugs is compressed within the compass of a few weeks, amplified by a little intermittent and spasdomic practice on board ship. In addition to these hospitals, there are dispensaries attached to the Royal dockyards and naval barracks in which the same conditions prevail. In face of these facts, I can hardly understand Mr. Park's complacent benediction of naval dispensing. If the lives of the officers and men of the Navy are safe in the hands of this class of persons, then surely the British public may with confidence entrust their prescriptions to the apprentice with two years' experience, without paying for the gilt-edged luxury of a dispenser who has negotiated the futile mockery of a statutory examination. If Mr. Park's opinions on this subject had been made known to me at his last candidature I should certainly not have voted for him.

May 10, 1904. "An Astonished Pharmacist" (5/11).

Bile Pills.

Our Association has been in correspondence with the Inland Revenue authorities urging them to reconsider their decision making the word "Bile" a liable title to apply to medicine. The letter which follows is the result of our appeal.

London, E.C. Richard C. Wren, Hon. Sec.
Association of Wholesale Druggists and
Manufacturers of Medicinal Preparations.

22443 S.
1904.
[Copy.]

Inland Revenue,
Somerset House, London, W.C.
May 7, 1904.

Dear Sir,—The Board of Inland Revenue having had before them your further letter of the 24th ult., I am directed to acquaint you that upon further consideration they have decided not to regard the title "Bile Pills" as being a description which in itself involves liability to Medicine Stamp Duty.

Your obedient Servant,
(Signed) E. E. Stoodley,
Secretary.

To Make Friends with the Doctors.

Is this writ "sarkastik"? "How to Make Friends with the Doctors.—I may say that since I started selling your goods I have now no less than fourteen (14) doctors as ledger customers, and your goods give me a footing, as I can then sell them bottles, wrapping-paper, and all the requisites of a dispensing practice."

The above is a copy of letter from a provincial chemist to a London firm of wholesale druggists, who supply doctors largely with ready-made proprietary preparations, published in one of their pamphlets.

Muswell Hill, May 10, 1904. Redman Sims.

Optical Organisation.

I quite concur with your remarks that there does not appear to be any need for the proposed Society of Chemist-Opticians, any more than there is for a society of grocer-chemists—who might claim privileges from the Pharmaceutical Society on the ground that they have trafficked in drugs—or a society of chemist-doctors.

May 10, 1904. "M.P.S., F.S.M.C." (5/30).

Powdered Ipecacuanha Root in Pills.

Would any dispenser kindly inform me as to the best way of dispensing pulv. ipecac. (simple) in pill form? They are frequently ordered 5-gr. size by a doctor. Squire recommends dispensing syrup, but a large quantity of this is required, and even then the mass is far from satisfactory.

May 9, 1904. "H. P. M." (111/26).

REPLIES TO CORRESPONDENTS.

Cork Stopper (D. H.—111/28).—We have no information on the subject. A patent agent may be able to assist you.

Jenner's Blood Stain (J. T. M.—111/25).—You will find full particulars in the *P.J.* of June 14, 1902, page 518.

Bell Scholarship (P. A. W. S.—111/24).—You may answer the questions in any order you like, provided the numbers are quoted in each case.

Chemists' Profits (J. L.—5/23).—We are obliged to you for your communication, but do not think it would be in the interests of chemists to adopt your suggestion.

Staining Rubber (G. R. P.—111/34).—We should say it is not possible to stain it, but it might be coated with a coloured solution of indiarubber in benzol, chloroform, or oil of turpentine.

Classes in Australia (R. L.—111/31).—Application for the information you require should be addressed to the Registrar of the University. We regret we are unable to assist you in the matter.

Milk Powder (P. and S.—111/20).—The "Klonol" Brand Dried Milk, made by Irven and Co., 7-8, Union Court, Old Broad Street, London, E.C., without the use of sodium or potassium bicarbonate, should meet your requirements.

Cinchona Wine (L. B.—111/30).—No licence is required for dispensing the wine as part of a physician's prescription, nor for selling the wine, if it be sufficiently medicated to be rendered unfit for use as a beverage. See the 'P.J.F.,' page 781.

Additional Recipes (T. K. and C.—5/38).—We cannot undertake to deal with any further recipes, with a view to including them in the supplementary pages to the 'P.J.F.,' unless each recipe is written in full English on a separate slip of notepaper.

Ægyptiacum (J. S. S.—111/32).—(1) It consists of verdigris, vinegar, and honey. You will find two formulæ in the 'Pharmaceutical Journal Formulary.' (2) Strictly speaking, the compound you mention is a preparation of arsenic within the meaning of Part 1 of the Poisons Schedule.

Asthma Remedy (T. D.—111/29).—Yes, such a preparation will be liable to medicine stamp duty in Great Britain. The duty payable where the price does not exceed four shillings is sixpence, and where the price exceeds four shillings but does not exceed ten shillings the duty is one shilling.

Numbers of Recipes (F. B.—301/37).—The numbers were sent by post some time ago. Neuralgia Pills (7848), contain quinine sulphate and iron pill. Nerve Tonic (7954) consists of ammonium carbonate, potassium and sodium bromides, tinctures of cinchona (comp.) and nux vomica, and chloroform water.

Dispensing for Doctors (E. J. L.—111/29).—We are not aware that there is any customary rate, but are advised that ten or twelve shillings a week would be fair remuneration for the services of a qualified man for the time you mention. Obviously, you ought to be in the best position to decide what amount will repay you adequately for the services rendered.

BIRTHS.

Bain.—On May 9, at Penzance House, Bridge-of-Allan, N.B., the wife of John Bain, pharmaceutical chemist—a daughter.

Chalmers.—On May 5, at 7, Holly Avenue West, Newcastle-on-Tyne, the wife of A. Chalmers, M.P.S., of a son.

Stone.—On May 6, at 141, Manchester Road, Southport, to Ada and G. Percy R. Stone—a son.

Udale.—On May 10, at Bushey Villa, Harlington, Middlesex, the wife of Geo. W. Udale, pharmaceutical chemist, of a daughter.

MARRIAGE.

Barnard—Clark.—On April 28, at St. Leonard's, Shoreditch, George Bartlett Barnard, M.P.S., of 309, Hackney Road, N.E., eldest son of Mr. A. P. Barnard, 88, Columbia Road, N.E., to Edith Anna, eldest daughter of Mr. Alfred Clark, "Crabgate," Wood Dalling, Norfolk.

DEATHS.

Kirkus.—On May 6, Robert Waudby Kirkus, Chemist and Druggist, Bootle. Aged 81.

McGavin.—On April 30, John McGavin, Chemist and Druggist, Preston. Aged 64. Mr. McGavin, who was born at Kilbachan, near Johnstone, served his apprenticeship in Glasgow, and afterwards spent some time at Oswestry and Wolverhampton. He went to Preston in 1862, and established the present business in Friargate thirty-five years ago, and was the senior chemist by examination in the town.

Roberts.—On May 5, Theophilus Jones Roberts, Chemist and Druggist, Holyhead. Aged 61. Mr. Roberts had been an Associate and latterly a member of the Pharmaceutical Society since 1871.

Thomas.—On May 3, John Darby Dermott Thomas, Pharmaceutical Chemist, Bristol. Mr. Thomas had been a member of the Pharmaceutical Society since 1873.

Williamson.—On May 6, Professor A. W. Williamson, F.R.S., Emeritus Professor of Chemistry, University College, at his residence, High Pitfold, Hindhead. Aged 80.

Calendar for the Week (May 15—21, 1904).

Days of		Events of the Week.	Sun	
M	W		Rises	Sets
15	S	**Sunday after Ascension.** ●New Moon, 10.58 a.m.	4.10	7.42
16	M	George Webb Sandford died, 1892.	4.9	7.43
		Optical Society, 20, Hanover Square, London, at 8 p.m.—Report of the Optical Standards Committee on "Standardisation of Spectacles and Eye-Glasses."		
17	Tu	Pharm. Soc. G.B., Whitehall Rooms, Hôtel Métropole, at 6.30 p.m.—Annual Dinner.	4.7	7.45
		British Pharmaceutical Conference, 17, Bloomsbury Square, London, at 4 p.m.—Special General Meeting.		
		Edinburgh and District Chemists' Trade Association, 36, York Place, at 9 p.m.—Annual Meeting.		
18	W	Pharm. Soc. G.B., 17, Bloomsbury Square, London, at 12 p.m.—Annual General Meeting.	4.6	7.46
		Cheltenham and District Chemists' Association, The Pioneer Club, Gloucester, at 8.30 p.m.—General Meeting.		
		Chemical Society, Burlington House, Piccadilly, W., at 5.30 p.m.—Ordinary Meeting.		
		Royal Microscopical Society, 20, Hanover Square, London, at 8 p.m.—Ordinary Meeting and Exhibition of Flower Seeds.		
19	Th	Pharm. Soc. G.B., 17, Bloomsbury Square, London, at 3 p.m.—Adjourned General Meeting.	4.5	7.47
		Brighton Association of Pharmacy, 122, King's Road, at 9 p.m.—General Meeting.		
		Hartlepools and District Chemists' Association, Grand Hotel, West Hartlepool, at 8.30 p.m.—Annual Meeting.		
20	F	Easter Sittings End.	4.4	7.48
		Oxford Term Ends.		
		Royal Institution, Albemarle Street, Piccadilly, W., at 9 p.m.—"The Radiation and Emanation of Radium." By Prof. Ernest Rutherford.		
21	S	Oxford Trinity Term Begins.	4.2	7.50

LETTERS, NEWSPAPERS, QUERIES, and other COMMUNICATIONS have been received from Messrs. Barker, Barnard, Barrie, Bartlett, Beedle, Birkbeck, Blamey, Bott, Butcher, Chalmers, Christy, Cotterill, Cox, Dale, Dietzsch, Ellis, Evans, Ferrier, Garner, Gilmour, Gwinn, Harvey, Haworth, Hayes, Hitchcock, Hopkins, Lees, Lloyd, Loosmore, Lothian, Marsh, Merck, Middleton, Moore, Mumford, Napier, Orton, Palmer, Pattinson, Plowright, Ramsay, Rowland, Sankey, Scott, Self, Sims, Sinca, Smith, Snell, Stone, Tanner, Thomas, Thompson, Timpson, Town, Travers, Wilson, Wootton, Wren.

Faithfully yrs
S R Atkins
[illegible]

SAMUEL RALPH ATKINS, J.P. (OF SALISBURY).

Twenty-Second President of the Pharmaceutical Society of Great Britain.

Telegrams: "PHARMACEUTICAL JOURNAL LONDON"
ESTABLISHED 1841
The Pharmaceutical Journal
A WEEKLY NEWSPAPER
FOR CHEMISTS AND DRUGGISTS.
The Oldest Organ of the Drug Trade in Great Britain.
EDITORIAL OFFICE,
17, Bloomsbury Square, London, W.C.
Publishing & Advertising Offices, 8, Serle Street, London, W.C.
Telephones, "Editor," 3220 Gerrard; "Publishers" 370 Holborn.

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The Journal circulates widely in the United Kingdom, France, Germany, Austria, Italy, Russia, Switzerland, Canada, the United States, South America, India, Australasia, South Africa, etc. It is supplied regularly to the majority of the Chemists and Druggists in business in England, Scotland, and Wales, and to the whole of the members of the Pharmaceutical Society of Great Britain. Orders for Advertisements or for Copies of the Journal should be addressed to the Publishers, 8, Serle Street, London, W.C.

The Pharmaceutical Journal Office,

17, Bloomsbury Square, London, W.C.
Thursday, May 19, 1904.

Mr. T. H. W. Idris, J.P., has been elected a corresponding member of the Paris Society of Pharmacy.

Mr. C. B. Allen made his last public appearances as Vice-President of the Pharmaceutical Society at the annual meeting and conversazione on Wednesday.

The Result of the Council Election was declared this afternoon. The seven successful candidates are Messrs. Newsholme, Atkins, Gibson, Gifford, Currie, Robinson, and Hagon.

Chemistry is to be a compulsory subject in the Final Examination for the degree of Bachelor of Science in pharmaceutics, which is to be instituted by the Victoria University of Manchester. Two other subjects must be taken, but may be selected from a list of nine.

"Cream of Tartar" prosecutions continue. A South London chemist was recently fined 5s. with 12s. 6d. costs for selling this drug containing the equivalent to 0·6 grain metallic lead to the pound. For the defence it was argued that there was a difference between "Cream of Tartar" and "Purified Cream of Tartar."

The Annual Dinner of the Pharmaceutical Society on Tuesday evening was attended by several members of Parliament. Mr. Thomas Lough was hopeful with regard to the prospects of legislation of a kind satisfactory to pharmacists. One of the most interesting announcements of the evening was made by the President, who stated that he had just been elected an honorary member of the Paris Society of Pharmacy.

The Education of the Grocer is receiving the attention of local associations of grocers. A somewhat elaborate syllabus has been drawn up, and it is proposed to encourage the study of chemistry in so far as soap, candles, butter, and other groceries are concerned. It has been pointed out that if this instruction is to be put to any practical use the grocer must have a chemical laboratory attached to his shop.

The British Pharmaceutical Conference has decided, at a special general meeting, to ask the Council of the Pharmaceutical Society to state what sum it is prepared to offer for the formulæ which have been published, and those awaiting publication under the auspices of the Conference. This step has been taken in consequence of the fear that the proposed 'Compendium' will "clash" with the 'B.P.C. Formulary,' and interfere with the sale of the latter.

Vol. 72. No. 3422. (4th Series, Vol. 18. No. 1769.)

The Proposal to present a testimonial to Mr. W. S. Glyn-Jones, in recognition of the services which he has rendered to the "pecuniary and moral sides of the calling," as the President of the Proprietary Articles Trade Association puts it in a letter to the Editor, is taking definite shape. A committee is being formed to deal with the matter, and the first meeting of that body will be held on May 27. Meanwhile, Mr. Glyn-Jones has resigned his position as Secretary to the Chemists' Defence Association, Limited.

The Metric System Bill introduced by Lord Belhaven and Stenton (as amended on report) has been read for a third time, and passed in the House of Lords. The purport of the Bill is contained in Clause 1, which says: "As from the first day of April one thousand nine hundred and nine, or such later date as His Majesty may by order in Council fix, the standard kilogram and standard metre . . . shall respectively be the imperial standards of weight and measure." . . . The Pharmacy Bill has not yet reached the second reading, and the proposed Government Bill has not yet appeared.

The Annual Meeting of the Pharmaceutical Society on Wednesday morning would have been one of the least interesting on record but for the President's lucid analysis of the Council's Report. One member only rose to criticise the report, and his remarks were not of a nature to call for detailed comment. It may be well, however, to repeat, for the benefit of those who wish to see "titles" protected, that the Council of the Pharmaceutical Society has taken all the steps possible to achieve that object, and that one of the Clauses of the Pharmacy Bill is designed especially to remedy present grievances in that respect.

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THE SOCIETY'S ANNUAL MEETING.

The annual meeting on Wednesday was far from being an exciting function. The attendance was hardly up to the average of recent years; and, with the exception of Mr. G. J. Knight, no one seemed disposed either to criticise the work of the Council or to add to the President's comments on the annual report. Members generally were, apparently, well content to accept the President's statement that the report is of an eminently satisfactory character. The report has already been printed in full in the *Pharmaceutical Journal* (see page 625), and in last week's issue particular reference was made to the first two paragraphs, which deal respectively with the examinations and evening meetings of the Pharmaceutical Society. Of the Parliamentary business of the Society it is still difficult to say much. The second reading of the Pharmacy Bill is fixed, it is true, for June 1. In spite, however, of the very encouraging speeches made by Mr. Thomas Lough, M.P., and Sir M. Bhownaggree on Tuesday evening, with reference to the prospects of the Bill, it is somewhat improbable that it will advance very far this Session. Further, as the Session has proceeded until the present time without the introduction of the Government Bill to which reference has so frequently been made, there is now some reason to think that no pharmaceutical legislation will, after all, be accomplished this year. There is no great advantage in the delay, unless, as is possible, it is due to the fact that the Government and the Privy Council require time in which to reconsider their present proposals. Those proposals are in substance known to the

Council of the Pharmaceutical Society, but cannot at present be made public. From the President's address, we learn that Mr. R. A. Robinson has been in touch with the heads of the Government departments most closely concerned with the pharmacy laws, and has established friendly relations between those bodies and the Pharmaceutical Society. There for the present the matter rests. But the circumstance that no noteworthy comment should, at so critical a time, be passed upon the political work of the Council of the Pharmaceutical Society by any of its six thousand members is a gratifying indication of that unity of purpose, the necessity for which, if anything whatever is to be accomplished, is so obvious.

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THE REGENERATION OF MANIPULATIVE PHARMACY.

There are those who hold that the tendency of practical pharmacy in the twentieth century is to become a lost art. That pessimistic view has had no unsubstantial foundation in various influences which have been at work during the past twenty years. The introduction of, and ever-growing demand for, new and palatable forms for administering medicine, which have required, or have been thought to require, apparatus superior to that at the command of the dispensing chemist, are to be noted as prominent among such adverse influences. The supersession of certain galenicals of the old-fashioned order by active principles, and the gradual decay of apprenticeship in pharmacy, have also had their effect. German-made chemicals, factory-made "products," and "packed proprietaries" have largely replaced home-made galenicals. It is hard to blame a pharmacist of to-day if he indulges in the sorrowful reflection that those same home-made galenicals were the pride of the men who laid the foundations of pharmacy as a practical art, to which the principles of the sciences of chemistry, botany, and natural philosophy might be applied. But it must at the same time be recognised that not only are tablets, cachets, capsules, and the like a vast improvement on the boluses and confections of an earlier generation, but they have come to stay; further, that a definite active principle has more in its favour than has a variable galenical containing much inert and possibly harmful vegetable matter; and that, in spite of some flagrant and pretentious frauds, many of the newer synthetic remedies have been invented as the result of a comparative study, scientifically undertaken, of the relation between chemical constitution and physiological action. For a time, however, British pharmacists were short-sighted enough to discourage a tendency which they were powerless to overcome, and made but little effort to move with the times, or to turn such new developments to their own advantage. Consequently, practical manufacture on the small scale became a decreasing quantity.

The lowest point in the curve was probably touched about the time of the publication, in 1898, of the latest edition of the British Pharmacopœia—a volume which met with much adverse criticism because of the seeming confirmation it gave to the idea that the large manufacturer is alone the proper person to make pharmaceutical preparations. But there is much reason to think that pharmacists are now making determined efforts to save their art. A large and varied quantity of machinery, suitable for manufacturing operations on the small scale, has of late been placed on the market; several papers have been read or published dealing with manipulative processes; educational authorities have been roused to the need for instruction in galenic pharmacy in the schools; and—more important still—individual pharmacists show signs of a desire to restore the art to its former position. It is being realised that there is no great difficulty, after all, in making compressed tablets or effervescent preparations or standardised tinctures or liquid extracts. As an encouragement to any such progress which retail pharmacists may be wishful to make, the Exhibition held on Wednesday, the 18th inst., under the auspices of the Pharmaceutical Society, at 17, Bloomsbury Square, London, should prove of no small service. A glance through the description of the exhibits, printed in this issue at page 690, will show how large a proportion of the articles shown were in the nature of mechanical aids to practical pharmacy, as conducted on the small scale. The interest shown in such appliances is a welcome sign.

Another factor that may be expected to exert an influence for good is the 'Compendium of Medicines,' which is being prepared under the auspices of the Pharmaceutical Society. The intention of those responsible for the book is that it shall contain descriptions of improved methods for making such "official" preparations as have been found to be imperfect from a pharmaceutical point of view, in addition to formulæ for such compounds as medical men are in the habit of prescribing, although lacking the authoritative sanction of the British Pharmacopœia. Every formula in the book—and this is perhaps the most important point—will be directly at the service of the ordinary retail chemist and druggist, who will be able, without elaborate plant, to make for himself all the preparations for which he may have any demand. The authority of the Pharmaceutical Society will, it is hoped, be a guarantee to the medical profession and to pharmacists that the formulæ have been tested and found to be in conformity with accepted notions of "elegant pharmacy." It is considered that such a work, placed in the hands of medical men, will tend to discourage the lamentable practice of prescribing secret nostrums and "packed proprietaries"—a practice which tends to demoralise the patient, is prejudicial to the interests of the medical profession, and has been one of the chief causes of the progressive atrophy from which practical pharmacy has suffered.

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THE MANCHESTER B.Sc. FOR PHARMACISTS.

Last week the fact was announced in the *Pharmaceutical Journal* that the Court of the Victoria University of Manchester had adopted an ordinance for the ordinary degree of B.Sc. in Pharmaceutics. We are now able to give some details with regard to the ordinance. The degree of Bachelor of Science is granted under the following conditions, after a course of study and examination suitable for pharmaceutical students. Candidates must present themselves for the Intermediate Examination at the end of their first year of study after passing the Matriculation Examination. The subjects of the Intermediate Examination are:—(i.) Physics with Practical Work; (ii.)

Chemistry with Practical Work; (iii.) Botany with Practical Work; (iv.) a Practical Examination in the Pharmaceutical Laboratory. The subjects of the Final Examination are:—(i.) Chemistry. (ii.) Two of the following:—Materia Medica, Botany, Physics, History of Chemistry, Electro-Chemistry, Pharmacology, Bacteriology, Toxicology, Analysis of Food and Drugs.

A NEW 'COMPANION.'

It is a defect of all pharmacopœias published by authority that they never reflect adequately the medical and pharmaceutical practice of the periods which they are supposed to represent. Hence the need for supplements to, and commentaries on, the official medicine books, a need which is not properly satisfied even yet so far as the British Empire is concerned. It is not far short of a hundred years since that need was perceived by Samuel Frederick Gray, whose 'Supplement to the Pharmacopœias' served such a useful purpose for many long years; while the last edition of that work, edited by Redwood and published in 1857, is still the final resort of those in search of out-of-the-way information concerning drugs and medicines. After the publication of the first British Pharmacopœia, in 1864, the want of a supplementary work was similarly felt by the late Peter Squire, who lost no time in producing the first edition of his 'Companion to the British Pharmacopœia.' Seventeen editions of that useful work have appeared in regular succession, each one showing some advance upon its predecessors, while the book has steadily maintained its position as the most concise, accurate, and exhaustive work of reference for British pharmacists and medical practitioners.

The current edition of the 'Companion' was published in 1899, and, in the ordinary course, a new edition should shortly have made its appearance. But the reviser—Mr. Peter Wyatt Squire—has decided, after careful and prolonged consideration, that the time has now come for the publication of a more portable work on similar lines, for the especial use of prescribers and dispensers, and the result of his labours will appear shortly in the form of Squire's 'Pocket Companion to the British Pharmacopœia.' In this work, the advance sheets of which have been submitted for inspection, the contents have been arranged on the plan previously adopted in Squire's 'Companion,' which has generally been considered the best for enabling the busy practitioner to pick out what he requires with the least loss of time. But those portions of the larger work which are of interest more particularly to the analyst and the manufacturer have been reserved for a future edition of the book, in which they will be dealt with in a more comprehensive manner than the size of it has previously permitted. The 'Pocket Companion' gives practically the same information as was previously contained in its classic predecessor, excepting those portions relating to the chemical tests and detailed descriptions of the official materia medica, which are of but little interest to the general practioner. The omission of these paragraphs has enabled the book to be brought within the limits of a "pocket" edition, and at the same time to include all the important substances and preparations, official or otherwise, which are now used in medicine. The book has been most carefully compiled, and—as proved by a critical examination of its pages—the latest information incorporated, while the price (7s. 6d. net) has been fixed at as low a figure as practicable, in order that the resources of those by whom the work must be regarded as indispensable may not be taxed unduly.

The chief differences between the 'Pocket Companion' and the larger book are in the direction of simplification and conciseness. Thus, the long paragraphs relating to tests for chemicals and drugs, and all the commentaries thereon, are omitted from the new book, as are also the lengthy botanical descriptions of drugs, official methods for the preparation of chemicals, and detailed laboratory instructions for the manufacture of galenicals. The short descriptions of chemicals are retained and the general systematic arrangement of the book remains unaltered, each heading being followed by a short description, with notes on solubility and medicinal properties, including all the most recent references to medical literature. The doses are given in both imperial and metric systems, and are also compared in all important instances with the maximum doses given in foreign pharmacopœias. The "Prescribing Notes" introduced in the seventeenth edition of the 'Companion' have been much extended in the smaller work, and the paragraphs on official and non-official preparations show at a glance what preparations of the drug, official or otherwise, are dealt with subsequently in detail, the information in the British Pharmacopœia being compared with what appears in seventeen pharmacopœias of other nations. With regard to the constituents of the various official preparations, the information given is just sufficient to convey a correct idea of its composition—*i.e.*, the names of the ingredients and their quantities. The long paragraphs of directions given in the Pharmacopœia—such, for instance as appear under Extractum Belladonnæ Liquidum—have been omitted, but the strength of all the standardised preparations is given. Under the heading "Not Official" are included many new salts and preparations which are not included in the British Pharmacopœia.

Several formulæ from the pharmacopœias of the London hospitals have been included, as illustrating methods of prescribing drugs to which they apply, and formulæ from Continental pharmacopœias have been included, with the same object in view. Under the headings of drugs official in the British Pharmacopœia, short descriptions are given in large type, in phraseology which is common to the British, German, United States, and other foreign pharmacopœias. To sum up, the essential difference between the two books is, roughly, as follows:—The 'Pocket Companion' has been written especially for the prescriber and dispenser, whereas the larger book contained in addition matter which was of interest chiefly to the analyst and the manufacturer. The condensed work will probably suffice in future for the needs of the average medical practitioner, but both books will be necessities in all well-conducted pharmacies. The author of the new volume must be congratulated on having produced a closer approximation to the ideal medicine book in small compass than has yet existed. It cannot be carried in the waistcoat pocket, but, in spite of containing about eight hundred pages of the exact width of a column of the *Pharmaceutical Journal*, it realises the idea of a pocket synopsis as fully as circumstances permit. A paper of excellent quality has been specially prepared for the book, copies of which will, it is hoped, be on sale about the middle of next month, and no effort is being spared to make it a worthy addition to the list of works with which the name of "Squire" is associated.

THE EDUCATED GROCER.

If those who speak in the name of the grocery trade have any authority for so doing, it would seem that grocers and provision dealers have got hold of the idea that they are lacking in education. It would be presumptuous on our part to suggest that this idea is unfounded, but it may perhaps be permitted to express the opinion that the scheme recently drawn up by a local association, with the view of remedying this deficiency is unnecessarily elaborate. In connection with this one cannot fail to be reminded of the little illustration which Sir Richard Steele uses to point out the absurdity of misapplied education:—"The pastry-cook here in the lane," he writes, "the other night told me that he would not yet take away his son from his learning; but has resolved, as soon as he had a little smattering in the Greek, to put him apprentice to a soap-boiler." While the scientific grocer would in all probability be a harmless creature enough, there is absolutely no call for him; and if there is no necessity for his existence, why should he exist?

The Federation of the Grocers' Associations of the United Kingdom is now directing particular attention to this matter of technical education; but the Eastbourne and District Grocers' Association has gone further, and drawn up a suggested syllabus of lectures for those engaged in the grocery and provision trades. It is proposed to institute a course of lectures, which "will demonstrate theoretically and practically by means of experiments in the laboratory the constituent parts, preparation, and manufacture of soap, soda, candles, salt, glycerin, vinegar, alcohol, sugar, cheese, butter, starch, and the cereals; the preservation of food; nature of preservatives; putrefaction and decay; tinned foods, etc., etc., all most deeply interesting to those anxious to thoroughly know their own business."

The suggested syllabus is as follows:—

> 1. Elementary chemistry, as far as is necessary to understand the nature, substance, etc., of foods and adulterants. This would include the elements, compounds, inorganic and organic compounds, acids, alkalies, metals, salts, gases, liquids, solubility, etc., etc.
>
> 2. The nature and composition of foods, especially those concerning the grocery trade, classified as follows:—A. Organic (1) Nitrogenous, as proteids or albuminoids; (2) non-nitrogenous, (*a*) fats; (*b*) carbohydrates; (*c*) vegetable acids. B. Inorganic (1) mineral salts; (2) water. C. Food accessories, such as tea, coffee, alcohol, etc.
>
> 3. The common adulterants of foods and their methods of detection.
>
> 4. The decomposition of foods and alteration by keeping; the preservation of foods; the effect of cooking, of dampness, of age, etc.

If this instruction is to be put to practical advantage the grocer's shop of the future must have an analytical laboratory attached!

THE PRESIDENT OF THE SOCIETY.

The subject of the portrait published with this issue of the *Pharmaceutical Journal* will be familiar to every living pharmacist, and the personality here represented was just as familiar to many of his predecessors. Indeed, the history of Mr. Atkins' early association with pharmacy belongs to a past generation. More than fifty years have rolled by since he qualified as a pharmaceutical chemist, while his connection with the Pharmaceutical Society has extended over an even longer period. To continue to talk in half-centuries, it is over fifty years since he established his business in Salisbury, and it will be remembered that only quite recently he celebrated his golden wedding. It is not intended to recapitulate here the various landmarks in the career of Mr. Samuel Ralph Atkins, nor is it necessary again to enumerate the many public appointments which he has filled; suffice it to say that he has held the highest position the municipality of his adopted town could confer, for he was Mayor of Salisbury during the same year in which he was rejected by the pharmaceutical electorate as candidate for the Council of the Society, of which he is now President. Two years later, however, in 1876, he obtained the seat on the Council, which he has ever since retained. It is interesting to record that the first speech made by Mr. Atkins as a Councillor of the Pharmaceutical Society was at the June meeting in the year of his election, the first which he attended. It is also interesting to note that the maiden speech of the future second country President was in connection with a discussion on the desirability of so arranging the committees that country councillors should have their share of the work. At the following July meeting the important question was discussed, and Mr. Atkins took part in the debate, as to whether ladies should be admitted members of the Society. A lady's name had been submitted, and a councillor had formally moved as an amendment "that the lady be not elected," the amendment being carried by twelve votes to four. In connection with this matter it is somewhat of a coincidence that during Mr. Atkins' year of office three ladies have actually been appointed to act as scrutineers! These facts concerning Mr. Atkins' early work on the Council are of themselves of comparatively little importance, but in the light of existing things they tend to show how old ideas have been replaced by broader and better ones. The latest, and by no means the least appreciated, distinction which Mr. Atkins has had conferred upon him is his election as an Honorary Member of the "Société de Pharmacie de Paris," in recognition of his recent memorable visit to the French capital on the occasion of the celebration of the centenary of that Society.

BRITISH PHARMACEUTICAL CONFERENCE.

Arrangements have been made to visit the works of the following firms during the coming visit to Sheffield of the British Pharmaceutical Conference:—Messrs. Mappin and Webb, Limited, silversmiths, etc., Royal Works; Messrs. Joseph Rodgers and Sons, Limited, cutlers to His Majesty; Messrs. Walker and Hall, Electro Works.

ABSTRACTS—SCIENTIFIC AND TECHNICAL

A REVIEW OF CURRENT WORK IN PHARMACOPEDICS AND ALLIED SCIENCES

Fatty Oil of Aleurites moluccana.

G. Fendler finds that the kernels of the fruits of *Aleurites moluccana*, from the Cameroons, contains 64·4 per cent. of oil; the fat free residue, 60 to 62 per cent. of albuminoids. The yellow oil, extracted by ether, has a strong odour and an acrid taste. It is sparingly soluble in alcohol, dries rapidly in thin layers when exposed to the air, and should be very serviceable as a drying oil. It has the following characters:—Sp. gr. 0·9254 at 15°; solidifying point, −15° C.; melting-point of fatty acids, 18° C.; solidifying point of fatty acids, 15·5° C.; acid number, 0·97; saponification number, 194·8; iodine number, 114·2; Reichert-Meissl number, 1·2.—*Zeits. für Untersuch., der Nahr. und Genussm.*, through *Pharm. Centralh.*, **45**, 286.

Fatty Oil of Acrocomia viniferia.

The kernels of the seeds of the Nicaraguan coyol palm, *Acrocomia vinifera*, have yielded G. Fendler 48·66 of a bland, yellow, pleasant-flavoured oil, which on standing throws out feather-shaped crystals at normal temperatures, and ultimately becomes completely solid. It has the following characters:—Specific gravity at 25° C., 0·9136; melting-point, 25° C.; solidifying point, 17° C.; acid number, 1·69; saponification number, 246·2; iodine number, 25·2; Reichert-Meissl number, 5·0. The portion which first separates out, when recrystallised from alcohol, melts at 34° C. The liberated fatty acids melt at 54° C., and probably contains myristic acid. The fat resembles coco-nut fat in certain characters.—*Zeitsch. für Unters. Nahr. und Genussm.*, through *Pharm. Centralh.*, **45**, 286.,

Action of Formic Acid on the System.

L. Garrigue calls attention to the fact that he has previously recorded in his recent work, 'Maladi Microesbienne,' the remarkable results obtained by the administration of sodium and calcium formate. Having established by experiments on rabbits that these salts were devoid of toxicity he experimented on himself, and found that he could take 45 grains of sodium formate with each meal without experiencing any inconvenience. He has taken 15 grains of the salt daily for a month with no ill effects. The first result of the administration of sodium formate is to increase the arterial pressure. The patient experiences a feeling of well being, becomes cheerful, sleeps well, and in the case of tubercular disease the appetite is markedly increased. At the same time the amount of urea excreted is greatly increased. The author, therefore, receives confirmation of his experiences in the results recently published by F. Clément.—*Comp. rend.*, **138**, 837.

Fixed Oil of the Seeds of Rhus Glabra.

By ether extraction, G. B. Fankforter and A. W. Martin have obtained 9·1 per cent. of the light yellow oil from the husk-free seeds of *Rhus glabra*. It has a pleasant taste and a peculiar odour. The specific gravity at 20° C. is 0·9203, and at 0° C., 0·9312, the α_D = 1·48821 at 0° C. and 1·48228 at 15° C.; saponification number, 190 to 200; iodine number, 85·96 to 87·86. It contains about 0·696 per cent. of an unsaponifiable alcohol, probably a cholesterol. The husks after extraction with water, which removed tannin and calcium acid malate, were dried and exhausted with ether, and yielded 8·5 per cent. of a black oil, semi-solid at ordinary temperatures; specific gravity at 20° C. 0·9412, at 35° C. 0·933; iodine number, 87·2; saponification number, 179·7. By treatment with acetone 80 per cent. of a yellow oil was removed, leaving a black semi-solid oily residue.—*Amer. Journ. Pharm.*, **76**, 151.

Iodine Absorption Figure of Lard.

W. D. Richardson states that although the limit fixed by the United States Board of Agriculture of 60 as the Huebl figure for pure lard is generally sufficiently high for the leaf fat of the kind of hog generally marketed in America, yet perfectly genuine lard may give figures ranging from 50 to 85. This higher value is met with in the lard of mast-fed hogs which are raised in a semi-wild condition in the woods. The lard with the lower iodine value is firmer than that from mast-fed hogs, and has a better market value. These hogs are mostly corn-fed for a time before slaughtering. It appears, therefore, that although the average iodine figure for pure American lard as found in the market falls below 60, it does not follow that a specimen giving a higher result is necessarily adulterated.—*Journ. Amer. Chem. Soc.*, **26**, 374.

Sources of N_1 Rays.

J. Meyer finds that threads of glass or copper, when stretched, also closed tubes of glass partially exhausted, are sources of N_1 rays. A screen of calcium phosphide placed under the bell jar of an air pump loses its phosphorescence when a vacuum is produced, due to the action of N_1 rays by the diminished pressure. It regains its luminosity when normal atmospheric pressure is restored. If the phosphorescent screen be placed outside the bell jar, its luminosity decreases with the first strokes of the pump. Glass bulbs of incandescent lamps, through which no current is passing, Geissler's tubes, Crookes' tubes at rest, are all sources of N_1 rays. While the N_1 rays of a Nernst lamp are arrested by lead or a sheet of moistened paper, those derived from the above sources have a markedly greater penetrating power, those from an electric light bulb not being sensibly intercepted by the interposition of a piece of wood 10 Cm. thick, or a sheet of oxidised lead 1 Mm. thick folded up eight times. Cardboard, paraffin, most metals, and the human hand are all transparent to these rays. The only substance found to be opaque to them are platinum 1 Mm. thick, and opal glass 3 Mm. thick. Most substances which are transparent to these rays, and also saline solutions, store the rays and continue to emit them for a long time after exposure to their action.—*Comp. rend.*, **138**, 896.

Determination of Tartaric Acid by Means of Zinc Acetate.

H. Ley finds that zinc tartrate is almost insoluble in water, and quite so in alcohol and acetic acid; he therefore proposes to precipitate tartaric acid by means of zinc acetate, and to weigh the precipitate after incineration as zinc oxide. A known weight of the acid is weighed off and dissolved in a small quantity of water or of alcohol. The warm solution is then precipitated with an alcoholic solution of zinc acetate. 100 C.c. of alcohol and 5 per cent. of acetic acid, 5 per cent., are then added and the mixture left on the water-bath for some time. After cooling and standing, the precipitate is thrown on a vacuum filter and washed with alcohol, dried, calcined, moistened with a little nitric acid, again calcined, and finally weighed as zinc oxide. From the weight thus found the amount of tartaric acid is deduced. In the case of pure cream of tartar, the quantity taken for assay is dissolved in boiling water, precipitated with aqueous zinc acetate solution, and heated, then treated with alcohol and acetic acid as described above. In crude argols, the quantity taken for assay is dissolved in boiling water, and treated with potassium carbonate, avoiding an excess of carbonate by using phenol-phthalein indicator. After making up to a known volume with water and allowing insoluble matter to subside, an aliquot part of the solution is pipetted off and treated as described above. The method is available for the determination of tartaric acid in wines, but in this case the tannin must first be removed by treatment with animal charcoal. The presence of sugar in the wine does not interfere with the results.—*Pharm. Zeit.*, **49**, 149.

Method for Determining Formaldehyde and Trioxymethylene.

C. Kleber thus applies the reaction between aldehydes and alkaline bisulphites to the determination of formaldehyde. Solution of caustic soda is added to a concentrated solution of sodium bisulphite until all odour of sulphurous acid is removed. No special precautions are necessary in this neutralisation, since a slight excess of alkali is immaterial. The solution is then diluted until 30 C.c. of it exactly neutralises 50 C.c. of N/NaOH solution. Formaldehyde acts towards this as an alkali, and it may therefore be titrated as follows:—5 C.c. of the formaldehyde solution to be tested is introduced into a flask, with a little phenolphthalein solution. As it almost always contains free acid, this is cautiously neutralised with a few drops of NaOH solution. The standard bisulphite solution is then gradually run in from a burette until the red colour which first appears is discharged. With strong commercial formalin (of about 40 per cent. formaldehyde) the heat of combination of the aldehyde with the bisulphite is sufficient to complete the reaction; but with more dilute solutions it is necessary to warm the liquid after the first disappearance of the red colour, adding more bisulphite as it reappears, and continuing the successive additions until it no longer becomes evident on warming. 1 C.c. of the standard bisulphite solution is equivalent to 0·05 Gm. formaldehyde. Trioxymethylene may be titrated with the same solution. 2 Gm. of the substance is gently warmed with a few C.c. of water; a few drops of phenol-phthalein are added, and the standard bisulphite slowly run in, with constant agitation until the solid matter is entirely dissolved and the red colour has finally disappeared; 1 C.c. of the standard bisulphite is equivalent to 0·05 Gm. of paraformaldehyde.—*Pharm. Rev.*, **22**, 94.

Salicyl-sulphonic Acid as a Reagent for Albumen in Urine.

Dr. C. Murray confirms the value of the reagent salicylsulphonic acid, as recommended by MacWilliam, for detecting the presence of albumin in urine. A few drops of a saturated solution of the acid are added to 20 or 30 minims of the urine in a small test-tube. If no precipitate occur there is no proteid present. If there be a precipitate the tube is boiled to distinguish albumin, which does not clear upon heating, but becomes coagulated and flaky, while proteoses give a clear solution which becomes cloudy again as the fluid cools. In the absence of precipitate, therefore, it is not necessary to boil at all. There is no need for care as to the exact amount of reagent to be added, since a large excess does not affect the result. The reagent is stable, non-caustic, and does not stain, and in the crystalline form is readily portable. The crystals may be directly dropped into the urine in a small test-tube, and dissolved by heating over any flame. No substance met with in urine has been found to give a precipitate, except those of the proteid class, and the reaction with these is very sensitive.—*Brit. Med. Journ.*, 1/1904, 883.

Suprarenin.

The active principle of the suprarenal capsules has been obtained in the form of a yellowish crystalline powder, and is supplied in German commerce by Messrs. Meister, Lucius and Bruning. It is soluble with difficulty in water, and insoluble in alcohol and ether. With diluted hydrochloric acid it gives an emerald-green solution, which becomes carmine red on the addition of ammonia. On the addition of more ammonia it is precipitated from the solution in hydrochloric acid. It is easily soluble in fixed alkalies. The hydrochloric solution is not precipitated by alcohol. Its formula is $C_{10}H_{15}NO_3 + \frac{1}{2}H_2O$. It is believed to be a substance like amidopyrocatechin. It is stated to be 50 per cent. cheaper than adrenaline.—*Schw. Woch.*, **42**, 200.

Oil of Melon Seed.

The nucleus of Togo melon seeds yielded G. Fendler 43·8 per cent. of an almost odourless, yellow bland oil, having the following characters:—Melting-point, 5·5° C.; solidifying point, 5·0° C.; solidifying point of fatty acids, 36·0° C.; acid number, 4·81; saponification number, 193·3; iodine number, 101·5. The oil appears to be suitable for dietetic purposes.—*Zeits. für Unters. Nahr. und Genussm.*, through *Pharm. Centralh.*, **45**, 286.

Oil of Geranium.

Jeancard and Jatie have shown that variation in the amount of the different constituents of this oil may depend to some extent upon the weather. Thus, their analyses show that a succession of cold nights in the spring of 1903 caused in the oil produced in the district of Cannes a diminution of the proportion of alcohol without an increase in the amount of ester, as is the case under the same conditions with the oil of neroli and petit-grain. A very low temperature caused a diminution also in the quantity of oil produced. The proportion of geraniol remained in this case nearly constant, whilst that of citronellol increased with the increase of yield of oil. The specific gravity varied in 1901 to 1903 from 0·8958 to 0·8990. Similar variations occurred in the solubility of the oil, its acidity and its saponification index, as might be expected from the variation in its chemical constituents.—*Schweiz. Woch.*, **42**, 186.

Linden Flowers.

P. Carles finds that the flowers of *Tilia europæa* are rich in manganese and an oxydase, to the action of which the quantity of mucilage that the flowers yield appears to be due. The yield of this mucilage is much diminished if the flowers are heated to 100°, at which temperature the oxydase is destroyed, and the same effect is produced by exposing them to light. In both cases the yellowish-green colouring matter becomes brown and brittle, and the odour diminishes. The distilled water, which contains oil but not mucilage, is less esteemed.—*Pharm. Weekb.*, **41**, 325.

Bornyval.

Under this name, a valerianate of bornyl, which is the chief ingredient in oil of valerian, has been introduced as a medicinal agent by J. D. Riedel. It is supplied in gelatin perles, containing 0·25 per cent., one or two being given for a dose several times daily. The ingredients of the oil are given by Gerock as follow:—Bornyl valerianate, 9·54; bornyl butyrate, 1·07; bornyl acetate, 0·96; bornyl formate, 1·08; terpene, 87·35 per cent., so that bornyval is a concentrated form of the oil containing its chief sedative constituent.—*Schw. Woch.*, **42**, 199.

Porsch Oil.

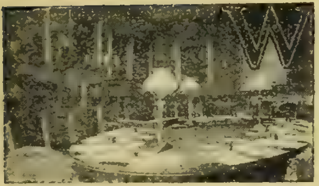
The young shoots of the porsch, or *Ledum palustre*, yield about 1 per cent. of a thick oil, which after a time deposits crystals. The crystals are not easily separated by 90 per cent. of alcohol, but more easily by distillation in vacuum. The liquid portion boils between 282° and 286°, and contains a ketone of the formula $C_{15}H_{24}O$. The crystals have a melting-point of 106°, and boil in an atmosphere of carbonic acid at 281°. They possess the constitution of an alcohol $C_{15}H_{25}OH$. This body may be identical with the ledum camphor already known. It oxidises easily.—*Schimmel's Bericht, April*, 1904.

Tansy Oil.

This oil seems to find use in some quantity. In St. Joseph's County, in Michigan State, there were, in the year 1902, two growers, having fifty-two acres under cultivation, which yielded 341 lb. of tansy oil. (So large a quantity of a dangerous oil seems to indicate a special use for it.)—*Schimmel's Bericht, April*, 1904.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN.

MEETING OF COUNCIL AND SIXTY-THIRD ANNUAL MEETING.



WEDNESDAY, May 18, 1904, at 17, Bloomsbury Square, London, the President, Mr. S. R. Atkins, in the chair. Other members present were Mr. C. B. Allen, Vice-President, Mr. Walter Hills, Treasurer, and Messrs. Cooper, Corder, Cross, Currie, Glyn-Jones, Harrington, Harrison, Newsholme, Robinson, Symes, Wootton, and Young.

Several former members and student-associates who had paid their subscriptions since May 4 were restored to their respective positions.

The Council, having arranged the order of business to be transacted at the annual meeting, adjourned.

THE ANNUAL MEETING.

The sixty-third annual meeting of the Pharmaceutical Society was held at 17, Bloomsbury Square, London, on Wednesday, May 18, 1904, at 12 o'clock noon, the President, Mr. S. R. Atkins, in the chair.

The Secretary having read the notice convening the meeting, the annual report of the Council was taken as read, and the President then delivered his address.

THE PRESIDENT'S ADDRESS.

The President: I have much pleasure in meeting you on this occasion, the sixty-third annual general meeting. Now, I do not propose to-day to make any lengthened analytical statement in regard to finance or the report, but I desire to make some general statements upon the sections of the report, and to be prepared then to answer any questions which may arise. I want first of all to say this, that I meet you under very pleasant circumstances. I am bound to say the report is a good one, a satisfactory one, an encouraging one, and, so far as I am concerned, to-day it shall be a congratulatory statement. I do not deny—I cannot deny that there are grievances, that there is severe pressure resting upon many pharmacists. I could not have been so long on the Committee of the Benevolent Fund without knowing that fact, and, going throughout different parts of the country and living in the country myself, I am conscious that there are many personal difficulties. But, gentlemen, I do not think we remove these difficulties by, at our annual meetings, adopting a pessimistic tone, or even indulging in very severe criticism. I think it is a great honour to meet you here and a great pleasure, and I hope it is some encouragement to you to come, but what I want to feel myself, and I want you to feel is that we should inspire each other with fresh courage to attack the difficulties which we have to encounter. Now, just regard that as a general statement of the attitude of my mind towards this report, and towards this meeting to-day. You have the reports before you.

The Examinations.

Upon that I have to make this statement, that it is a very satisfactory part of the report. We have an increase in the number of candidates who have presented themselves for examination, and we have a distinct advance in the number of passes, and I am glad to be enabled to record the conviction I have from watching these examinations recently, and observing the men who have come up for them, that we are gradually raising the tone of the examinations in regard to the passes, and I feel that the improved scholastic training, the severer test at starting, the scholastic or classical test, is showing a very marked advance in the after results.

With regard to the

Evening Meetings,

again I have to adopt an optimistic tone. There has been a most distinct advance in the character of these meetings, certainly in London; and I have no doubt whatever, from what I have read, in Edinburgh as well. We have had papers of exceptional interest, of great practical value. We have had discussions which have been most helpful, and we have had exhibitions of scientific apparatus, which have been examined and commented upon with very great pleasure in the freedom of social talk, and the attendances have been very much larger. Again, I repeat, those meetings are a distinct advance along the line. There was a special educational meeting held in the autumn of the year—when was it, Mr. Bremridge?—somewhere in January? With that meeting I was particularly pleased. We had a most thoughtful and elaborate address by Professor Wild, of the Manchester University, and we had a very instructive discussion; and, let me tell you here that the correspondence which I have received from various parts of the kingdom on that lecture, and on the discussion, was to me a most interesting one. I have no hesitation in saying that, adopting an illustration from our great public schools, it just reveals an advance of value from the sixth form of our students, and I feel that the ideas embraced by Professor Wild in his paper indicate where our men of greater capacity and of advanced opportunities—and it may be both hereditary and environed conditions—may see their way into a higher grade, and yet retain their position in the ranks of pharmacy. There was a very interesting paper which possibly was a little overshadowed for the moment by the greater, or more prominent, paper of Professor Wild. I refer to the paper by Mr. Wippell Gadd, of Exeter, on "Concurrent Curricula." I do not know whether Mr. Gadd is present, but I should like to say that that paper reveals a very patient, painstaking inquiry into the conditions of apprenticeship, and of the importance and desirability of a curriculum being worked out at the time, concurrently with apprenticeship, and I believe that not only in London and Edinburgh and Glasgow, and in the great cities and towns of the north, but even in the more sparsely populated districts of the south and west, there are increasing facilities for the carrying out of these curricula. In my own city, for example, we have now advantages for young men to study chemistry, botany, physics—I will not say pharmacy, for that ought to be learned in the pharmacy itself, but there are advantages of working up all along the line the education of students, and you cannot in your own pharmacies, in your remarks to young men in your own establishments, impress too strongly upon them the importance of acquiring knowledge gradually, slowly, extending over a long period of time. I am satisfied in my own mind it is the one and only remedy for the ordinary student to meet the examination and to pass.

The School.

On this I have just a brief comment to make. I am aware that I am speaking in the presence of gentlemen who are connected with many good and effective schools, and I am not unmindful of the fact that this year the Pereira Medallist is a man trained in another school. I am sure you who are connected with other schools will not misunderstand me when I say this, that what we have endeavoured to do at Bloomsbury Square is to find and to maintain a typical school. Our desire has been, by the attainments of our professors, the accredited position of those men eminent in their several walks of knowledge, in the laboratories, in our Museum and Library, and the whole staff of this institution, we have endeavoured to furnish our young men with an opportunity of acquiring knowledge which I think is almost unique. We desire to turn out pharmaceutical students of the very highest order, most effectively prepared for their after work in life, and I will say I believe the plant of this institution is almost complete. Our friend Dr. Symes will say possibly it is not quite complete yet; we know what he wants—something in the way of pharmaceutical products being turned out, and I have no doubt we shall by-and-by see our way very largely to meet his wishes in that matter. Now the School celebrated its sixty-second session last October. I referred last evening at the dinner very briefly to the charming address of that wonderfully gifted man, Dr. Swan; at that meeting too I had several very important items of business to attend to, and several most pleasant functions to discharge. The presentation of the Hanbury Gold Medal to M. Collin, which could unfortunately not be received by himself through illness, though he wrote me a charming letter on the honour accorded him. The medal was then handed to Count Montholon, who came from the French Embassy. I think that was an honour, a distinction, to this Society and to the distinguished recipient, which we shall not forget. I also ought to refer—because there are many ladies and gentlemen who were not present at our dinner last night, when I made a brief reference to it—to the splendid liberality rendered by Sir Thomas Hanbury with regard to the endowment of the Hanbury Gold Medal. When Sir Thomas Hanbury came to me and told me what it was in his heart to do, of course I responded with all my soul to the appeal. Sir Thomas Hanbury has placed at the disposal of the Council £50 to be awarded with the Hanbury Gold Medal—that is, he has given us securities producing £25 a year, and promised that if there should be any difficulty or deficiency in that account to at once make it up, and as the award is a biennial one you will see that whoever is the recipient of that medal will at once receive also the sum of £50. Most graceful and eloquent reference to this fact was made in Paris in October last by M. Léger, and also M. Bourquelot. At that meeting I had the great pleasure of having with me my friend Mr. Idris, the President of the British Pharmaceutical Conference, who also took part in the proceedings.

Honorary Members.

I want to refer to the honorary members elected at our last meeting of Council. I especially emphasise the election of Dr. Swan, but I should be very sorry to forget to mention the name of Sir Henry Littlejohn. Sir Henry Littlejohn, as you are aware, is the Professor of Forensic Medicine in the University of Edinburgh. His writings on forensic medicine and on questions affecting public health are standard works of the highest value to the profession and the country generally, and we have done ourselves the honour of electing Sir Henry Littlejohn to an honorary membership. Will you pardon my seeming egoism, and allow me to refer to the very agreeable intelligence I received a few days ago from M. Bourquelot, That the Paris Society of Pharmacy has been good enough to elect me as an honorary member of their Society? Now, ladies and gentlemen, the next paragraph in the report is

The Library and Museum.

The Library is, of course, ever growing, and our difficulty is the embarrassment of our riches. Unless we carry out my dear friend Martindale's suggestion—that is, annex the whole of the Square, and go out of these buildings and build larger structures there—I do not know how we are going to deal with these difficulties of the Library and Museum. We want more space. We are doing all we can to economise space in various ways, which I won't trouble you with. Our Library is not an ordinary library of literature, fiction, and biography; it is a special library, and specially intended to be used by men for reference. Students go there for reference, and our workers in London and elsewhere through the post make use of the Library for special purposes of reference. These are days, gentlemen, in which reference libraries are growing in value. Our Library is of prime value as a reference library. The Museum is a collection, and a unique collection, of materia medica, using that phrase in its widest sense, and it is curated—if I may coin a word—by a Curator who knows his business. The next section of the report is entitled

Legal.

We have had a considerable number of prosecutions for infringement of the 1868 Act. Now, the prosecutions under that Act are our prerogative. They are essentially and exclusively our prerogative under the 15th and 17th Sections of that Act. But they are not our perquisites. I draw a distinction here, which I lay special stress on. There is an impression outside that we are making a big balance in our own favour on our prosecutions. When I tell you that every year there is a very large adverse balance—I do not know what the amount will be this year—it amounts to hundreds of pounds. (Mr. Robinson: £560.) Mr. Robinson says £560, and he knows all about it. You will see that to carry out the Act is a self-denying ordinance, and when I tell you that sometimes North of the Tweed the fines we secure are small and the costs of prosecution are large, you can quite understand that we have there a self-denying duty to perform. But we cannot shirk it; we are bound to take these steps, and this goes a long way to explain any unpopularity there may be on the part of the public towards this Society. I know where the two special points lie; I know what they are. The men who have been prosecuted, and other men connected with them, of course do not view us with friendly eyes, and I know very well in the examination-room also failures do not secure friendship, but our duty is clear.

Parliamentary.

That brings you at once to the question of our Bill. I do not propose myself to labour the point, or to say much to you on that Bill. But I want you to remember this—the second reading of that Bill is down for June 1, which, I believe, has some relation to a day at Epsom—not Epsom salts—but it will have some possible influence on the treatment of that Bill—if the Bill receives any treatment of all. For when I remind you that there are six blocking notices—I think last year we had five; we have made an advance of one more—there are difficulties for that Bill, and after Whitsuntide the Standing Orders of the House give the Government the whole of the remaining working hours of the Session. I do not want to disspirit you in that particular matter, but I want you to be prepared for casualties. The Bill is introduced in its entirety as the Bill of last year, with this exception, that we have added a clause making clear that the rights of medical men and veterinary surgeons are reserved. We did not intend to interfere with those rights, but it appeared that those two bodies thought there was an obscurity in the Bill, and we have made that clear now by introducing a Bill with an amended clause, and I am glad to know in conversation I had last evening with a gentleman sitting near me, that they accepted it as a most complete and entire exemption. With regard to Clause 7, I will tell you that from the correspondence I have received, and the conversations I have had, I believe that if a referendum were made to the entire nation, affecting pharmacy of course, the vast majority would be in favour of the retention of Clause 7. The feeling is this, that whatever may be the upshot, whatever may be the chances of war, beaten or not beaten, winning or losing, at any rate what we want is to get that Bill discussed. It is a great object-lesson. If we can get that Bill discussed in Parliament by men who know what its provisions are, we shall have gone a long way to clear the atmosphere, for I distinctly believe that we have truth, right, and justice on our side. I know that there are vested interests in the House, and very powerful vested interests. I have members of Parliament occasionally speaking to me and reminding me of their quantity and power. We are not unmindful of it; but if what I say is correct, that we have public interests and not our own interests exclusively or chiefly to argue for, I think we may fearlessly go into the House and ask for consideration. I am only sorry that we have not in the House some men specially acquainted with our conditions. We want that sadly. Of course, Mr. Lough has been most patiently and painstakingly, as a public man, examining that Bill, and from a conversation I had with Mr. Lough last evening I believe that he has most thoroughly studied the contents of that Bill, and if he has his opportunity will, with the power he has of expressing, and the power of logically arguing, place our wants fairly before the House. There is another Bill which is shadowed. It is called the Government Bill dealing with poisons. We do not know much about that Bill yet, but we know something about it through the very valuable services rendered by my friend Mr. Robinson, who has been dealing with the heads of departments, and has acquired and established most cordial relations as far as he is concerned, and on our behalf too. He knows something of what may be possible in that Bill. We may have to oppose that Bill, and if our interests are imperilled it will be our duty to do so. On the other hand, it may be our duty, without sacrificing principles, to negotiate. Those Bills may be referred to a Committee—our Bill, their Bill—and if they can possibly be amalgamated in any way, and our interests are protected, that will be the line to take. Whatever may be our convictions with regard to politics and the present Government, there is no doubt that if we can get the support of the Government it will go a long way to carry our Bill through. With regard to

The Journal,

I will only say this: I congratulate the Editor and his staff on an improved Journal. I have long argued for this, and in earlier days it was not an easy thing to convince my friends that the view I took was the right one. I believe it is possible to have a Journal that appeals to the eclectic school and the most accomplished men we have amongst us, and satisfy them of its scientific value, and also to have a Journal that appeals to the great majority of our constituents and our readers, and meets their wants well. I do not see the reason why the two conditions cannot be embodied in the same journal. I know that the Journal staff is working under most oppressive, and, to a large extent, insanitary conditions. The staff is very compressed in its working arrangements. I am glad to tell you that very shortly we hope that will be amended. We are now in a state of transition, and I am going to ask you to suspend your judgment with regard to the management of the Journal until the new conditions have been carried out. You know we are just about to take the publishing—which means the advertising—arrangements into our own hands. They will be removed very shortly from Messrs. Street's, and will be brought into Great Russell Street. We shall have a consolidation—a solidarity of interest—of work there which, I think, will be of immense value to the Society in the production of the Journal. The Secretary will have to move, at whatever may be the cost to his feelings of attachment to 72, Great Russell Street, which I will not enter into here. He has, with self-sacrificing spirit, said, "Very well; whatever I think and feel about it, I am prepared to go out if you want the space." Mr. Bremridge is going out, and very shortly we shall take possession of his home. One word with regard to the

Pharmaceutical Journal Formulary,

which is connected with the Journal. This again reflects great credit on the industry and the thoughtfulness of the Editor and the Journal staff. It is an admirable digest is that Formulary. It is a wonderful result of compilation, as well as of other work, and the success of that Formulary is simply phenomenal. We none of us thought that it would ever have reached the success which it has achieved. And that leads me up imperceptibly to another point, and that is

The Inland Revenue Department.

I believe that Formulary will very largely solve many of the difficulties in which we, as pharmacists, have been placed in regard to the Inland Revenue Department. And here let me me say that I think the Council may well ask you to recognise the difficulty and the delicate and the critical position which they have had to take up in regard to the Inland Revenue Department. May I say, having gone down with the Vice-President and Mr. Carteighe—who, I deeply regret is not here with us to-day, and regret, of course, the cause that keeps him away—I should like to say this to you very frankly, that we went down, and were met by the whole of the Board, the whole of the staff, and Sir Henry Primrose, as the chief, met us in a spirit beyond all praise. We established, I think, a relationship of confidence, and I have no hesitation in saying that we were then led to believe, from what was said to us and what was said to them, that in any important change, or any important crisis, the Board will appeal to us for an opinion, for consideration, before any step is taken. Now, gentlemen, the value of that 'Formulary' has been recognised by the Department. That is an important point, and the other thing is that we secured two valuable extensions of time.

Administration.

Then, administration. Now I can speak on this point just where some around me cannot speak, and I speak with a sense of great indebtedness. I want to recognise the very valuable services of the permanent staff in this house. Presidents come and go—quite right, they should go—with the result that the President is dependent, absolutely dependent, for information upon the staff conveying that information to him, and he has to form his own opinion or judgment upon the evidence submitted to him. I feel very deeply my indebtedness to my old friend the Secretary, Mr. Bremridge, and to Mr. Chater, and indeed to the whole staff. Well, now, this is only an illustration of what goes on in our national life. There is a Government; there are members of the House who are responsible for the administration of each department; but they are the very men who will admit their absolute dependence upon the information supplied to them—and it ever must be so. Let me then say this, that the work of this office is growing by leaps and bounds. Since I have been on the Council I am sure that the work of the office—the administrative work, the routine work, and the special work which emergencies create—has certainly quadrupled.

The North British Branch.

I want to pay one word of tribute to the excellent work done by the North British Branch. I think whatever differences may exist south or north of the Tweed with regard to our joint action, you cannot read reports of the North British Branch Executive without seeing that they are animated as Scotsmen with an intense desire to do the very best they can for the Society they represent. I should also like to say this, that I recognise the very important services rendered by our Assistant Secretary there. Mr. J. Rutherford Hill is a man of many sides, of many gifts and attainments, and is an extremely conscientious man, who desires to do the very best for the Society he represents there. I do not know whether Mr. Tocher is here, but I know no territorial distinctions. I am not going to argue the point of territorial representation—God forbid! I should be out of it. What I mean is this, that I do not acknowledge the Tweed as a boundary line. I claim to represent, as far as I do represent the whole of Great Britain, and I do not regard the North British Branch Executive as in any sense a separate body. We are just one Society with the North British Executive doing valuable work, especially in Scotland, for us. We are essentially one, and only one.

Corresponding Members.

Professor Perrot has just sent over a first instalment of his work, which was sent to me, but I have handed it to the Secretary, and probably it will go into the Library. Professor Perrot has also written me a very graceful letter, acknowledging his election as a corresponding member. But, gentlemen, we know of no nationality here. If we have specially honoured France this year, remember that the corresponding members, Professors Beckurts and Hartwich, are distinguished German scientists. We honour Germany and recognise Germany as warmly as France.

Obituary.

I should be very sorry to pass over this paragraph without one word. In John Barclay we lost a young man full of promise, but more than that, one who had already done substantial work in pharmacy. In Barnard Proctor we lost a veteran, a man of singularly unique gifts and literary powers, and it has been one of my pleasures in life, pharmaceutically, to claim the intimate friendship of Barnard Proctor. When I was at Bristol at last year's Conference, I received a very warm invitation from him, conveyed by a mutual friend, that I should go over and spend the day with him, but unfortunately that invitation I was unable to accept. Barnard Proctor was a man whose works, like those of my friend, Tom Groves, of Weymouth, will ever be in pharmacy a subject matter for reference. Then there was that fine old gentleman, Nathaniel Smith, of Cheltenham, one of our founders. It was my pleasure to go over and spend a day with him in his charming residence under the Cotswold Hills, and he shortly afterwards passed away; but, oh! what a delightful time I had in listening to his memories of early life—early struggles with circumstances. We have lost in John Taylor, of Bolton, a member of Council who at once placed himself by his ability in the very forefront of our debates. A man of singularly high character and lofty purpose, clear thinking, and with wonderful powers of compact expression. I must apologise for having kept you so long, but I have made the briefest analysis I could of this report. I beg to move, and I ask the Vice-President to second, that the annual report and statement of accounts, as published, be received and adopted.

The Vice-President: Mr. President, ladies, and gentlemen,—After the exhaustive analysis of the report before us made by yourself, sir, it does not need any comment from me. I would, therefore, like, with your permission, to reserve any remarks I would like to make to the end of the discussion. I have much pleasure in seconding the motion for the adoption of this report.

Discussion.

The President: Is there any gentleman or lady who wishes to discuss any point in this report?

A considerable pause followed, during which no one intimated any desire to speak on the report.

The President: Gentlemen, I do not wish to invite discussion, and I certainly do not want to put any closure upon discussion; but may I take silence as consent—may I put the motion for the adoption of the annual report to the meeting?

As the members still showed no signs of any desire to discuss the report of the Council, the President was proceeding to put the motion to the vote—and, in fact, several persons had already put up their hands in favour of the motion—when

Mr. George J. Knight (London) was seen to be standing in his place. He said he was not going to challenge the accounts or any of the proceedings of the Council during the past year. He was very pleased to see Mr. Atkins in the position he occupied, and he congratulated the Council on having got rid of the insane ideas which had hitherto prevented any provincial aspirant to the chair having a seat in it. Mr. Knight went on to say that when a man was in danger of drowning it did not matter much whether he was being drowned in six feet of water or in six fathoms. He believed the Council had the dealing with the Act of Parliament which was passed on July 31, 1868, and that Act began: "Whereas it is expedient for the safety of the public that persons exercising the business or calling of pharmaceutical chemists in Great Britain should possess a competent practical knowledge of pharmaceutical and general chemistry and other branches of useful knowledge," etc., etc. He wanted to know what the Council had done to carry out that Act, and to safeguard the public. He then read an abstract from a report of an inquest in the *Daily Telegraph* of May 12 last, concerning the death of a lad at Kettering from the effects of an explosion of a mixture of nitric acid and mercury, which had been placed in a bottle and corked; he also mentioned that another similar case had occurred on the same day. He supposed the gentleman who sold that mixture had just left the portmanteau department, and very likely had leather on the brain. This was evidently a case in which there had been some laxity. If he understood the matter aright, the mixture was sold at a "Boot shop," and what he wished to know was why the Council, when it heard of "Boots Cash Chemists" being placarded all over the country, did not send a bill sticker to put up notices to the effect that it was a lie. If it was fraudulent, why were no steps taken to expose the fraud? He contended that if the Council accepted examination fees from candidates something ought to be done to safeguard their interests as qualified men. If the Council could do nothing he thought the best thing that could be done was to take the Charter and let it burn. In the old days of Jacob Bell and William Allen they had no qualification, and they were much better off then. What steps were the Council taking to prevent the dissemination of lies by companies and others? Mr. Knight at this point made some incoherent remarks about imbeciles and the imbecility of somebody or other, but was called to order by

The President, who said: Mr. Knight, may I venture to remark that we are taking steps to accomplish the very thing that you want. If our Bill becomes an Act of Parliament, then we shall have dealt with the question you raise.

Mr. Knight: May I proceed to ask, Mr. President, what chance there is of that Bill passing into law? Mr. Knight then went on to refer to the ever increasing number of persons who are becoming shareholders in limited companies trading as chemists, which fact made it more and more difficult for chemists to secure their just rights. But he hoped that the Bill, which the President seemed to have such hopes of, would become law, and in that case it would perhaps be better to withhold any further remarks for twelve months. There were a few other matters he would like to speak about, so he would let that pass; but he would like to say that if he had not got up to speak the proceedings would have gone off as smoothly as a Dorcas Committee. During the past twelve months chemists had been under different conditions so far as proprietary medicines were concerned. Mr. Glyn-Jones had done something for them in the past, but he could not congratulate him very much on the result of the decision in the action which he recently fought in the High Courts, and so far as Somerset House was concerned the less said about that the better. But about four weeks ago he sent a label to Somerset House, and it required the united wisdom of the authorities to consider whether that label was liable or not, and it came back marked "Liable for duty." He thought they had to thank Mr. Glyn-Jones for that, because the label had previously been sent up for consideration, and had been returned marked, "Not liable for duty." But there were those who had profited by the new conditions, and there was an old friend sitting near him who had issued a book—or, at any rate, he held the copyright of the book—which was to be used as a reference book recognised at Somerset House. A great many chemists had contributed formulæ to that book, and he doubted very much whether those who had sent up formulæ had done wisely. Mr. Knight then went on to refer to the prescribing of secret nostrums, and said he had that morning received a prescription for a four-ounce bottle of a secret preparation, which could probably be made for 2½d., though sold at 3s. 6d. When that kind of thing was ordered he thought it was well to call upon the medical man who ordered it, and point out how the prescribing of such preparations increased the cost of treatment to the patient, and advanced the interests of some individual or other, to say nothing of the trade journals who took advertisements from them. He took it that the official journal was all right in that respect. Mr. Knight then referred to the tabloid case, and was enlarging upon the difficulty of dealing with orders for such articles as antikamnia "tabloids," which were not manufactured by the firm claiming the sole right in the word "tabloid," but a considerable amount of disapproval of the speaker's remarks was exhibited by the meeting, and Mr. Knight consequently sat down.

As no other member wished to speak, the motion was then put and carried unanimously.

Appointment of Auditors.

The Secretary announced that the following gentlemen had been nominated as Auditors for the ensuing year:—Messrs. Isaiah Bourdas, Chas. Hodgkinson, Frank H. Lescher, Chas. Umney, and Francis Yates.

No other persons being nominated, the gentlemen mentioned were declared duly elected as Auditors for the ensuing year.

Appointment of Scrutineers.

The President said the next business was the appointment of Scrutineers to examine the voting papers for the election of Council.

The Secretary then read a list of names of those who had been nominated to act as Scrutineers (see p. 688), and their appointment was unanimously agreed to.

The Registers.

The President then directed attention to the following registers, which were placed before the meeting in compliance with the Act of Parliament:—The Register of the Members and Student-Associates of the Society, Register of Pharmaceutical Chemists, Register of Assistants, Register of Apprentices and Students under the Act of 1852, and the Register of Chemists and Druggists under the Act of 1868.

Vote of Thanks.

Mr. MacEwan (London) proposed that a cordial vote of thanks be accorded to the President and Council for the services rendered during the past year, and to the President for the very admirable manner in which he had conducted the business that day. He thought the President had that day created a record in cutting down the critics to his (Mr. MacEwan's) old friend, Mr. Knight, who was always willing to tilt a lance with anyone.

Mr. Stooke (New Brompton) seconded the vote of thanks. He said he had been attending the annual meetings for the past thirty-five years, and he never remembered having seen such a peaceful meeting, and never remembered such an eloquent address from the President, who had carefully kept off those parts of the financial statement which might have brought out a hornets' nest. He had also never seen so small an attendance, and he hoped that circumstance was an indication that the Society was now so thoroughly in accord with the wishes of its members that they did not think it necessary to attend the annual meeting to criticise the actions of the Council.

The thanks of the meeting were then accorded by acclamation.

The President, in replying to the vote of thanks on behalf of the Council and on his own behalf, suggested that Mr. Stooke had not looked at the back of the room, or he would not have thought that the attendance was smaller than usual.

The meeting then adjourned till three o'clock on Thursday afternoon, May 19, to receive the report of the Scrutineers.

ADJOURNED ANNUAL MEETING.

The adjourned meeting for receiving the report the Scrutineers was held on Thursday, May 19, Mr. S. R. Atkins, President, in the chair.

The Chairman of the Scrutineers, Mr. J. W. Bowen, read the following report:—

Scrutineers' Report.

We, the undersigned Scrutineers, appointed at the Sixty-third Annual General Meeting of the Pharmaceutical Society of Great Britain, do hereby certify that we have examined the voting papers committed to us, and report the following:—

Voting papers reported by the Secretary to have been issued		5,999
Voting papers received		3,508
Voting papers issued, but not returned		2,491
Voting papers received		3,508
Voting papers disallowed:—		
Informal	31	
Received, by post, too late	17	
		48
Voting papers registered		3,460

Newsholme, G. T. W.	2,678	Corder, Octavius	1,680
Atkins, Samuel R.	2,412	Sargeant, F. Pilkington	1,574
Gibson, William H.	2,253	Betty, Robert B.	979
Gifford, R. Lord	2,228	Higgs, Alfred	793
Currie, William	2,017	Pickering, Charles E.	745
Robinson, Richard A.	1,884	Paterson, Jas.	709
Hagon, Albert	1,797		

J. W. Bowen, Chairman.

Scrutineers.

Bascombe, F.
Bedell, Margaret I.
Cart, J. Trevor
Clarke, R. Feaver
Douglas, J. W.
Goldby, Frank
Golds, L. G.
Harvey, F.
Hobbs, A. E.
Hooper, Elsie S.
Jacks, D. R.
Jennings, J. A.
Maben, Thos.
Melhuish, A. R.
Middleton, Burton
Morley, C.
Parrott, John
Pickard, W.
Renouf, Nora
Smith, J. H.
Stephens, H. J.
Turner, J. S.
Ward, J. S.
Warren, W.
Wing, A. J.
Worsley, A. G.
Young, R. Fisher.

The New Council.

The President, as Chairman of the meetin then declared that the following gentlemen would constitute the Council for the ensuing year:—

Atkins, Samuel Ralph, Market Place, Salisbury.
Campkin, A. S., 11, Rose Crescent, Cambridge.
Carteighe, Michael, 180, New Bond Street, W.
Cooper, Albert, 80, Gloucester Road, S.W.
Cross, William Gowen, 70, Mardol, Shrewsbury.
Currie, W. L., 223, Byres Road, Glasgow.
Gibson, William H., 122, King's Road, Brighton.
Gifford, Richard Lord, Salford Bridge, Blackburn.
Glyn-Jones, William Samuel, Endsleigh, Palmer's reen, N.
Hagon, Albert, 5, Bute Street, Cardiff.
Harrington, John Frederic, 45, Kensington High Street, W.
Harrison, John, 33, Bridge Street, Sunderland.
Hills, Walter, 225, Oxford Street, W.
Newsholme, G. T. Wilkinson, 27, High Street, Sheffield.
Park, Charles James, 23, Mutley Plain, Plymouth.
Robinson, Richard Atkinson, 195, Brompton Road, S.W.
Southall, Alfred, Carrick House, Richmond Hill, Edgbaston.
Storrar, David, 228, High Street, Kirkcaldy, N.B.
Symes, Charles, 14, Hardman Street, Liverpool.
Wootton, Alfred Charles, "Barrymore," N. Finchley, N.
Young, John Rymer, 40, Sankey Street, Warrington.

Vote of Thanks to the Scrutineers.

The President, in proposing a vote of thanks to the Scrutineers and to Mr. Bowen, the Chairman, referred to their arduous duties, which, he said, had been increased that day owing to a larger number of votes having been sent in. He confessed that he was very pleased to find he had been re-elected, and he was also glad that his friend and colleague, Mr. Currie, had been successful. There had been a larger number of voting papers sent out and a much larger number than usual returned. He thought that fact indicated that the members of the Society were taking a greater interest in the election of the Council.

Mr. Currie seconded the votes of thanks to the Scrutineers. Their labours that day had been extremely arduous, as there was a large number of candidates and a great deal of cross-voting, which had greatly increased the time required for the counting of the votes. The fact that so many gentlemen were prepared to come forward to undertake this duty of counting the votes showed him that there were not a few individuals who had the welfare of the Pharmaceutical Society at heart. He was sure that the Society was very much indebted to the Scrutineers. As one of the successful candidates he felt very highly gratified in having improved his position, and had not on this occasion been left out in the cold.

The vote of thanks was duly accorded, and

Mr. Bowen replied on behalf of the Scrutineers. He said the circumstance that it had taken five hours to count the votes showed that the process was not a light one.

The President on Mr. Carteighe.

The President said that before the meeting dispersed he just wished to say how very pleased he was to see Mr. Carteighe with them that afternoon. He had said at the dinner the other day that there had been no previous dinner in his remembrance at which Mr. Carteighe had not been present, and he could scarcely conceive of an important function held in connection with the Pharmaceutical Society—whether in committee life or social life—that their friend Mr. Carteighe had not attended. He was extremely glad to know that Mr. Carteighe was well enough to be present at that meeting.

Mr. Carteighe replied very briefly in a felicitous speech, remarking how much he appreciated the fact that the younger generation of pharmacists were coming forward and taking part in the work of the Society.

A COMPARISON.

As a matter of interest we append the result of the Council Election of 1901, so far as it concerns the candidates who stood again on the present occasion.

Newsholme, G. T. W.	2,440
Atkins, S. R.	1,796
Gifford, R. Lord	1,595
Corder, Octavius	1,577
Paterson, James	1,045
Pickering, C. E.	555

PHARMACEUTICAL EXHIBITION AND CONVERSAZIONE.

THE great success which attended the Exhibition held in the House of the Pharmaceutical Society in February, 1903, not unnaturally led to another similar Exhibition being organised for 1904. After consideration, the Evening Meetings Committee decided that it would make for the greater success of all the annual functions of the Pharmaceutical Society if the Exhibition were arranged for the evening of the day on which the annual meeting is held. The Committee was particularly fortunate in securing the consent of Professor Morris W. Travers, F.R.S., to lecture on "Solidification."

At the conclusion of Professor Travers's lecture, which was illustrated with experiments and is printed in full at page 697, the President, who was in the chair, said the subject was as important as it was interesting. Members were not to be asked to discuss the paper, at least he hoped they did not expect him to open the discussion. This was one of those occasions on which he realised that silence was golden. "What marvellous things are happening in these days," continued the President. "During my life the world has been turned upside down." When he was young there were only fifty elements, and the ancients were satisfied with four; but, nowadays, scientists had even dared to tamper with those elements and to add to their number. The President concluded his speech with a word of thanks to the lecturer, which Dr. Travers briefly acknowledged.

A selection of orchestral music was performed by the Alexandra Ladies' Orchestra, under the direction of Miss Ethel Goldie, in the Examination Hall, during the reception of the guests by the President and Vice-President, and also after the conclusion of the lecture. In the Museums, Library, and Chemical Laboratories, many exhibits of a practical and scientific nature had been arranged. A list of the exhibitors and exhibits is given below, and anything in the nature of a detailed description here is impossible. But some of the exhibits call for special mention.

Mr. E. M. Holmes, Curator of the Society's Museums, showed a number of eucalyptus oils, and several specimens of eucalyptus leaves. The latter, with many fresh specimens of other plants, had been specially sent by the Curator of the Cambridge Botanic Gardens. The Museums of the Society contain specimens of practically all drugs used in Japan; but for this occasion Mr. Holmes had picked out a selection of the more interesting. The *Gelidium spinosum*, from which agar-agar is made in large quantities, and Japanese wood-oil (*Elæococca cordata*) are, from an economic point of view, of the greatest importance. In the Chemical Museum were several curious and rare British plants, including the Dutchman's pipe (*Aristolochia sipho*) and *Paris quadrifolia*, an abnormal monocotyledon, with net-veined leaves in whorls of four. In the histological laboratory on the first floor, Professor Greenish—who, it should be mentioned, was responsible for most of the arrangements of the evening—showed several lantern-slides illustrating the production and the commercial history of drugs, many of the slides having been prepared from illustrations which appeared, a year ago, in the *Pharmaceutical Journal* with Mr. Heap's article on "The Commerce of Drugs." In the same room, the incandescent spirit lamps, shown by Mr. Hugo Lorenz, were particularly interesting. The light given was pleasant and was not accompanied by any objectionable smell, such as sometimes attaches to spirit lamps. Other advantages of the lamp are that there is no smoke, no soot, no flickering, and no danger of explosion, while the cost of a 40-candle power light is only one halfpenny per hour.

Of Mr. Thomas Tyrer's fine and rare chemicals, and of Messrs. Muller Orme's electrical apparatus, no description can, for want of space, be given. The old manuscript invoices, prescriptions, account-books, and apprenticeship indentures, lent by Mr. W. Warren, and shown in the Library, gave some idea of the conditions of pharmaceutical practice in the eighteenth century. In the Chemical Laboratory on the top floor there was a surfeit of good things. These included not only a quantity of photographic, chemical, and electrical apparatus, supplied, as the accompanying list shows, by firms of the highest repute, but also a variety of apparatus and products adapted for use by the retail pharmacist. In this connection particular mention must be made of the numerous cold-pressure suppository machines, the tablet-machines, emulsioners, dispensing-balances, capsule-fillers, cachet machines, and the dish for making granular effervescent preparations, for the last of which Mr. George Lunan was responsible. The lozenge-makers, shown respectively by Professor Greenish and the Pharmaceutical Department of Owens College, Manchester, and the rotary bottle-shaking machine, also from Manchester, received much attention. Among exhibits less pharmaceutical in nature, the dried milk powder of Messrs. Irven and the ozonising machine of Messrs. S. Maw, Son, and Sons were interesting. Mr. Britton, of the latter firm, gave several visitors a draught of air, ozonised by an electrical discharge. The same firm also showed a number of amber-glass shop-rounds, which gained additional interest by reason of the paper recently read on the subject by Mr. Upsher Smith. As will be seen from the list which follows, most of the best-known makers of apparatus were represented, in addition to many wholesale firms and individual pharmacists. All the exhibits, from whatever source they came, were arranged with great taste, and the exhibitors are cordially to be thanked for thus assisting to provide a thoroughly enjoyable evening's entertainment.

The following is a list of the exhibits, under the names of the respective exhibitors:—

The Curator.

1. Eucalyptus Oils, illustrating Baker and Smith's Research on the Eucalypts.

2. Ginseng Root, the specimens illustrating the commercial forms of this important Eastern drug—viz., Corean, Manchurian, Japanese, etc.

3. Japanese Drugs Official in the Japanese, but not in the British, Pharmacopœia.

4. Japanese Non-official Drugs, which are, in many cases, the equivalents of European drugs.

5. Japanese Drugs that are now more or less regularly imported into Great Britain.

Mr. Thomas Tyrer and Mr. Hugo Lorenz.

Amor Incandescent Methylated Spirit Lamps, 40 candle power.

Mr. Thomas Tyrer.

Argon and Helium in Tubes, and other rare chemicals; Uranothorite, Pitch-blende, Samarskite and other minerals containing rare elements.

Professor Greenish.

Collection of Lantern Slides illustrating the collection, transmission and sale of drugs.

Mr. William Warren.

Six pieces of old silver Pharmaceutical Apparatus; Eighteenth-century Manuscripts and Prescriptions; Invoice Headings, showing the signs of houses instead of numbers, as customary at that period.

Messrs. Thos. Christy and Co.

Photographs of Revolver Shots at an exposure of one-millionth second on Dr. Schleussner's plates; Apparatus for closing Rimless Cachets; Apparatus for closing Telescoid Cachets, the most hygienic kind of cachet, no moisture being required to close them; Suppository Machine; Allen Snap Suppository Machine; a new "Crystalline" Toilet Cream, free from grease and non-sticky, and containing a large percentage of Eau de Cologne.

Messrs. Fletcher, Russell and Co., Ltd.

Selection of gas-heated Laboratory Appliances, including Muffle Furnace, Oxygen Crucible Furnace, Injector Furnace, Blowpipes, Bunsen Burners, etc.

Messrs. C. R. Harker, Stagg and Morgan, Ltd.

Working Model of a New Still for the Recovery of Alcohol from Tincture Marcs, etc.; Still Watcher, for use with the same.

Messrs. Brown and Son.

Improved Constant Level Still and Condenser, with superheated Water Oven and Water Bath combined; Distilling Stand, with Safety Burner; Constant Level Still; Levelling Stand; New Centrifugal Machine for Bacteriological Work; Hand and Electrical Centrifuges; Thorpe's Apparatus for Estimating Arsenic; Still, designed by Mr. Tickle; Bronchial Kettle (White's Patent).

Young's Patent Hygienic Bin Co.

Young's Patent Hygienic Bins, made of Galvanised Steel, without internal corners or crevices, the only perfect receptacles for chemicals, drugs, foods, etc. Made in all sizes, from 14 lb. to 280 lb.

Messrs. Houghtons, Ltd.

Sanderson Hand and Field Cameras; Ensign Roll Film and Glass Plate Cameras; Holborn Magazine Cameras; Dalo; Daylight Developing Box; Sol Lamp; Ensign Vidil System of Roll Film; Aluminium Tripods and Post-card Printing Frames.

Messrs. Townson and Mercer.

Chemical Balances; Vacuum and Distilling Apparatus; New Pyrometer for taking the heat of Furnaces; Centrifugal Machine; Copper Drying Oven; Models of Crystals; Spectroscopes, Polariscopes, etc.

Messrs. S. Maw, Son and Sons.

Capsule Mould; Iron Pill Tile; Tin Percolators; Aluminium and Fluted Iron Funnels; Bunsen Burner, with detachable dish support and rose burner; Improved Gas Stove; Box Sieves; Tin Straining Funnels; New Emulsifiers; Metric Weights and Measures; Dispensing Balances; New Rotary Counter Sieve; Steel Crushing and Triturating Mortar; Tablet Machines; Copper Suppository Bath; Pearl-coating Apparatus; Presses; Water-baths; Spirit Lamps, Stoves and Sealing Jets; Cachet Machines; Pouring Jug; Squire's Infusion Pots; Lupa Milk Humanising Jug; Percentage Tube; Set of Test Lenses and Case; Microscope and Lamp; Centrifugal Machine; Thermometers; Amber Shop Rounds and Bottles; Catheter Steriliser; Ozonising Machine; Kelvoline Vaporiser; New Torpedo Shape Suppository Moulds; Student's Dissecting Set; Clinical Thermometer; Sterilising Stand; Enamelled Iron Measures; New Scales; Aluminium and Nickel Scoops; Fine Specimen of Sponge.

Messrs. John J. Griffin and Sons, Ltd.

Colton's Machinery for the automatic manufacture of Pills, Tablets, Suppositories, etc.; Quartz Glass Apparatus which resists in a marked degree sudden temperature-changes; Young-Thomas Dephlegmators, for the fractionation of liquids; Spinthariscopes and Kunzite, for demonstrating Radium Energy; Torsion Dispensing Scales, without knife-edges; Balances, Microscopes, Bacteriological and Chemical Apparatus; Harcourt Chloroform Inhaler, to give an accurate dose which may be maintained or varied at will; Thermometers.

Messrs. Baird and Tatlock (London), Ltd.

Condenser of Glass, new pattern; Dewar's Cylinders for holding Liquid Air; Haldane's Apparatus for the determination of minute quantities of CO_2 in Air; Specimen of Crystal Bismuth; Graduated and Standardised Apparatus, Flasks, Burettes, and Pipettes; Eiloart's Stereo-chemistry Models; Specimens of Silicio Glass, prepared according to Prof. Shenstone; New form of Bunsen Burner, with Bye-pass; Inland Revenue pattern Condenser; Still for determinating Spirit in Beer, etc.; Still and Condenser, with constant level apparatus; Prof. Thorpe's Electrolytic Arsenic Apparatus; New form of Embedding Bath, etc., etc.

Messrs. Hearon, Squire and Francis, Ltd.

Fine case of Medicated Gelatin Capsules, and other pharmaceutical products.

Mr. W. E. Miller.

Specimen of Turpentine Liniment made by dissolving the Soap in hot water; Bottle for making Solutions by Circulatory Solution.

Messrs. Robinson and Sons, Ltd.

Assorted Surgical Dressings, both Plain and Medicated; Sets of Antiseptic Dressings suitably chosen for various operations; Robinson's Improved Gamgee Tissue; Boric Lint; Capsicum Wool, etc.

Mr. William Toogood.

Percolators; Label Dampers; Strainers; Medicine Wallets; Boiling and Filling Jugs; Mixing and Store Bottles; Pastille and Suppository Moulds; Tablet-mixing and Cachet Machine; Pill Piper; Water Baths; Sieves; Funnels; Evaporating Dishes; Metric Weights; Aluminium Dishes, etc., for the Dispensing Counter.

Mr. E. Merck.

Specimens of Veronal (diethyl-barbituric acid), the new Hypnotic; Tannoform, a compound of Formaldehyde and Tannin; Stypticine; Dionine, a substitute for Morphia and remedy for Morphinism; Iodipin and Bromipin; Hæmogallol; Glycosal; Antithyroid Serum; Hydrogen Peroxide, 30 per cent. by weight, of absolute chemical purity; Tropacocaine; Cocaine; Atropine; Eserine; Pilocarpine; Cacodylates; Glycerophosphates, etc.

Messrs. C. J. Hewlett and Son.

Dutch Medicines, from the original formulæ supplied by Cape pharmacists; Huis Apotheeks (or Medicine Chest), fitted with Dutch Medicines and book of directions, printed in Dutch; South African Drugs, specially imported for the manufacture of Dutch Medicines.

Mr. W. Martindale.

A selection of Analytical Apparatus, including a New Simple Saccharometer for use with Yeast; Radium in its application to Therapeutics; Applicators, for Surface Cases; Thorium Emanation Inhalers; Thorium Pads; Radium Clock, showing the remarkable energy of the rays emitted by the element.

The Pharmaceutical Department, Owens College, Manchester.

An Improved Lozenge Stamper; Shaking Machine, with Rotary Motion and Hexagonal Bottle, etc.

Messrs. Parke, Davis and Co.

Suppository Machine; Emulsifier; Medicine Cases; Glass Aseptic Syringes; Test Case; Germicidal Soap.

Professor Greenish.

Jenny's Suppository Machine; Schmidt's Dry-closing Cachets; Capsule Filler, and other Pharmaceutical Apparatus.

Messrs. C. E. Müller, Orme and Co., Ltd.

Dr. Haldane's CO_2 Apparatus; Orsat's Apparatus; New Quick Filter Apparatus; New Coal Gas Apparatus; Professor Ramsay's Gas Holder; New Circular Beam Balance; Thermometers; New Resistance Glass; Orme's New Condensers; Orme's Voltameters; Hempel's Pipettes; Liquid Air Vessels; Phosphorescence Experiments with Artificial Ruby Tube, Flower Tubes, Iceland Spar Tubes, Cross Tubes, Blue Stag, Pektolite and others.

Mr. W. S. Glass.

Set of Aluminium Capsule Moulds, Capsule Filler and Samples of Capsules, filled and unfilled, made with them.

Mr. George Lunan.

Granulating Pan with Boiler, for making Granular Effervescing Preparations; Specimens of Granular Effervescing Citro-tartrate of Lithium, Sodium Sulphate and Piperazine.

Messrs. Symes and Co., Ltd.

Phœnix Emulsifier, two gallons capacity, with detachable Porcelain Tank and Galvanised Iron Tank; American Mixer and Sifter, 6 lb. capacity, for Tooth Powders, Toilet Powders, etc.; Soap Cutter, for cutting Bars of Castile Soap into uniform cakes of any thickness.

Messrs. A. Gallenkamp and Co., Limited.

Darling's Calorimeter, for Solids, Liquids and Gases; Quartz Glass Tube; New form of Carbonic Acid Apparatus; New Crucible Heater; Spinthariscope; Specimen Woods; Metric Measures; Enamel Bottles and Measure; Spring Clips; New Balance; Muller's Desiccator; Wimshurst Machine; Centrifuge; Soxhlet Tube; Burettes and Burette Stand; Physical Balance and Weights; Thermometer Chart; Hall's Purinometer; Chemical Thermometers; Glue-testing Apparatus; Electrical Furnace; Pocket Spectroscope; Microscope; Lupke Book and Apparatus; Pyrometer; Retort Stands; Coppered Flask; Davies' Condensers; Desiccators for Balance Cases; Sets of Special Leaves; Resistance Glass Beaker; Hot-air Motor; Vacuum Apparatus; New forms of Bunsen Burners; Set of Crystal Models; Glass Troughs, Box, Cubes and Prism; Argon and Helium Tubes; Electrolysis Apparatus; Willemite and Pitch-blende.

Messrs. Werner, Pfleiderer and Perkins, Ltd.

Various sizes and types of Universal Kneading and Mixing Machines for Pill Masses, Tooth Pastes, etc.; Model of the Spiral Brush Sifter for powders; Dr. Reese's Patent Apparatus for the Continuous Extraction of Oils, etc., in Solution or Suspension.

Mr. Horace Finnemore, A.I.C.

Simple Bench Attachment for Supporting Filtering or Separating Funnels, etc.

Messrs. Irven and Co.

Klonol Brand of Dried Milk in powder, Dried Cream in powder, Dried Separated Milk Powder; also in tablet form. Also Roseven Toilet Powder and Cream, made from milk.

Messrs. Allen and Hanburys, Ltd.

Two forms of Tablet Machine; Steelyard Dispensing Balance, Milk Pasteuriser, Electrical Massage Instrument, Surgical Requisites of all kinds; Pills, Tablets, Jujubes, Capsules, etc.

THE SOCIETY'S ANNUAL DINNER.

THE annual dinner of the members and friends of the Pharmaceutical Society was held on Tuesday evening, May 17, 1904, at the Whitehall Rooms, Hôtel Métropole, the President, Mr. S. R. Atkins, J.P., in the chair. The dinner was a great success from many points of view, but during the whole of the proceedings not a few of those who have attended the annual dinner of the Pharmaceutical Society in years past felt that there was something lacking. What that something was they hardly knew until, just before proposing the toast of "The Medical Profession," the President touchingly referred to the absence, for the first time since the dinner had been held, of Mr. Michael Carteighe. Then those who had been wondering what it was they missed, realised that it was the hearty laugh of Mr. Carteighe, which on previous occasions was frequently heard during the progress of the dinner.

LIST OF GUESTS.

A complete list of the guests present at the dinner, with the names of the various associations of chemists and druggists, scientific and other bodies represented, is given below. It will be noticed that the number of persons present was about two hundred. The Chairmen of the tables were Messrs. C. B. Allen, Isaiah Bourdas, J. W. Bowen, R. Bremridge, A. E. Ekins, Walter Hills, and Charles Umney.

Aiken, W. Campbell
Allen, C. B. (*Vice-President*)
Anderson, G.
Anthony, D.
Arrow, J. J.
Arrowsmith, A. R.
Atkins, S. R. (*President*)
Atkins, W. R.
Attfield, Dr. J., F.R.S.
Baiss, A.
Barron, R. E.
Bascombe, F.
Bennett, R. R.
Bhownaggree, Sir M.M., M.P.
Boehm, F.
Bolton, H. N.
Bolton, H. N., jun.
Bourdas, Isaiah
Bourdas, Dr. E. C.
Bowen, J. W. (*Western Chemists' Association*)
Boyes, A.
Bradberry, C. F.
Bremridge R. (*Secretary*)
Bridge, H. C.
Britton, A. B. (*Chemists' Assistants' Association*)
Carter, R. W.
Castle, J. W.
Chalmers, W.
Chaney, H. J. (*Standards Department, Board of Trade*)
Chater, A. J.
Chattaway, Wm.
Church, Sir W. S., Bart. (*Royal College of Physicians*).
Clarke, R. Feaver.
Cooper, A.
Cooper, A. J. B.
Cooper, H. Creemer
Cooper, Lionel
Cottle, Dr. Wyndham
Cross, W. G.
Currie, W. L.
Davies, Thos.
Davis, W. A.
Dixon, R. D.
Douglas, J. Wellesley
Drabble, W.
Edden, T. L.
Ekins, A. E. (*St. Albans*)
Fairley, T. (*Society of Public Analysts*).
Farquhar, G.
Finnemore, H.
Fisk, F. M.
Flack, A.
Flux, W.
Fogarty, W. F.
Foster, E. D.
Francis, Alan
Francis, G. Bult
Francis, W. H.
Frankish, Dr. W. J.
Frost, S. T.
Froude, H.
Garsed, W.
Gerrard, A. W.
Gilbert, C. J.
Glazebrook, Dr. R. T. (*Physical Society*)
Glyn-Jones, W. S.
Goldby, Frank
Goodall, F. C.
Gray, J.
Greenish, Prof. H. G.
Gregory, A. C.
Hagon, A.
Hall, E. Marshall, K.C., M.P.
Harrington, J. F.
Harrison, J.
Harvey, Roger M.
Hawkins, Dr. F. M.
Heap, J. H.
Heighington, T.
Heslop, T. L.
Hickey, H.
Higgs, A.
Hill, Aubrey
Hills, Dr. Rowland
Hills, Walter (*Treasurer*)
Hodgkinson, C.
Hodgson, C. R. (*College of Preceptors*)
Holden, H. E.
Holmes, E. M. (*Curator*)
Houghton, R. W.
Howard, David (*Institute of Chemistry*)
Howie, W. L.
Hugill, E. A.
Hugill, J. H.
Humphrey, John (*Editor P.J.*)
Idris, T. H. W., L.C.C. (*London Chemists' Association*).
Jennings, J. A.
Jones, Adpar
Kilpatrick, R.
Knight, G. J.
Lansdown, G. A.
Leng, R.
Lescher, F. Harwood
Lester, T. R.
Lewis, D. L.
Linstead, E.
Lough, Thomas, M.P.
MacEwan, P.
Maben, T.
Manks, J. W.
Martin, C.
Martin, T.
Massey, S. J.
Maw, A. Trentham
Maw, C. Trentham
Mercer, C. A.
Miles, C. J.
Morson, T. P.
Nay or, W. A. H.
Newsholme, G. T. W.
O'Malley, W., M.P.

List of Guests—*continued.*

Owen, J. Fenwick
Page, —
Pain, R.
Park, C. J.
Parsons, W.
Pearson, G. E.
Perkins, C.
Philp, W. J. T.
Preston, Lieut.-Col., V.D.
Procter, H.R.
Quarrell, W. H.
Raper, F. R.
Reid, James, M.P.
Ridgwell, J. B.
Robinson, R. A., L.C.C.
Robinson, R. A., jun.
Robinson, W. P.
Roe, G.
Rogers, F. A.
Rogerson, W. J.
Royle, H. W.
Do. Friends
Savory, A. L.
Scupham, H.
Shannon, J.
Sharland, C.
Sherwood, G. T.
Shillcock, A.
Silverlock, H. T.
Smith, J. H.
Smith, O. W.
Society of Apothecaries (Master)
Solomon, A. H.
Do. Friend
Spurway, M.
Stamp, C. E.
Stamp, E. R.
Stamp, F. U.
Stevenson, Dr. T.
Stevenson, H. E.
Storrar, D.
Surman, T. M.
Swan, Dr. J. Wilson, F.R.S.
Symes, Dr. C.
Tate, A.
Taubman, —
Thurston, J.
Tickle, T.
Tocher, J. F,
Tomkins, W. K.
Townson, T. B.
Truman, F.
Tweedy, J. (*Royal College of Surgeons*)
Umney, C.
Umney, E. A.
Umney, J. C.
Vasey, S. A., F.I.C.
Walker, H.
Walker, H., M.R.C.S.
Want, W. P.
Ward, J. S.
Warren, W.
Watts, T. R.
Wavell, G. H.
Webb, E. A.
Weld, C. C.
White, Edmund, B.Sc.
White, G.
Wigginton, A.
Will, W. Watson
Williams, T. R.
Wilson, Harold, B.Sc.
Wilson, Jas.
Woolley, S. W.
Woosnam, W. W
Wret's, J. R.
Wright, H. C.
Young, J. Rymer

During the evening vocal selections were given by the Lynton Quartette, and by Miss Nellie White and Miss Bret Harte, and were much appreciated.

THE TOASTS AND SPEECHES.

The President: Mr. Vice-President and Gentlemen,—I rise to propose the first toast on the list—the first in order of sequence, the first in order of importance—and that is "The Health of His Majesty the King." Only one word will I add to that statement. I have reason to hope and believe that the King's health is good. Our one desire and prayer for His Majesty is that he may have a long, healthful, happy life, reigning over a loyal, united, prosperous people. Gentlemen, I ask you, with the utmost enthusiasm and loyalty, to drink the health of the King.

The toast was drunk with enthusiasm, cheers being given for His Majesty, and the National Anthem was sung by the Lynton Quartette.

The President rose to propose the second toast on the list,

The Houses of Parliament.

At those convivial gatherings, he said, they knew nothing of party politics. They had their convictions. If they had not got them they were not worth their salt. They had their convictions, their opinions, and on fitting occasions they did not hesitate to express them; but they never did it (if they remembered good taste) in convivial gatherings, when they knew that both parties, and all parties—if there were more than two—were represented. He wished that evening to curry favour with both sides of the House. They were honoured by representatives from the House of Commons that night representing both political parties, and he was very glad of it, and he wanted to make friends of all of them. They had a little bit of business in the House of Commons which they trusted might come to a successful issue, and they wanted the gallant and hearty support of those representatives. They had a Bill; but he was not going to talk about the Bill. They did not want the ghost of that there that night to disturb their digestion. He wanted to say that they had been charged by the onlookers with having conceived that Bill in a sort of trade union spirit on their own account. Now, if they had done so there would have been no injustice. It would have been perfectly right that they should endeavour as a corporate body to protect the interests of their own body. But from the first to the last the provisions of that Bill had been conceived in the public interests—and all they wanted was that that Bill should be discussed. They were willing that the Bill should be examined most analytically, critically, and they were not afraid of the issue. Their very best thanks were due to those gentlemen who went into Parliament and gave time, brains, thought, money, and influence for their advantage, and he thought the only thing they could do, and the thing they ought to do, when they had fitting occasions, was to give them the tribute of their thanks for their great, self-sacrificing, unpaid labour. When they read what transpired in the House of Commons and in the Committees—not reported, or only rarely reported in the newspapers—they got some faint conception of the amount of labour which they performed on their behalf. He was embarrassed with the riches of Parliamentary representation there that evening. How many distinguished men right and left! He did not know where they were sitting; he only knew they were there. They had Mr. Marshall Hall, who charmed them with his eloquence, and by the faithfulness of his utterance last year. They had also present a gentleman who had undertaken to back their Bill. He referred to Mr. Lough. He was telling no secrets—it was an open secret to those who belonged to the Council—that they knew that Mr. Lough had not done that except at considerable self-sacrifice, and against possible pecuniary interests. But he had taken up the question of Pharmacy legislation, and had made it essentially his own study, and they were deeply indebted to Mr. Lough for his effort. They also had present Sir M. M. Bhownaggree, the representative of the North-East Division of Bethnal Green, and known as the author of the 'History of the Constitution of the East India Company.' He did not desire to make long speeches that night, and he would ask them to drink with all enthusiasm the toast of "The Houses of Parliament," associated with the names of Mr. Lough and Sir M. M. Bhownaggree.

Mr. THOMAS LOUGH, M.P., in responding to the toast, said there was one person whom the President had forgotten to mention when referring to the members of Parliament present—he alluded to his friend, Mr. W. O'Malley, M.P., who represented the Irish Party. And he would recommend anybody who wanted to get anything through the House of Commons to imitate that discretion which prompted the pharmaceutical chemists in squaring the Irish Party in the person of Mr. O'Malley. The speaker then referred to a remark made to him by a gentleman during the dinner to the effect that since the war had broken out in the East he had ceased to take any interest in the doings of the Houses of Parliament. He thought that was a perfectly shocking remark—a bloodthirsty remark, suitable only for a society of chemists—in that it showed he rejoiced in war at a distance. He was afraid there were a great many who had the same enjoyment. But he was more shocked to learn that there was anything in this world that could for a single moment withdraw attention from the Houses of Parliament. He thought they, as members of Parliament, did not get sufficient credit for the great amount of time and labour which they gave to the public service. "Have any of you gentlemen thought," asked Mr. Lough, "what you would do without the services of the House of Commons? Why," he continued, "the country would be like a chemist's shop without a duly-qualified chemist. It would be like a large family of children without a good mother. Indeed, the country could not go on a single year without Parliament. You would have no Army or Navy, and no taxes would be levied." A roar of laughter greeted this last remark, and Mr. Lough exclaimed, "I see that you think you can get on without taxes, but the public service would do very badly without the Houses of Parliament." Mr. Lough, continuing, said he was glad to hear mention of the name of Sir M. M. Bhownaggree, M.P., who was evidently going to deal with the House of Lords, and he hoped he would confine himself to that subject, because the only House in which he (the speaker) was interested, and was likely to be interested, was the House of Commons. The President had alluded, in a very delicate manner, to a little business in which chemists were interested. There was a Bill in the House of Commons which, so far as he could make out, had been going on for the last thirty years. At any rate, chemists had badly wanted the Bill for thirty years, and they had displayed great patience in waiting for it. He hoped they would be rewarded. So far as he was concerned, he had always been on the side of the chemist. As the President had said, this was not a question of party politics. "But this Bill—I was going to say my Bill," said Mr. Lough—"is blocked indiscriminately by gentlemen who represent both sides of the House of Commons." Mr. Lough went on to say that he had been prejudiced in favour of chemists from the very beginning, for as a boy he treated as a magician and wise man the chemist in the village in which he was brought up, and he had never lost that respect for him. And in later years that feeling of respect had grown upon him. He had found the chemist to be a man who knew the constituent nature of things, and he had found that very necessary. For it was very important in the House of Commons to know the constituent nature of things—the real origin of all measures that were brought before Parliament. Mr. Lough then mentioned that in his own division there were seventeen chemists—or one chemist to each six thousand of the population. "This is not the case with the licensed victualler," said Mr. Lough. "You have one licensed victualler for every hundred of the population, and so a Bill is brought in by the Government to reduce their numbers. My little Bill," continued Mr. Lough, "is of the most innocent character, and I do not think I shall have any difficulty in obtaining for it a favourable reception here." Mr. Lough briefly sketched the various clauses of the Pharmacy Bill, and, referring to the company clause—Clause 7—Mr. Lough remarked amid prolonged cheering, "That clause interests me more than any other. We have too much of companies in these days. If I was ill I would not care for a company to attend me; if I was to undergo an operation, I would not like a company to perform it; if I wanted advice, I would rather trust myself to one of those good old, kindly pharmaceutical chemists than to one of those companies." Mr. Lough went on to say that he found the Bill very favourably received in the House of Commons, and he was glad indeed to know that there were distinguished men present from both sides of the House who supported it. He referred to Mr. James Reid, Mr. Marshall Hall, Mr. J. Henniker Heaton, and the others he had previously named. The Bill was not a party question, and there were some interesting points in it. "I hear," said Mr. Lough, "that this Government, who are doing everything both for this world and the world to come, are going to bring in a Bill, and that our little Bill will be swept away. I want to tell you not to despair if the Government does bring in a Bill. The most that a Government can do is to bring Bills in. They are not at all certain of getting them through. To get them through they have to talk to Mr. O'Malley, myself, and the other gentlemen who are interested in our Bill. And I wish to say that if there is anything in the Government Bill which you do not like we can add one or two discreet amendments, and we can try to make those amendments accepted by the Government. For the life of the Government depends upon them doing something for the country." Mr. Lough then thanked the Pharmaceutical Society for its hospitality.

Sir M. M. **Bhownaggree** also responded to the toast. After a few complimentary remarks concerning Mr. Marshall Hall and Mr. O'Malley, he said: I am not an Irish member; I am not an active lawyer. I was a lawyer once, but my legal knowledge now is confined to what might be described as a sphere of passive resistance, and I have altogether failed to see why, in this distinguished assembly of experts and scientific men, a non-chemical man should be called upon to respond to this toast. The speaker then referred to a speech made by the President at a former dinner of the Society, when he claimed relationship to the British Army, then fighting in South Africa, and he said that in the same sense he could claim relationship with chemists. For he too had a kindly feeling and sympathy for the Pharmaceutical Society, which had extended its hospitality to him. He went on to refer to the Houses of Parliament and the Legislature upon which were founded those liberties, those rights and privileges, which belonged to every British citizen, and he was glad to think that the President had given the toast in a manner which had commanded the enthusiasm and endorsement of that assembly. Referring to the Pharmacy Bill the speaker said that members of Parliament, regardless of party, would do their best to secure that justice which chemists had so long been denied.

The Medical Profession.

The **President**, after having referred with deep regret to the absence of Mr. Carteighe, whose presence had graced so many gatherings, said he was honoured by the presence of the President of the Royal College of Physicians and the President of the Royal College of Surgeons. On his right sat Sir William Church, on his left Mr. Tweedy. The late Herbert Spencer (continued the President) said the most precious possession of humanity was happiness. He (Mr. Atkins) believed there was an intimate connection between happiness and health. The doctor brought us into existence, and by his medical knowledge and advice he helped to preserve that existence. "He is our friend, philosopher, and guide; he smoothes the passage to the unseen." If there was one body of men who could propose the toast of medical men it was the pharmaceutical profession. It was the duty of doctors to diagnose and prescribe, just as it was the duty of pharmacists to dispense. No definite rules had been laid down, and no strict lines had been drawn between the duties of the two professions. The Pharmaceutical Society had always tried to teach a loftier ethical philosophy, and the importance of observing that teaching. There were always some who encroached on the hinterland, but the Society had never encouraged or blessed them, but, if anything, had advised them to stick to their last. The President then turned his attention to the preparation of the Pharmacopœia. With reference to this he said: "We want a distinct statutory position with the medical profession in the preparation of this work, and I am surprised we have not got it. I do fearlessly ask that in the future we shall be accorded this statutory position, which at present we do not possess. We are willing to place our laboratory and our time at the disposal of the compilers of the Pharmacopœia, but we desire some recognition." After referring to the presence of the Master of the Society of Apothecaries, the President concluded an eloquent speech by coupling with his toast the names of the Presidents of the Royal College of Physicians and the Royal College of Surgeons.

Sir **William Selby Church**, in rising to reply, said he was glad to know he was to be followed by the distinguished representative of another branch of the profession. The connection, he continued, which had always existed between doctors and pharmacists had always been very intimate. The President, in proposing the toast, had said it was the duty of the medical man to diagnose and prescribe, but he himself hoped that it was also their duty to alleviate suffering. To this end the doctor was inundated with weapons of which he knew very little. In this respect, however, the doctor was in a similar position to David, who, when presented with all sorts of weapons and armour, refused them, preferring the stone and sling, weapons which he had tried, to fight Goliath. The medical profession could not keep up with the activity of pharmacists, but they had implicit trust in the weapons which were placed in their hands. Some of them went as directly to their aim as did the stone from David's sling. Referring to the increasing use of sera in the treatment of disease, he said it was most essential that these sera should all of them be rigidly standardised. It was the duty of the Government to see to this, and the doctors and chemists ought to join in action and to see that the Government insisted on the standardisation of these sera. At present there was a great difficulty in obtaining them of known strength. Sir William concluded by expressing his thanks to the President for the eloquent manner in which the toast had been proposed.

Mr. **Tweedy**, referring to the President's remarks, said that in crediting medical men with endeavours to prolong life he had been unjust to his own branch of science. He was of opinion that health depended to a great extent on drugs; the tons of medicine which were consumed annually were sufficient to prove this. Surgeons had, perhaps, a less intimate acquaintance with pharmacy than had the physicians. The surgical profession, however, was sometimes brought into very close relationship with pharmacists, for the chemist was the natural first-aid in the case of accidents which happened to people in the street, and the chemist's shop was the first place to which the victims of these accidents were taken. In this respect the chemist showed not only a great deal of humanity, but a deal of skill in an unostentatious way. So far from resenting this as interference, he himself was of opinion that the chemist performed a useful work. In any case the pharmacist did no harm, although he could not always say the same thing of members of his own profession. Although the chemist's proper calling was the manufacture of pharmaceutical preparations, he had found that he had a good knowledge of minor surgery; moreover, he knew the extent of his knowledge and the extent of his ignorance, and he performed those duties which common humanity suggested.

The Pharmaceutical Society of Great Britain and the Health of the President.

Dr. J. W. **Swan**, F.R.S., said he would have been oppressed by the responsibility the importance of that toast seemed to lay on the proposer if he did not remember that it was an old and always welcome friend—the toast, in fact, that they had come there chiefly to honour, and that therefore it was really not necessary to say anything to obtain for it the most hearty reception. Like the health of the King, it largely spoke for itself, and he questioned whether he had not better follow the time-honoured precedent in the case of loyal toasts and leave its own merit to be spokesman. He would concede much to the force of that question, but not everything, for there were some things he must say, and that they would hardly forgive him for omitting. The Council had done him the honour of making him an honorary member of that Society. He desired to express his best thanks and the pleasure that mark of their appreciation had given him. It had made him one of their youngest members, and yet ever since he was a young man—alas! a great while—he had been in intermissive touch with them; not always in the marching column. But as one cannot be both in the procession and at the window, perhaps in the position of partial detachment he might have had some advantage as an observer—at least, that of a different point of view. And his observation led him to this: That during the sixty-three years' life of the Society there had been in that country many great and salutary changes in the position of pharmacy. Some of the changes were doubtless owing to extraneous causes, but after all due allowance had been made for these natural developments there remains a large balance of improvement which, to make up the full sum, must be put to the credit of the work of the Pharmaceutical Society. Its last report showed that it was still steadily pursuing its ideal—its two main objects—raising the status of the pharmacist, and consequently of pharmacy, by education, and by efficient legal protection for the fully qualified. It was to be hoped that legislation, promoted independently by the Society, if not through the Pharmacy Bill, now awaiting second reading in the House of Commons, might make yet further contribution towards the attainment of those necessary ends. He was sure they all realised that there never was a time when educational thoroughness was so imperative a necessity as now, when so much new knowledge had to be learnt, and so much old unlearnt; when it was not enough for the chemist's assistant to be well acquainted with the Pharmacopœia and materia medica, but to be quite efficient he must at least be on speaking terms with nearly the whole circle of science. He must not touch on political questions, but he thought he might go so near the boundary line as to wish success to those who, following and co-operating with Mr. Tyrer, were making efforts to remove the disability under which the British manufacturer lay in respect of the duty on the alcohol used in chemical manufactures. It was certainly a question of fiscal reform, but one that would evoke no difference of opinion in this company. He must congratulate the Society and the President equally on the maintenance of their old relationship. The honour was perhaps not so great as the merit, but it was the greatest in our power to bestow, and they felt it was bestowed with great advantage to the Society, for no one was better qualified, by experience, by ability, and by character, to guide its fortunes, than the accomplished President they had chosen. The record of the Society well illustrated the general truth that where there was necessary work to be done the right man appeared at the right moment to do it. It was so at the birth of the Society, and all through its history it had never lacked the guidance of the master hand. They were fortunate in their President, and they would, he was sure, agree with him that he ably filled an exacting office, and well deserved their loyal support and their best thanks. Pharmacist, scholar, man of affairs—he was emphatically the right man in the right place. He asked them to drink his health, with all the honours.

The PRESIDENT, in reply, said that by no man in that distinguished assembly could the toast have been so well and so happily proposed as by his friend Dr. Swan. It was forty-three years ago that he had the pleasure of making the acquaintance, under singularly interesting circumstances, of Dr. Swan, and he wished to say that they had recently honoured themselves by electing Dr. Swan as an honorary member of their Society, the highest distinction they had it in their power to confer. Dr. Swan had done splendid service to science, and splendid service in every branch of physical research. The President alluded to the various distinctions of Dr. Swan, and to his connection with different societies. The President next referred to the address which Dr. Swan had delivered to the students in October of last year, an address which would always be treasured in the achives of the Society, valuable as an incentive and guide to their young men. On that occasion—an occasion which he recalled with the keenest sense of enjoyment—he had the pleasure of handing the Hanbury Medal to an attaché of the French Embassy for transmission to Dr. Eugène Collin. That occasion was also memorable for the fact that Sir Thomas Hanbury came to him just as the meeting was going to begin, and asked him to accept certain securities which would produce £50 every two years as a concurrent endowment to the winner of the Hanbury gold medal. Of course, he was charmed and delighted with that act of benevolence, associated as it was with the memory of Daniel Hanbury. Shortly after that he had the pleasure of being in Paris, and by invitation took part in the celebration of the centenary of the Paris Society of Pharmacy. M. Léger, who last year delivered one of those eloquent speeches so characteristic of the French language, gave an acknowledgment of the award. And, in parenthesis, he might be permitted to say that one of the few distinctions he had received, and one which he intensely appreciated, came a day or two ago, when he received through M. Bourquelot the intimation that on the fourth of this month they were good enough to elect him an honorary member of their Society. It would be ungenerous on his part if, as President for the moment, he did not make some recognition on behalf of the Society. He was proud to belong to it, and proud to be for the moment its President. He would remind the strangers present that the Society was founded in 1841 by men memorable in the history of pharmacy—Wm. Allen, Jacob Bell, and his coadjutors. The Society had obtained its charter in 1843, and from that day to this had steadily kept in the fair front of its existence the three great keynotes of its work and its life, and those were education, protection, and benevolence. With regard to education, the Society had much to be proud of. They had a school which was a "standardised preparation." It was a typical school—what a school ought to be. They had professors who were up to their work, they had laboratories, a research laboratory, they had a museum unique in its constitution, they had a library which was always embarrassed in its riches, and there they were carrying on the great work of education. With regard to protection, he wished he could sing a more cheerful song. He was bound to say that they had not succeeded to the extent of protecting their title and their practice to the extent to which they had a right to expect. But they had done their best by consolidation and by launching Bills to the House of Commons, and he hoped that, as intimated just now by their excellent friend Mr. Lough, they were nearer the promised land than they thought. With regard to benevolence, he was proud of that department of their work. They had some forty or fifty annuitants of £50 a year. They had casual grants of £1,000 to £1,200 a year, and, having served on that Committee some twenty-five years, and knowing intimately its work, he ventured to tell them that the relief of suffering and necessity, and the support of the widow and orphan, and the planting of orphans in their orphanages and training schools was a work that he was thankful to promote, and he appealed to them most earnestly to support it by their encouragement, by their means, and by their sympathy. Some of those present would honour them by their presence next day, and he only hoped that meeting would be as harmonious and as successful in every department of its work as the present gathering.

On behalf of himself, and on behalf of the Society he represented, he desired to acknowledge the graceful and kindly words of Dr. Swan, and to thank them for their most enthusiastic reception of the toast.

Our Guests.

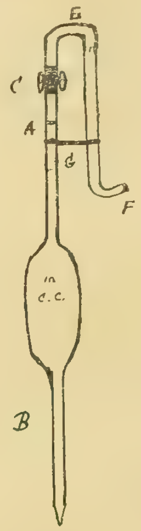
The PRESIDENT, in proposing the toast of "Our Guests," said they had represented there that evening Art, Science, and Literature; in fact, every branch of human pursuit and human knowledge. He should ask a gentleman to respond to that toast who was known throughout Great Britain, and throughout the world—the President of the Institute of Chemistry. When he had a few months ago the honour of an invitation to the dinner of the Institute of Chemistry, and listened to the thoughtful address and speech of its President, Mr. David Howard, he felt that he had had a very great pleasure. The President then referred to the long list of distinguished men who were present that evening, and called upon Mr. Howard to respond for the guests.

Mr. David Howard, F.I.C., said he felt it a great responsibility to respond on behalf of so many eminent men, and yet he felt that he had a certain right to speak in that assembly, for he was the son of one of the original members of the Society. He could not say he remembered the gathering, because he was only two years old at the time, but as long as he could remember anything he remembered the admirable work which the Pharmaceutical Society had done during those long years. As a chemist, and as a representative of the Institute of Chemistry, he had again a connection with pharmacy, because the true origin of scientific chemistry was in the laboratory of the pharmacist. It was the early pharmacist who was the early chemist. He advised those who had not read Paracelsus to do so, and try to solve whether the utterances were not rhodomontade or a strange guess at modern science. It was as a guest, however, and a representative of the public at large, that he ought to speak there that evening, and not as a chemist. It was quite true that the public never thanked those to whom it owed most to. It considers that they ought to be content with the knowledge that they had done their duty. It was not sufficient to have the best prescription in the world, but, as what was swallowed should bear some dim resemblance to what was prescribed by the physician, it was to the pharmacist that they owed most to see that they got the right thing. He referred to the heroism of drug taking, and the marvellous way in which people drugged themselves nowadays, and it was to the pharmacist to whom they looked to try and protect them that they did not suffer more from their unwisdom. They all were familiar with the old lady who knew better than the whole College of Physicians what was best for your complaint, having done her own complaint such good. From the early period of dill water to the very end of one's life one was taking medicine, and he was not quite sure that the mental effect was not sometimes the best of all. It was a wonderful solatium to one's mind to take something. It was to the psychologist, therefore, they must look to for the real explanation. The speaker went on to observe that something should be done to prevent the intrusion into that very important field of pharmacy of a good many people who knew a great deal less than nothing, as they did not know that they knew nothing. It was rather terrible to go into some establishments in the country and see a row of bottles, any one of which would kill a regiment, and all those were turned loose on the public at the commands of a man who sometimes knew absolutely nothing about them. It was the protection of the public they needed, and a little more recognition on the part of the public of what they owed to the skill and patience and untiring zeal of the pharmacist.

AN ATTACHMENT FOR A PIPETTE.

BY S. E. DOWDY, M.P.S.

The pipette in its usual form, though undoubtedly a most useful piece of apparatus, is subject to several defects. Amongst other faults which militate against its conveniency and accuracy as a measuring instrument, I might mention want of delicate control over the amount of liquid it contains, the risk of getting liquid into one's mouth, and the difficulty of seeing if the level of the liquid and the graduating mark exactly correspond when the pipette is in position in the mouth. The following attachment, which any chemist can make for himself, has suggested itself to me as a means of avoiding such drawbacks without the necessity of increasing the laboratory stock of such appliances. A reference to the accompanying sketch will explain matters better than a lengthy description.



A B is an ordinary straight pipette, C is a rubber connection closed by a burette clip, E F is a bent piece of glass tubing with a short turned-up mouthpiece at F, and G is a stout piece of copper wire, the ends of which are twisted round the pipette and the mouthpiece tube, connecting the two. In use, the pipette is held by the wire connection with one hand, the other hand being free to operate the clip. When this has been opened and suction applied at the mouthpiece, the pipette fills in the usual way. Directly the liquid has passed the graduation mark the clip is allowed to close the rubber section of the tube, thus stopping the liquid from running back. Excess of the substance is then returned to the flask or beaker at leisure by gently compressing the clip. A pipette fitted with such an attachment possesses, amongst others, the following advantages:—It is easier to read, owing to the graduation mark being on a level with the eyes. There is practically no risk of getting any reagent into the mouth, as it is in sight the whole time. There is complete control in returning excess of liquid, and when using the pipette there is no occasion to stand directly over the beaker or flask. Lastly, such a pipette can be hung up on a nail or hook when not in use, and requires no special stand to hold it.

SOLIDIFICATION.*

BY MORRIS W. TRAVERS, F.R.S.

In the course of this evening's lecture I propose to discuss certain phenomena connected with solidification, and to illustrate my remarks as far as possible by means of experiments. The whole subject could not be dealt with adequately in ten times the space I have at my disposal, so I must ask you to excuse a certain unavoidable lack of continuity in my treatment of it.

The phenomenon of melting is familiar to every student of science, the simplest case being that of a pure substance changing into the liquid state when heated to a certain temperature, its melting point. A definite melting point is commonly taken to be the criterion of chemical purity, though, as I shall presently show, there may be exceptions even to this rule.

Suppose we now consider the reverse operation. A clear, dust-free liquid is cooled and, when its temperature is far below the melting point, it may still remain perfectly fluid. Theoretically, there is no limit to the extent of the supercooling; indeed, when the temperature falls below a certain limit the tendency to form crystals decreases. If, for example, I take a test tube containing a liquid such as ethyl aceto-acetate, which melts below −100° C., and cool it very slowly by repeated immersion in liquid air, when the temperature falls a little way below the melting point crystals will begin to form at points on the sides of the tube, and will spread throughout the mass of liquid. If I now cool some of the same liquid much more rapidly by immersing the tube directly in liquid air, no crystals will form, but the liquid will be changed into a glassy substance.

When a liquid crystallises heat is evolved, and it is found that the solid and liquid have different densities; there is, in fact, a discontinuity in the properties of the solid and liquid states, or to use the modern term, phases of the substance. The formation of the glassy substance is not however accompanied by any such change; it is in fact only a highly viscous liquid. A clear proof of the liquid nature of window-glass, for instance, lies in the fact that a cut made in it with a diamond rapidly "heals," so that after a short time the glass is less readily broken along the cut than when it was first made.

Such glassy bodies cannot be regarded as true solids, which should, in every case, be capable of existing in a crystalline form, though this is not always apparent. Sometimes, particularly at low temperatures, it is difficult to determine whether a substance is actually in the crystalline or glassy condition, and its true state can only be determined by observing the change which takes place when the liquid is cooled. In the case of some paraffin hydrocarbons, for instance, the liquid becomes thick and treacly before passing into the glassy condition. In no case can petrol be made to crystallise. Liquid hydrogen, when evaporated *in vacuo*, does not become more viscous as its temperature falls, but when a temperature corresponding to about 14·1° Absolute is reached flakes of glassy matter break away at the surface, and finally, the whole mass turns to a clear glassy solid. There is no direct evidence that the solid hydrogen possesses any crystalline form, but the change of state is so sudden that it is probably a true case of solidification, and that the substance produced is not a glass or highly viscous liquid.

It will now be convenient to say something about the rate at which crystallisation can take place. If we take a substance like salol, and melt it, the liquid can be considerably supercooled without solidifying. If the liquid is contained in a tube open at one end, a small quantity of the solid dropped into the tube gives rise to the formation of crystals, which gradually spread throughout the whole length of the tube. If the rate at which the formation of the crystals is propagated along the tube is measured, we find that it is practically constant for any particular temperature, and for each substance. When we come to study the variation in the velocity of crystallisation with temperature we find that it at first increases and then decreases as the temperature falls below the melting point. At very low temperatures the velocity is practically zero, as may be demonstrated by adding more of the crystalline aceto-acetic ester (obtained by cooling the liquid slowly) to the glassy solid, when it is observed that crystals do not spread through the latter. I have often observed that organic compounds, when melted, set to a viscous mass at the ordinary temperature; addition of a trace of the original crystalline solid has no effect in inducing crystallisation, but when the substance is warmed to just below its original melting point it suddenly crystallises. Generally speaking, the velocity of crystallisation in a liquid decreases as its viscosity increases.

It is often observed that extremely low temperatures have little effect on bacteria, spores, seeds, and other organised matter containing comparatively little water. I often doubt whether moderately low temperatures would not be more effective in destroying them, for under these conditions changes, such as crystallisation, would take place with finite velocity, to the detriment of the internal arrangements of the organism.

Considerable interest attaches to experiments which have been carried out with a view to determining the manner in which the birth of crystals take place. It is supposed that, in order to make a supercooled substance crystallise, it is necessary to introduce into it a trace either of the same substance in the solid state, or of another substance having the same crystalline form. Attempts have been made to determine the mass of the smallest quantity of various solids which must be added to their supercooled liquids in order to induce crystallisation, and it has been found by Ostwald that, in the case of salol, one-millionth of a gramme of the solid spread over a surface one six-millionth of a square centimetre in area was sufficient for the purpose; a slightly smaller quantity was ineffective. The experiments were made by thoroughly mixing a small quantity of salol with pure quartz powder, and measuring the dimensions of the grains of the latter. It has also been found that the formation of crystals will only proceed along a capillary tube having a diameter greater in certain limiting value.

This result indicates that the smallest crystals have probably a certain definite size, very much greater than that of the molecule, but probably much smaller than can be detected by means of the microscope. It has been held by Ostwald and others that, in the case of the formation of crystalline precipitates from a solution, the first stage consists in the separation of the insoluble substance in the form of globules of supercooled liquid. In many cases this is undoubtedly true, and in the case of calcium carbonate and some other substances, globules can actually be detected. Globules of superfused calcium carbonate can be observed in certain living cells, as in the œsophageal glands of the earth worms; but the condition is of course highly unstable, and a slight disturbance causes the globules to change into calcite. The formation of the supercooled liquid during the first stage of the process of precipitation explains why the deposition of a substance from a solution may take place slowly at first; the unstable state of a substance is always more soluble than the stable state.

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* Lecture delivered before the Pharmaceutical Society of Great Britain, on Wednesday, May 18, 1904.

Richards, of Harvard College, has employed a kinematograph attached to a microscope to photograph crystals during the early stages of their growth. In the case of barium chloride, potassium iodide, or certain other salts no liquid globules could be detected. The smallest crystals which were detected had a diameter of less than one thousandth of a millimetre, and so rapid was their initial rate of growth that their images on the photographic plate appeared blurred.

We may now consider briefly the question of polymorphism, the existence of substance in more than one crystalline form. In the case of sulphur two of the known forms are capable of being changed one into the other by altering the temperature. The rhombic form is stable below 95·5° C., the prismatic form above that temperature. If rhombic sulphur is heated slowly it first changes to prismatic sulphur, which melts at 120°; if, however, the rhombic sulphur is heated so rapidly that the change to prismatic sulphur, which, like all similar changes, require time, cannot take place, it melts at 114·5° C. There we have apparently one chemical substance with two melting points, but we must remember that there is in all probability as great a difference between the molecular structures of rhombic and prismatic sulphur as there is between the structures of polymeric compounds such as acetylene and benzene.

In certain other cases, such as that of phosphorus, we have two modifications, but only one of these, red phosphorus, is really stable, and a transition point either does not exist or lies outside the range of experiment. Such cases are also common.

If we now consider the solidification of one of the substances referred to we might expect to find that when a substance is capable of existing in two forms, the stable form would always separate first. The reverse is, however, usually the case. Sulphur may separate out from benzene solution in prisms. Liquid phosphorus solidifies as yellow phosphorus, and is only changed into the red variety with any appreciable velocity under the influence of heat or sunlight or on the addition to it of certain other substances, such as iodine. Similarly. with the case f the precipitation of calcium carbonate, we observe, first all, the formation of globules of supercooled liquid, se appear to change into an unstable solid form, possibly the variety of calcium carbonate which appears to form part of the structure of shells, and which differs from the well-known crystalline forms, calcite and aragonite. This solid changes rapidly into calcite, and in this form the precipitate is finally obtained. The calcite, when heated to about 300° C., changes into aragonite, which is really the stable form; but the rate of change at lower temperatures is immeasurably slow. Mercuric iodide sublimes, and is condensed as yellow crystals, which change into the stable red variety when touched with a glass rod. This furnishes another good illustration of this principle.

The study of the crystallisation of salt solutions forms in itself a vast subject, and has given rise to many discoveries which have been of immense service in chemical industries, and by his investigations in this direction Vàn 't Hoff has been able to throw some light on the geological condition which prevailed when certain mineral salt beds were laid down.

In conclusion I should like to refer briefly to certain classes of solid mixtures which melt and freeze at a definite temperature, and which have often been mistaken for chemical compounds.

It is well known that common salt is almost as soluble in cold water as in hot water, and that the salt separates from solution in cubic crystals, which are anhydrous. Below −3° C., and at all temperatures down to −22° C., however, a hydrate, $NaCl2H_2O$, separates, but when the lower temperature is reached, the remaining liquid solidifies as a whole in an opaque mass. The mass now approximates to the composition $NaCl + 4H_2O$, and was supposed at one time to be a definite hydrate. Many other salt solutions were found to behave similarly, and the name cryo-hydrate was applied to these so-called compounds. Microscopic examination, however, proved that these substances were mixtures of a hydrate with ice, having a constant freezing point. The cryohydric point is, of course, the minimum freezing point of the mixture; the lowest temperature which can be obtained by means of a freezing mixture is the cryohydric point for its constituents.

There are many cases in which mixtures of two substances, either in solution or in the state of fusion, are deposited as mixed crystals of a perfectly homogeneous character. Such mixed crystals do not as a rule melt sharply, but in certain cases, when a certain composition is reached the melting point of the mixture attains a minimum or, more rarely, a maximum value, lower or higher than that of either of its constituents or of any other mixture of them; it has then a definite and sharp melting point.

Such a mixture is called eutectic mixture, and has often been mistaken for a chemical compound. The eutectic mixture of mercuric bromide and iodide contains fifty-nine molecules of the bromide to forty-one molecules of the iodide. This mixture obviously approximates to the formula $2HgI_2 + 3HgBr_2$, but a complete study of the properties of mixtures of the two salts shows that it is only one of a continuous series.

Here I must leave the subject. The phenomena I have dealt with are of every day occurrence in the laboratory, and as is often the case, have till recently received comparatively little attention. Such studies are, however, not only of academic but also of commercial interest, for whoever discovers a method of crystallising certain viscous liquids will not only earn the gratitude of the organic chemist, but may also run the risk of making his fortune in the application of his discovery.

SEEDS OF SPERMACOCE HISPIDA.

BY DAVID HOOPER, F.I.C.

Referring to the note in the *Pharmaceutical Journal* of April 9, page 496, written by Mr. Holmes, on the appearance of the above seeds in the London market, the following remarks may be of interest. About four years ago the Superintendent of the Agri-Horticultural Society of Madras sent a few of these seeds to the Indian Museum for an opinion as to their commercial value. They were said to exactly resemble coffee when roasted, and it was required to know if they contained any injurious ingredient.

The seeds were contained in small rounded capsules, and were oblong, granulate, opaque, brown in colour, with an average length of 3·5 Mm. and breadth of 2 Mm. Although smaller in size they had the same shape as coffee seeds. The following was an analysis of a powdered sample:—

Water	10·75
Fat	9·12
*Albuminoids	12·44
Carbohydrates	37·76
Cellulose	23·23
Ash	6·70
	100·00

An alcoholic extract contained a bitterish principle, giving the reactions for an alkaloid, an astringent substance affording a green colour with ferric salts, and a yellow colouring matter turning orange with alkalis. These seeds, therefore, contain similar constituents to those found in coffee, and when roasted over a fire they develop an odour very closely resembling the well-known beverage.

It must be admitted that there is no urgent demand for a coffee substitute, especially in South India, where planters are only too anxious to dispose of the real article. But, considering that other grains and roots have for a long time been used in place of coffee, and are still offered in the market, there is no reason why the seeds of the shaggy button weed should not be tried in the same connection. They certainly possess an advantage over "negro coffee," made from the seeds of *Cassia occidentalis*, which have purgative properties, and also over a preparation called "coffee" made from date stones. The commercial future of spermacoce will depend upon the abundance of the plant and the labour involved in collecting the seeds.

The seeds of this plant, under the name of "dhoti," were eaten in Bombay during the famine of 1877-78. And, during the periods of scarcity, two and three years ago, the green portion of the plant was boiled and eaten as a potherb by the Santalis in Chota Nagpur, and by the poorer people in Monghyr, in the Bengal Presidency. With this evidence we may conclude that *Spermacoce hispida* has no very potent medicinal properties, and as an occasional article of diet it may be regarded as not injurious.

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* Containing nitrogen, 1·99.

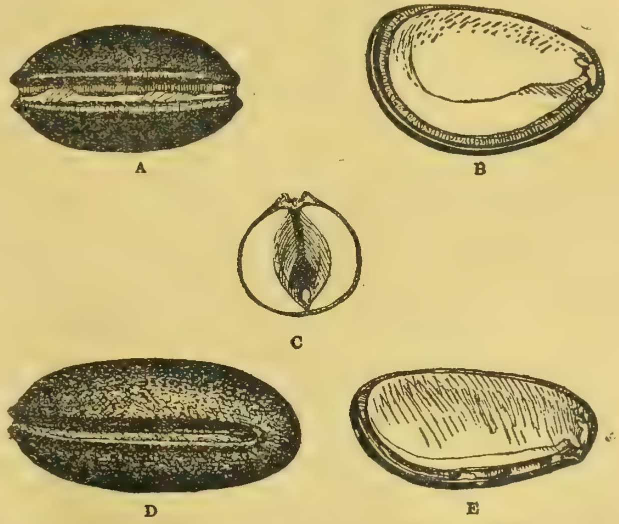
THE STUDENTS' COLUMNS.

MATERIA MEDICA.

The Structure of Seeds.

Before proceeding to examine the seeds treated of in the succeeding articles the student is recommended to make himself quite familiar with the general structure of seeds, as explained in the Students' Columns of January 30.

The official seeds differ from one another so much in size, shape, and colour that they can be distinguished with ease, but in the case of very small seeds the lens must be used in order that the markings on the surface, which are often very delicate and very characteristic, may be properly examined. This is necessary not only with some official seeds (stramonium), but also with the seeds of some official fruits (poppy) and herbs (lobelia, chiretta, henbane). Other diagnostic features are to be found in the presence of one cotyledon or two, in the presence or absence of an endosperm or a perisperm, in the shape and arrangement of the cotyledons, in the nature of the reserve material, and, occasionally, in certain special chemical reactions (strophanthus).



Physostigmatis Semina.—A, Seed of *Physostigma venenosum*, showing hilum and traces of funiculus. B, ditto, split longitudinally, and showing plumule and radicle at base. C, ditto, transverse section. D, seed of *P. cylindrospermum*, showing short hilum. E, ditto, split longitudinally.

After having examined a seed thoroughly, the student should write a description of it, taking care to deal with the following points:—(*a*) The shape; (*b*) the size; (*c*) the markings on the surface, including the positions of the hilum and micropyle; (*d*) the shape and arrangement of the cotyledons; (*e*) the presence or absence of an endosperm; (*f*) the nature of the reserve material; (*g*) the odour and taste. Having written his description, he should compare it with the description in the Pharmacopœia, or in any standard text-book.

1. Calabar Bean.

Soften a few Calabar beans by soaking them in water; observe that although apparently heavy they float in that liquid. Examine some dry beans; they are almost kidney-shaped (subreniform), one side being arched, while the other is flat or slightly indented. Observe the deep groove that runs along the arched side (Fig. I., *a*); this is the hilum, which is of very unusual size in the Calabar bean. Sometimes the remains of a whitish papery membrane can be found attached to its margin; these are the remains of the seed-stalk (funicle) by which it was attached to the placenta. At one extremity, on the paler margin of the hilum, look for a minute dark point, like a pin-prick; this is the micropyle, through which the radicle will pass when the seed germinates.

Split a softened seed longitudinally by inserting the point of a knife in the hilum; it easily separates into two halves (the two cotyledons), and the little radicle can be seen attached to the extremity of one of them, with its tip directed towards the micropyle. (Fig. I., *b*) Examine the cotyledons; they are hard and starchy.

Cut another (softened) seed transversely; the centre is hollow (Fig. I., *c*), the cotyledons being concavo-convex, and enclosing an air-space between them, which sufficiently explains the floating of the seed in water. Observe the thick, leathery seed-coats (testa and tegmen) that cover them; the kernel is entirely composed of the two cotyledons, with the little embryo; there being no endosperm the seeds are exalbuminous.

The bean is tasteless and practically inodorous, but the cotyledons, crushed and moistened with water, evolve a slight odour similar to that of an ordinary bean.

Calabar beans are obtained from *Physostigma venenosum* (N.O. Leguminosæ), a climbing plant which grows freely near the mouths of the Old Calabar, and other rivers on the Guinea Coast in West Africa, where the seeds are used as an ordeal poison by the natives. It owes its poisonous properties to the alkaloid eserine (also called physostigmine), of which it contains about 0·2 to 0·3 per cent. Other alkaloids (calabarine, eseridine, eseramine) are also present, but in very small proportion. The beans are chiefly used in the preparation of the alkaloid eserine, which is largely employed to produce contraction of the pupil of the eye. Extract of Calabar bean is occasionally prescribed in cases of habitual constipation; in large doses it produces diarrhœa, and in excessive quantities respiration is retarded and death follows by suffocation.

2. Almonds.

There are two well-marked varieties of almonds—viz., the sweet and the bitter. Examine the former first. Procure some Jordan almonds, and soak a few in boiling water for some minutes; in the meantime examine some of the dry ones. Observe near the pointed end on the acute edge of the seed an elongated scar (hilum), from which a dark line (raphé) runs to the broad end of the seed, where it terminates in a dark spot (chalaza). Examine the surface of the almond with a lens, and notice its scurfy nature, due to the facility with which certain large cells of the epidermis become detached.

From a soaked almond strip off the seed-coats. Split the kernel longitudinally into two halves (the two cotyledons); there being no endosperm present, these seeds, like the Calabar beans, are exalbuminous. Near the pointed end of one of the cotyledons look for the small embryo with its rather thick radicle and little plumule. Indent the cotyledon with the finger-nail, and observe the exudation of oil, which is here the reserve material (whereas in the Calabar bean it was starch). Taste a seed, and notice the sweet oily taste, without any marked bitterness or flavour.

The almond tree, *Prunus amygdalus* (N.O. Rosaceæ), is cultivated in all Mediterranean countries. The well-known pink flowers appear in the early spring, and are succeeded in the summer by fruits about the size of a plum, but green in colour when ripe, and with a firm leathery instead of pulpy flesh. Within this there is a stone, not so hard as a plum-stone, within which again there is a seed—the almond. Sometimes the almonds are imported in the stones (almonds in the shell), but more often they are shelled. Italy furnishes the largest quantity, but those produced in the south of France (Jordan almonds) are the most esteemed; these may be distinguished by their long, narrow shape. Next to these, Valencia almonds, which are broader and shorter, are much used for dessert and culinary purposes.

The chief constituent of almonds is the fixed oil, of which they contain about 50 per cent. The majority of this can be extracted by pressure, but the resulting cake (almond cake) still contains some (about 10 per cent.), together with nitrogenous substances (proteids), amongst which is an enzyme ferment emulsin, which is capable of decomposing certain glucosides.

Examine next some bitter almonds, and observe the difference in shape; they can easily be distinguished from Jordan almonds, but by no means so easily from Valencia. The taste is, however, very different, being bitter and characteristic. When crushed and moistened with water they develop a remarkable odour, which the sweet almonds do not. They differ in composition from the sweet simply in the fact that they contain a crystalline glucoside, amygdalin, in addition to the fixed oil and proteids (including emulsin). Emulsin has the power of decomposing the glucoside in the presence of water, producing hydrocyanic acid, benzaldehyde, and sugar (dextrose), hence the development of the characteristic odour when the almonds are crushed and mixed with water. Benzaldehyde is the oily liquid sold as "ol. amygd. essent. *sine* acid. prussic.," and this, together with the prussic acid, produces the "bitter almond" odour. When the fixed oil is expressed from bitter almonds, as is frequently done, the resulting cake contains a part of the fixed oil, various proteids (including emulsin), and the amygdalin. Hence, when this cake is ground and mixed with water the bitter almond odour is evolved. If the mixture is distilled there will distil over, in addition to water, a yellowish volatile oil, which will sink to the bottom of the aqueous distillate, and can be easily separated. This is volatile or essential oil of almonds, and consists of benzaldehyde associated with hydrocyanic (prussic) acid. Good bitter almonds will yield nearly 1 per cent. of volatile oil, and about 0·25 per cent. of hydrocyanic acid. Bitter almonds are chiefly exported from Morocco (Mogadore) and Sicily.

Much of the essential oil of almonds of commerce is prepared artificially, and much is distilled from apricot kernels. The latter are imported in large quantities.

When pressed they yield a bland oil, like oil of almonds, known in commerce as "oleum amygdalæ persicum."

Bitter almonds are sedative, a property principally at least due to the hydrocyanic acid they contain; an oily emulsion prepared from the seed is sometimes prescribed in lotions.

INCENSE-YIELDING PLANTS (2).

BY JOHN R. JACKSON, A.L.S., ETC.

In resuming the consideration of incense-yielding plants, we have in this paper to review such as are used in religious rites other than those of Christianity, but before doing so it will be well, briefly to allude to galbanum, which was omitted in the first paper. It is a gum-resin that remained for a long time without any clue to its botanical identity, but which is now referred to two species of *Ferula* — namely, *E*, *galbaniflua* and *F. rubricaulis*, natives of Persia and Syria, whence the gum is exported to Bombay, re-exported to Egypt and Turkey, and thence to other countries. The two species of *Ferula* are soft-stemmed bushy umbelliferous plants, highly charged with an orange-yellow gummy fluid, which exudes spontaneously, and hardens on the stem by exposure to the air. The asafœtida-like smell of the gum is anything but agreeable to modern tastes, on account of which it has been surmised that the ancient galbanum was a different gum from that of the present day, seeing that it was included amongst "sweet spices" in the composition of the Jewish incense.

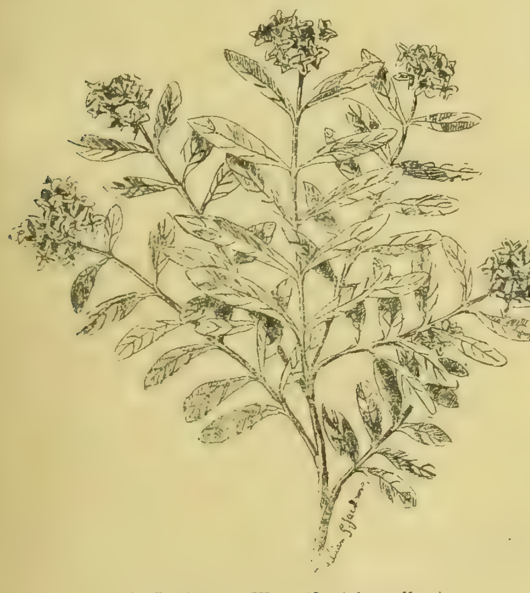


Fig. I.—SANDAL WOOD (*Santalum album*).

Amongst fragrant plants used in Eastern countries in ceremonies connected with worship or the burial of the dead, perhaps the best-known and widely used is sandal-wood, and though the term sandal-wood is applied to the timber of several allied species of *Santalum*, as well as to that of a few other plants, we refer in this instance to *Santalum album* (Fig. 1), an evergreen tree, rarely exceeding a height of 40 feet, found in the drier parts of the districts of Mysore, Coimbatore, and Salem, and extending north and south to Kolhapore and Madura respectively. In Bombay, Poona, Gujerat, and some parts of northern India it is cultivated, and grows well, but in localities outside its indigenous area it is said to lose much of its fragrant heartwood, which is the most valued part of the tree. The following notes on the history and cultivation of this tree are gathered from Watt's 'Dictionary of the Economic Products of India.' Before Mysore came under the protection of the East India Company no pains were taken in the cultivation of this valuable tree, although it was, even then, a Government monopoly, and very severe laws existed to prevent any person from cutting sandal-wood without permission. It would thus appear that fears were entertained that the supply of sandal-wood at that time seemed likely to become diminished; but better means of propagation and cultivation have since been instituted, and, as it still continues a Government monopoly, the supply of the wood has gradually increased and its quality improved. In Madras cultivation of the wood is free, but the chief plantations are in the reserved forest. Formerly the seeds were chiefly spread through the agency of birds, but now, in most of the sandal-wood districts, immense plantations of the young trees exist, which are regularly transplanted into the open in the beginning of the second year of their growth.

The age at which the tree produces the most valuable wood, that is, when the heartwood is most fully developed, is from twenty-seven to thirty years, at which period it is mostly cut down, the largest roots, which contain a very fine quality of wood, are uprooted, and the trunks are stripped of their bark and conveyed to the several depôts, where they are cut into billets and carefully dressed and sorted, according to the quality of the wood. These billets form the sandal-wood of commerce, and are sold by weight at annual auctions, where native merchants congregate from all parts of India. The straightest pieces, and those in which the heartwood is most largely developed, fetch the highest prices, as the essential oil, for which the wood is valued, is contained almost entirely in the heartwood, and it is said that the roots yield the largest quantity and the finest quality. The Mysore Government has long had establishments for distilling the oil, which is disposed of at the annual auctions along with the wood, and is chiefly bought up for exportation to China and Arabia. The distillation is of a primitive nature, and a slow process. The sap wood is trimmed off and rejected, while the heartwood is cut into small chips before being put into the still. It is said that wood of good quality will yield 10 oz. of oil per maund. The average produce obtained by European distillers is 30 oz. of oil from 1 cwt. of wood. Fresh sandal-wood oil should be transparent, and of a pale yellow colour, and is a favourite perfume, as well as one of the most generally used, in India.

Sandal-wood itself, either in the form of emulsion or powder, has been used in Hindu medicine from a very early period, and was considered as bitter, cooling, and astringent, and throughout Eastern countries it has always been considered a valuable remedy for gonorrhœa. "Dr. Henderson, of Glasgow, was the first who directed the attention of European physicians to the use of the oil as a remedy for that disease, and since his time it has been employed internally in many cases where copaiba and cubebs had previously failed." Sandal-wood is not infrequently found spotted, or marked like bird's-eye maple. This is known as snake's and peacock's eye sandal-wood, for which the natives will often pay a fancy price. This kind of wood is caused by the death of adventitious buds, the course of which, from their origin upwards, can be traced by a dark line of rich deposit appearing on longitudinal sections at more or less annular spots.

Besides the use of sandal-wood for distilling purposes large quantities are used for ornamental work, the richly-carved cabinets, boxes, work-tables, etc., being amongst some of the best and most noted handiwork of the Indian craftsmen; besides all this, the wood enters largely into the religious ceremonies of the Hindus. Not only are their idols carved in it, but an emulsion of the wood is used as an offering to the gods, and an incense made of the wood is burned before them. Large quantities are used by the Parsees in their fire temples. By the wealthy, sandal-wood is not unfrequently used in cremating their dead, and all classes alike add at least one piece of the wood to the funeral pile. From the seeds a thick oil is expressed, used by the poorer classes as a lamp oil.

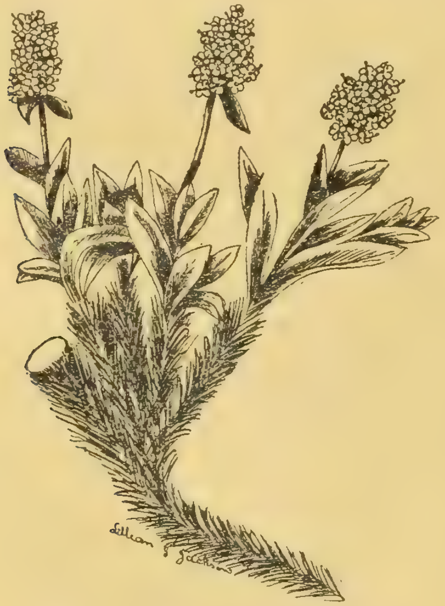


Fig. II.—Spikenard (*Nardostachys jatamansi*).

Spikenard, though so familiar to us by name, and about which there seems much less doubt as to its identification, than is usual with substances dating from remote antiquity, is at the present time of comparatively slight value as a perfume plant. *Nardostachys jatamansi*, the true spikenard, is a perennial, belonging to the natural order Valerianeæ. It is common in India, in the Alpine Himalayas, and extends eastward from Garwhal, ascending to an elevation of 17,000 ft. in Sikkim. Though the fragrance of spikenard does not command the admiration of Europeans generally, it is much esteemed by natives of the East, and some of the best-known and valued Asiatic perfumes are compounded of spikenard and valerian. In India it is said that at the present day there is but very little demand for it, but in ancient times it fetched a very high price as the chief ingredient in the most precious ointments. As a medicine the roots of this plant are still used in India. They are aromatic and bitter in taste, and are credited with having tonic, stimulant, and anti-spasmodic properties; they are often used in epilepsy, hysteria, and convulsive affections, as well as in various diseases of the digestive and respiratory organs. A popular belief in India is that the roots of the spikenard have the power of promoting the growth and blackness of the hair, a belief that may have perhaps arisen from the crown of the roots being thickly covered with long black fibre, as shown in the drawing (Fig. II.).

Under the name of Costus or Koot the root of *Saussurea Lappa* is of considerable importance in India. The plant has several well-known synonyms, the best known of which are *Aucklandia Costus* and *Aplotaxis Lappa*. It belongs to the natural order Compositæ, and is a tall, stout-growing herbaceous perennial, found on the moist open slopes in Kashmir up to an elevation of from 8,000 to 9,000 ft., and also in parts of the basins of the Chenab and Jhelum up to 10,000 or 13,000 ft. The roots are collected in large quantities in the mountains of Kashmir, in the months of September and October. After being dug up they are chopped into pieces from 2 to 6 in. in length, and exported without further preparation. They are conveyed to Calcutta and Bombay, and thence shipped to China. Costus has a pungent aromatic taste, and a strong odour of orris root. So strong, indeed, is the scent, that it is said to fill the air for some distance, when loads of it are being conveyed along the roads. Besides the quantities that are sent to China, costus root finds its way all over India, to the Red Sea, and in smaller quantity to Europe. The quantity collected annually is said to amount on an average to 2,000,000 lb. per annum. Dr. Falconer, who described the plant under the name of *Aucklandia Costus*, said that the cost of collection and transport of this root to a depôt in Kashmir was 2s. 4d. per cwt.; on entering India its value was enhanced from 16s. 9d. to 23s. 4d. per cwt., while its commercial value at Canton was 47s. 5d. per cwt. The root is used both in perfumery and in medicine, and especially as a hair-wash, and also for protecting shawls and other Kashmir goods from the attacks of insects. In China at the present day it is used for the same purposes as costus was formerly applied by the Greeks and Romans. With regard to its medicinal use, it was known to the Hindus from the earliest periods, and is reputed aphrodisiac and tonic, also as a stimulant, as well as being useful in coughs, asthma, fevers, dysentery, and diseases of the skin.

Another Composite plant, the root of which is used as incense, is that of *Jurinea macrocephala*, also an herbaceous perennial common in the Western Himalayas from Kashmir to Kumaon up to 11,000 to 14,000 ft., where it is known as Dhup. A considerable quantity of this root is said to be sent from Kashmir to Tibet for use as incense at shrines and offerings to rajahs. The flowers are also used in temples. The root has a medicinal reputation; bruised it is applied to eruptions, and a decoction is given in colic, and in some parts of India in puerperal fever.

Amongst the soft resinous substances known as balsams the balsams of Peru and tolu are perhaps the most esteemed for perfumery purposes; both are obtained from closely allied plants, species of *Myroxylon*, belonging to the papilionaceous section of the Leguminosæ. The first forms a large spreading tree some 50 ft. high, native of San Salvador in Central America, and not of Peru as its common name indicates. The balsam is collected by bruising the bark with a blunt instrument on four sides of the trunk, leaving the intermediate portions uninjured. After a time the bruised bark separates from the wood, and is removed, and from the bare surface of the stem the fragrant balsam exudes. The natural flow, however, is small, and, to increase it, it is usual, after a period of five or six days, to apply lighted torches to increase the flow. Rags are next tied round the wound, and become saturated with the exudation. When so charged they are collected and put into an earthenware boiler with water, constantly stirred until all the balsam is extracted, and, being heavier than water, sinks to the bottom. As the boiler cools the water is drawn off, and the balsam poured either into small gourds or square tin canisters or drums for exportation. Formerly, it was exported in old Spanish earthenware jars, which were originally sent from Spain filled with wine, and afterwards utilised in the way mentioned. These jars, before leaving Spain, were covered with esparto grass to protect them from breakage, and were often sewn up in raw bullock hide before being sent away from Central America filled with balsam. Some examples of these, as well as a native rope-press, used in squeezing or wringing the saturated cloths, are contained in the Kew Museum.

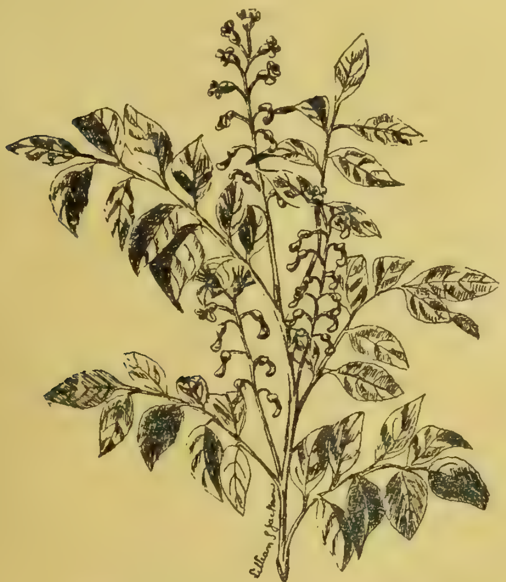


Fig. III.—Balsam of Tolu (*Myroxylon toluifera*).

The tree yielding balsam of tolu (Fig. III.) has a different habit from the last, growing to a height of about 80 ft., and often attaining 40 to 60 ft. before branching. It is a native of Venezuela and New Grenada. To procure the balsam two deep sloping incisions in the shape of the letter V are made quite through the bark to the wood, and under the lower point a small calabash is placed, into which the balsam trickles. These incisions are made all over the lower part of the trunk close to each other, and as many as twenty cups may be seen at one time on a single trunk. When the lower part has been exhausted incisions are made higher up. As the cups fill they are emptied into a kind of bag made of hide, and when this is full it is sent down to the ports on the river, where it is transferred to tins, in which it is exported. The period of collecting extends from July to March or April. The medicinal properties of both these balsams are too well known to need repeating. In perfumery they are valued for their agreeable and lasting character, and especially for pastils for burning, as well as in some forms of incense.

A very interesting fragrant substance is that known as calambac, aloes, or eagle wood, the produce of *Aquilaria agallocha*, a large evergreen tree of Sylhet, Tenasserim, and other parts of India, as well as of the Malay islands. The tree belongs to the natural order Thymelæaceæ, and the wood has been considered to be identical with the aloes wood of Scripture. It is only certain parts of the trunk, that have become impregnated with an odoriferous oil, that have any value, and these are found in irregular masses throughout the trunk, and are readily known by their dark colour interspersed with blackish streaks, marking the presence of oil, the wood in its normal condition being of a light colour and soft. To obtain this oleaginous or resinous wood the trees, after being cut down, are sawn up into pieces, and the soft light-coloured wood cut away. The pieces thus left are most irregular in form and size, and are sold in large quantities in the bazaars, being burned either alone or combined with bdellium, as incense in Hindu temples; it is also extensively used for making rosary beads and various ornaments. An attar is produced by boiling or distilling the wood in water, the perfume being much in favour all over India. The scent somewhat resembles that of musk, and it is remarkable for its permanence; a sample contained in an ordinary corked preservation jar in the museum of the Royal Gardens, Kew, lost little or none of its fragrance during the long period of forty-three years it was under my charge. In medicine, aloes wood is considered cordial by Asiatic nations, and has been prescribed in gout and rheumatism, for which purposes it was formerly much used in Europe.

The foregoing are some of the principal plants from which are derived fragrant substances used in religious rites by Asiatic peoples. It will be noted that in every case the plants have a medicinal reputation besides those of their fragrance.

Ammonia-free Water for Analysis.

According to J. B. Weems, C. E. Gray, and E. C. Myers, water free from ammonia for water analysis may be obtained by adding a small quantity of sodium peroxide to distilled water, and boiling for thirty minutes or longer. Water may also be obtained free from nitrogen by treating as above, distilling from a copper still, and rejecting the first portion of the distillate.—*Journ. State Med.*, **9**, 630, after *Proc. Iowa Acad. Sci.*

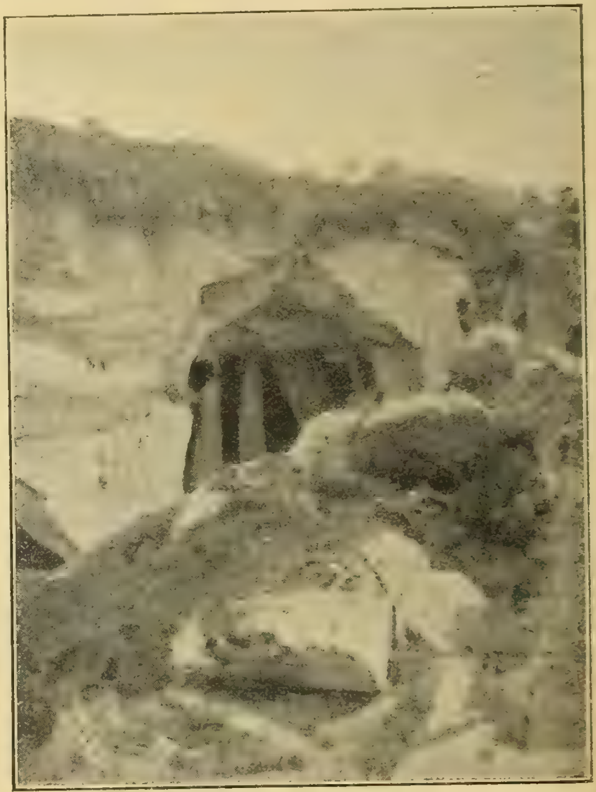
SOUTHERN AND EASTERN SKETCHES (4).

BY G. CLARIDGE DRUCE, M.A., F.L.S., PH.C.

Syracuse.

GREEK AMPHITHEATRE AT SYRACUSE.

From Catania we journeyed to Syracuse, which is about fifty miles distant, the train taking between three and four hours, so we had plenty of time to notice the country, which for some distance is of a very malarious character, especially about the Lago di Lentini, the largest piece of water, I hesitate to use the term fresh, in Sicily. We pass Augusta, a fortified seaport with a fine natural harbour, occupying the site of the ancient Xiphonia, near which the Greeks, under Theocles, founded Megara Hyblæa at the foot of the Hyblæan Hills, the honey of which is of classic fame, and in these modern days still valued. It was produced near the little hill town of Melilli. The Dorians gave it the name in remembrance of their own Megara, which, as we afterwards found, it much resembles, is situated between Acrocorinth and Athens. Next we reach Trogilas, near the bay where the fleet of Marcellus lay, and soon we come to the small station of Syracuse, which, like many other places of great interest, is at first sight unattractive. The environs near the station are squalid, the newly built houses are somewhat vulgar, the roads are bad and inches deep in the most limy dust, which pervades everything and covers everything. Malodorous whiffs greet one frequently, and the long circuitous street which leads one to the sea-front has but little dignity. Yet we found the hotel more comfortable than at Catania, the food and wine were better, the latter being quite excellent, one, a Moschato, being very like Tokay in flavour. Our first day was occupied in seeing some of the wonders which the Greek and Roman builders erected, and which are still spared. We first went along the dusty road leading by the Church of San Giovanni to a small osteria, near which is the Greek amphitheatre, hewn out of the living rock, 165 yards in diameter, with its forty-six tiers of seats still visible. From the upper part we can look over the ancient city, the splendid harbour and the Ionian Sea. We had a beautiful view, of which it was difficult to get tired, for we were actually looking on the city, once the home of Archimedes, the greatest man in great Hiero's court, and we saw the harbour where he superintended the building of that huge vessel, of 4,200 tons, which Hiero sent as a present to Ptolemy, which had twenty banks of oars and three decks, on the upper of which was a gymnasium, a garden, a temple formed with Sicilian agate, and built of cypress wood, while the doors were of ivory and citron wood. There was also a large bath of Tauromenian marble. On the deck there was a huge catapult, which shot an arrow 18 ft. long. Archimedes launched it by a system of screws worked by a few persons.



LATOMIA DEL PARADISO.

It was here, too, after Hiero's kingdom had disappeared, that the aged Archimedes defended the town against the attack of the Romans, whom he kept at bay for many months. Many were the instruments of war which he designed, and murderously successful they were, so that the assault had to give way to a blockade. Eventually the city fell, but more from treachery than actual warfare, and from being one of the most glorious capitals in the world became a mere Roman provincial city. By the irony of events the great scientist, mathematician, and engineer was killed through a blunder by a common soldier.

Above where we sat was the Nymphæum, a water grotto, and we strolled up the rock-hewn Street of the Tombs long since despoiled of their occupants and ornaments, but now the dwelling place of many interesting flowers; among them is the aromatic labiate *Prasium majus*, *Antirrhinum tortuosum*, and about the grotto is an abundance of maiden-hair, *Adiantum Capillus-veneris.*

On the height above the Street of the Tombs, which consists of a roughish plateau, partly under cultivation, in part too near the bed rock of Pleistocene limestone to bear any but the native plants; but on this area once stood the ancient Neapolis and Temanites. What a glorious view it was, and the sweetness of bracing air played round one, fresh from the sea, and odorous with thyme.

THE EAR OF DIONYSIUS.

Then we came down to see the great Latomia del Paradiso, one of the huge quarries from which stone for the erection of ancient Syracuse was excavated. The walls of this quarry are from 100 ft. to 120 ft. high, and quite perpendicular, the stone being easily cut when freshly exposed, but soon weathering to an extremely hard texture, and since the air is dry, little surface wear takes place. These quarries are now overgrown with a luxuriant vegetation, the warm sheltered space yields most splendid oranges and figs, while here and there a stately cypress lends a dignity of its own. On the north side of this Latomia is a curious shaped opening of a cavern, called the Ear of Dionysius, over 70 ft. in height, and reaching into the rock for nearly 100 yards. It has wonderful acoustic properties. A match dropped at the entrance is distinctly heard to fall at the farther end, and the tearing of a piece of paper is strangely magnified, while the slamming of the door reverberates like thunder through the cave. My singing was, I believe, wondrous melody, but that is not surprising. The name is said to be derived from Dionysius causing it to be constructed so that the tyrant might hear what his captives said of him, for these Latomia were used as prisons, in which the captives were kept so long that they married and brought up a second generation of prisoners. Now the front of the cavern is partially covered by an ivy veil, and the scene is so beautiful that it is difficult to realise the sufferings that must in past times have been endured from the tyrant's whim, who, like other tyrants of more recent times, dwelt in an atmosphere of suspicion, unable to trust anyone, not daring to allow a barber to shave him, and even having his bed surrounded by a broad channel of deep water, crossing it by a plank which he drew, drawbridge-like, up after him, while even then his nightshirt was an iron cuirass, oxide of iron indeed. Unlike many tyrants he did not die by violence, but like our Berkshire shepherd on the distant downs, who passed away without medical aid, and as his friends said, therefore died a natural death. Very near to this Latomia is the enormous hecatomb altar of Hiero the Second, 200 yards long, on which 450 oxen were annually sacrificed to commemorate the expulsion of the tyrant Thrasybulus, an elder but less gifted brother of Hiero, whose exactions and extortions had caused him to be most bitterly hated by the Syracusans, who revolted, and attempted first to drive him from his position, but not succeeding, since he was able to keep his communications open by sea, they obtained the assistance of other Sicilian cities such as Selinus, and closing in on every side, eventually made him sue for mercy, and he was allowed to depart unmolested to end his days peacefully in Locri. Therefore, as Mr. Crawford says, this gigantic altar to the gods was built, and the huge animal sacrifice made, and it suggests very forcibly that under the tyrant they had never enjoyed a feast, and had rarely had enough. Near to the altar is a large Roman Amphitheatre of the period of Augustus, and there is also another large quarry, the Latomia di Santa Venera, with most luxuriant vegetation, while further on the Bufalaro Hill has the Latomia del Filosofo, so called from Dionysius imprisoning within it the philosopher Philoxenus for disparaging his verses; but one, after all, rather admires the way critics (and, of course, all critics are unjust, even if they are not, as Disraeli says, the men who have failed) were summarily punished in those days. Now the only punishment is not to read their criticisms, but even then your bosom friend is likely to quote the spiciest portions, which have lost nothing on the journey, to you on the earliest opportunity.

But one must forget critics and candid friends with these surroundings, far more agreeable is it to look upon the scene before us. Rarely or never have I seen such an attractive country, with such a wonderful variety of vegetation, the ground being carpeted with flowers rather than herbage. Among the many interesting species observed were the "Devil in the Bush," *Nigella damascena*, the pretty pheasant's eye, *Adonis microcarpa*, the rare English star clover, *Trifolium stellatum*, now naturalised at Shoreham; *Polycarpon tetraphyllum*, now almost lost on our southern coast; the rupture wort, *Herniaria hirsuta*, the pretty bindweed, *Convolvulus althœoides*, the sandwort, *Arenaria leptoclados*, which is not recorded by Tornabene for Sicily, the pearl worts, *Sagina apetala*, *procumbens*, and *maritima*, the curious little dock, *Rumex bucephalorus*, a graceful little dodder, *Cuscuta alba*, parasitic on *Medicago*; the sages *Salvia clandestina* and *S. multifida*, the dark indigo-blossomed starch hyacinth, *Muscari racemosum*, the lamb's lettuce, *Valerianella discoidea*, the Composites *Evax pygmœa*, *Gnaphalium luteo-album*, *Filago germanica*, *Centaurea napifolia*, *C. fuscata*, *Senecio leucanthemifolius*, var. *incrassatus*, *Galactites*, *Picridium vulgare*, the Labiate *Stachys hirta*, the local *Lavandula dentata* in its most eastern habitat, *Mentha piperita*, *M. longifolia*, *Origanum onites*, in its most western home, and *Teucrium polium*. The pretty *Tordylium apulum* is common, and here, too, occurs *Brassica pubescens mihi* (*Sinapis pubescens*, L.), only known from Italy, *Veronica* *anagalloides*, *Thymelœa hirsuta*, *Astragalus hamosus*, *Biserrula pelecinus*, with its curious legumes, *Orobanche ramosa*, *Echium calycinum*, *E. avenarium*, *Chenopodium murale*, the grasses *Phalaris cærulescens*, *Andropogon hirtus*, *Festuca ciliata*, *Poa bulbosa*, *Stipa tortilis*, *Bromus mollis*, and a form much unlike our English plant, *Lotus scorpioides*, *L. edulis*, *Hippocrepis unisiliquosa*, the very beautiful *Sedum cæruleum*, growing in circular patches of vivid colouring, the fern *Notochlœna*, the pretty blue iris *G. sisyrinchium*, and *Centranthus calcitrapa*.

The next day was devoted to exploring the River Anapos, which we had long looked forward to, since it would give an opportunity of seeing the Egyptian papyrus growing wild in its only European situation, where, indeed, it is not native, having originally been introduced, but where it is now luxuriantly naturalised. The usual way to perform this expedition is to hire a boat and be rowed across the bay and then up the river and its tributary the Cyane brook, the latter being the habitat of the papyrus, but I thought it would be much better to walk along the banks, if possible, and in order to avoid going over the same dusty ground twice, we took a little carriage to the Ponte Grande, which crosses the Anapos, a short distance from where it enters the sea, and then commenced the walk along its western bank. On this bank, near the confluence of the two streams, stand a couple of columns, which are all that remain of the Olympian Zeus, dating from the earliest period of Syracusan history, which once contained the magnificent statue of Zeus, extolled by Cicero, which Gelon decorated with a golden robe, part of the spoil of the conquered Himera. Dionysius, however, took the robe from the statue on the pretext (and a bad one is worse than none at all) that it was too hot for summer air, and too cold for winter use. Our way led through a flat and well cultivated country, where cardoon, beans, artichokes, and other vegetables were growing prolifically, the soil being too well cultivated to have many weeds, save here and there a crimson gladiolus, but on reaching the banks of the Cyane brook we began to find many treasures. The day was extremely hot, the odour from the decaying weeds recently cut from the river decidedly of a malarious nature, and there was an abundance of insect life. Bright coloured dragon-flies, the swallow-tail, fritillaries and other butterflies were on the move, and one's progress, rough as it was in places, made us pretty well heated; but the sight of the beautiful river amply repaid us for all the fatigue, a very swiftly flowing stream considering its slight gradient, of the most translucent appearance, in which waved the greenest of vegetation. At once it recalled my favourite Berkshire stream, "the Loddon, with verdant alders crowned," and here replacing the alders were willows and occasionally a tree of the manna ash *Fraxinus ornus*, while instead of the reed bed of *Phragmites*, which characterises the Berkshire stream, here a taller growth of *Arunda donax* has a charm of its own. A particularly graceful pond-weed attracted my attention, which at first sight suggested my Loddon pond-weed, but I could only with difficulty fish out some fragments with a stalk of arundo 6 ft. long, and was risking a ducking by striving to get more characteristic specimens, when a boat-load of English travellers, whom we had previously met at Palermo, came by, and in answer to their inquiries as to what I was doing, one of them said, "Why, do you know the Loddon? Why, I am the Vicar of Mortimer," a charming village well known to me in the vicinity of that Berkshire stream. So small is the world. By their aid I obtained some more complete specimens, and found that although in some respects allied to my plant, the cyane *Potamogeton* is distinct, being the *P. petiolaris*, Presl., possibly an endemic form, known from a few Sicilian streams and allied to *P. fluitans*, while my Loddon plant is a distinct and most handsome species, with the submerged leaves so beautifully veined and with the parenchyma so transparent as to look like the most delicate ivory carving, and has been well described by Mr. Alfred Fryer in his excellent monograph of the British Pond-weeds, and at present is only known from that Berkshire stream, where it is locally abundant. Having duly gathered examples of the Sicilian species and finding on the river bank some fine specimens of *Allium nigrum*, which, although an onion, possesses no alliaceous odour, but is blessed with a most agreeable perfume, we caught the first glimpse of the graceful papyrus, and a beautiful sight it was, its tall, graceful stems 10 ft. or 12 ft. high bearing the beautiful plumes of delicate foliage waving to and fro in the light breeze, or moving with the swiftly flowing crystalline streams, or occasionally curving downwards till they touch the pellucid water. It is said to owe its origin to Hiero planting the specimens sent by Ptolemy, among other gifts, in return for the costly and enormous vessel already alluded to, and here it still continues to flourish after something like 2,000 years. Nor was the papyrus the only plant of interest. There were the milfoils, not only our own *Myriophyllum verticillatum* and *M. spicatum*, but also the endemic *M. siculum*, *Potamogeton pusillum*, *Nitella opaca*, and our own yellow iris (*Iris pseudacorus*).

CYANE BROOK, SYRACUSE; MANNA ASH AND PAPYRUS.

By these pleasant waters, most pleasant in a thirsty land, we strolled until we reached the source of the stream, a large, clear, nearly circular pool, 30 ft. deep, yet so translucent as to allow the bottom to be plainly visible; while the bright green tints of the aquatic vegetation, the purplish-blue coloured mullet, as the Sicilians call the fish, which are so abundant here, and the fringe of papyrus and arundo which surround the pool, combine to make a scene of exquisite beauty, and the cool shades of the papyrus enable it to be seen with all enjoyment; nor is the glorious arch of scanty cloud-flecked blue an unimportant factor in the general effect.

Taking advantage of the offer of one of the weed-cutters, we entered his boat, and were rowed over the pool, which in a classic country has naturally a legendary origin. We are told that the beautiful daughter Kore, of Zeus and Demeter, who had her home among the violets of Enna, was once gathering these fragrant flowers to make a purple robe for her father, but in that heavenly country Hades was not far distant. The Sicilian paradise had its serpent, for dark Pluton seized her in his arms and carried her away, but near Syracuse the nymph Cyane, Kore's friend, leapt lightly from the woods and stopped him as he rushed along, and besought with all her heart to make him give up his prey, but all without avail, so she sank to earth dissolved in her own tears, which made a deep well, to-day the most beautiful of all springs in the world. On this we floated, scarce able to discern where water and air met, and had our *dolce far niente*, eating not, it is true, the fruit of the lotus, but the thick, fleshy underground leaf-stalks of the fennel, which the Sicilian lad cleaned and cut for us.

Then came a delightful saunter home to the Ponte Grande, and a delightful view of Syracuse, lighted up by the afternoon sun, and rising fairy-like from the waters of the bay. Along this we wandered, picking our way now between great tufts of *Juncus acutus* and *J. maritimus*, with their spiny leaves as sharp as needles, now gathering some fleshy *Saliconia* or *Atriplex*, the curious *Arthrocnemon macrostachyum*, and the sedge *Carex divisa*, or gazing with pleasure at the sardine fishers slowly bringing in their nets to the shore.

One must also refer to the beautiful *Chrysanthemum myconis*, allied to our own *C. segetum*, which we saw, and it recalled the Kabylian pastures in Northern Africa, where I first saw it growing.

LATOMIE DEI CAPPUCINI—SIRACUSA.

Then we had a glorious walk along the eastern side of Syracuse to Achradina, which, with Ortygia, were the last strongholds held by the Syracusans against Marcellus, and only separated from the latter by the small harbour, which Dionysius formed by throwing an embankment across the sea, and the narrow entrance of which was capable of being closed. We walked past the so-called House of Agathocles to the Capuchin Monastery, near which is the Latomia de Cappucini, the wildest and grandest of the ancient quarries. Now it is laid out in informal gardens with magnificent cypresses and lemons, oranges and figs. In it is a huge pillar of stone—now flower-grown—which, like the detached rock of slate which formerly existed in Penrhyn quarries, gives one an idea of the immense excavation which has gone on around it—as is also evidenced by the huge cliffs, 100 ft. high, which wall it in. Now it is the home of flowers, fruit, and birds, the lizard basks on the rocky sides; but who can imagine the scene of which it was the focus. After the defeat of the Athenians by the Syracusans 2,300 years ago, the quarries—then without vegetation, with no access but by ladders, where the sun burnt like a furnace by day and at night was filled with chilly vapour from the sea, a hell in summer, bitterly cold in winter, and malarious during the rainy autumn—were then used as a prison for the unfortunate Athenians (7,000 in number), who were let down by cranes to the stony floor, and were fed—or rather slowly starved—on a pint of barley and half a pint of water each per day. No distinction was made between the healthy and the wounded in this concentration camp, but the latter suffered less because they died more quickly. Even in death they were not separated from the less fortunate survivors, their bodies being allowed to rot in close contiguity. Soon, therefore, to wounds and famine was added pestilence. Ten weeks elapsed, and even then some of the 7,000 survived; and of these the Syracusans took out from the charnel house such as were not Athenians. When the few surviving Athenians were eventually brought out, they were branded on the forehead and sold as slaves. Bad as the present world is, it is not so barbarously inhuman now.

There is a picturesque old well of unknown depth in this Latomia; and the whole surroundings are most interesting, and not less so the romantic coast, honeycombed with caverns, washed by the azure sea.

We have said much about the ancient side of Syracuse, so some reference must be made to the modern aspect. The new buildings did not attract one, but the visitor will be surprised to see the enormous number of hogsheads of lemon juice which line the quay; the fishers bring in many fish of curious shape and colour, and one at least called dentice, is of a very good flavour.

The old catacombs are celebrated, and quite worth a visit, and the Museum is rich in Roman and Greek antiquities; near the Duomo, with its Saracenic battlements, is the celebrated Fountain of Arethusa, once a copious spring of pure water, outlet, doubtless, of a subterranean river, which had its catchment area in the Thymbrian Hills, and, passing under Achradina, came to the surface near the coast of Ortygia, within the harbour. It was at this spring that Nelson watered his fleet; now it is a pleasant spot, with planted papyrus around it, but the water is said to be brackish, owing to a recent earthquake.

It was one of the last spots we saw in Syracuse, and it is one we hope to see again, for the district had been most pleasant to us on our all too short a visit. From Syracuse we had to retrace our way to Catania, journeying thence to Aci Castello, with its seven Cyclopean rocks, which the blinded Polyphemus hurled after the crafty Ulysses, and as one of these is 230 ft. high, and ten times as much in circumference, it is no unfair remark to say that it was a pretty tall Ananias who originated that story. The rock is composed of columnar basalt, capped with a hard limestone. Then we went to the beautifully situated town of Aci Reale, which stands on several lava streams from Etna. There is a somewhat fashionable thermal establishment here, where baths of iodine and sulphur can be obtained, and the air is more bracing and wholesome than that of Catania. Between Aci Reale and Giarre we cross several more lava streams, and there are others on our way to Alcantara, where malaria abounds, and as the scirocco wind is blowing, we feel that we have some of it in our systems. However, we dismount from the train at Giardini, in order to visit what has been described as the loveliest place in the world, the far-famed Taormina, where the Greeks first settled in Sicily. We had our first view of it from the hill-side, near the great chestnut tree on Etna. We caught glimpses of it on the railway journey from Catania, but we see no way of reaching it from Giardini, being (at present) unblessed with wings. All the world and his wife are apparently aimed for the same destination, but most of them have had the wisdom of the serpent to bespeak conveyances. We are left stranded at the station, mildly disconsolate, for we are travelled philosophers enough to have heard that everything (or, at the worst, something) comes to him who waits (long enough), and something, even if a trifle, usually falls to the waiter, and to prove the truth, even if only in part, to us derelicts one ship at length comes home in the shape of a doubtful little carriage, ricketty in construction, and feeble as regards harness, a shady looking driver who appeared to have only recently escaped from prison, and a still more doubtful and more shady looking horse. The driver, in answer to my question as to whether the doubtful combination could take us up to Taormina, replied in the affirmative, but his "Si, si, signor," was given with no very positive air. Some bystanders, in the same line of business doubtless, evinced a scornful disbelief; the horse made no verbal response, but shook his head languidly, as if even that negatory movement was too much for him. I felt very doubtful as to the result of the experiment, but as one thing was quite certain—namely Taormina would not come to us, and as Hobson's choice alone was ours, we gingerly got into the crazy structure, and hoped we should not be as the evil spirit to the Gadarene swine, and our descent to the sea be as rapid and as final. However, we slowly began the upward journey, and as the road is three miles long to make the ascent of 400 ft., the gradient is by no means too steep, but our progress was slow—rarely, even, on the Chatham and Dover have I moved more slowly—the poor beast had a fit of the staggers at no infrequent intervals, and this was the only violent movement he made, nor did it help our onward career. I do not think he was shamming, but even of this I am not certain, he may have meant to throw the responsibilities of the ascent on me; but in one thing he certainly succeeded, for he got rid of one of his passengers, and I walked along wishing the road was twice as long for me and half as long for the beast. Each minute revealed some fresh view of a more exquisite beauty than the one preceding, turn after turn of the road seemed to excel each other. Here was something which even the best scenery in England lacks in some degree—namely, colour; the sky, the sea, the rocks, the flowers were glowing with brightness; one's eyes ached after looking at a cliff side covered with the spurge, fennel, *Phlomis*, or a bank of *Pyrethrum coronarium*, *Echium*, *Hedysarum*, or *Tetragonolobus*.

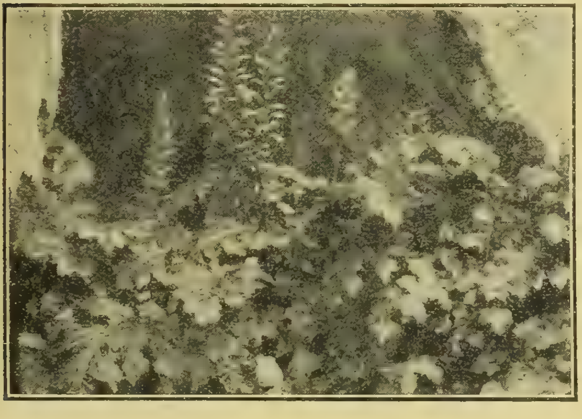
CASTLE OF TAORMINA.

And the charm of the coast line, with

Tower and high hill convent seen,
A light amid its olive green,
Or olive hoary cape in ocean,
Or rosy blossom in hot ravine.

The grotesque opuntia is naturalised on the rocky sides of the hills; in the gardens semi-tropical plants look quite at home. At last we entered the narrow and picturesque street of this curious hill town, and our poor steed, still faintly staggering, but not with its load, cast an uncertain anchor at the gate of the old Dominican Monastery, now converted into a hotel. After some preliminary wrestling we succeeded (somewhat to our astonishment) in obtaining a room (I won't say the worst inn's worst room) but it was neither palatial nor quiet; but we did not mean to be in it much, and soon we were sitting down in the old refectory, with its oil paintings, not by the best masters, of religious subjects, or dead and gone Dominicans, and its antique dark furniture. The hotel, large as it is, was crowded with a polyglot people. There are South African millionaires, be-ringed and be-diamonded, perhaps once known as "Aarons and Moses, for one can change one's name, but can't change one's noses"; German professors, bearded and spectacled, who profess, and eat too much and too noisily; fashionable *chic* French feminines, with wonderful garments, which *frou-frou* down the long, dark corridors, making, I suspect, the bones of the old Dominicans to turn in their graves, and causing, I am confident, the heads of some more recent members of the genus *homo* to spin like humming-tops; there are studious Swedes, amiably acquiescent, and stolid Dutch, stupidly silent, while chilly English spinsters of uncertain age, and hair, with extraordinary developments of teeth and gums (high chewers, if not high steppers) and horsey profiles are thrown into the shade by their American cousins, with more slender wrists (and, I am told, ankles) and high-pitched resonant tones; and here and there are pairs of people (of different sexes) not apparently as yet quite at home with each other, but like acid and alkali, with strong affinities, and who appear most anxious to repair the deficiency, against whom you stumble in dark corners, or shady bowers, or cloistered nooks, till, from the frequent dissociation of the elements of which you are the unwitting and unwilling cause, they get on one's nerves, and one is tempted to adopt, not exactly accordion pleats, but rather accordion soles, so that one's advent might be musically and timely announced, and so prevent the bashful blush which now, like a barometric reading, is so frequently rising to your or their faces. But, thank goodness, at Taormina you can get away from the various nationalities, and the single or combined members thereof; there are so many and so varied walks of enchanting loveliness, and our fellow residents chiefly lounge about the town or the Greek theatre, and do not do much climbing on the hill sides, where we find the air most invigorating, and the malarial attack (tribute to the Anapos) which has bothered us is soon dispelled.

The first walk is to the castle, situated on a precipitous rock, about 900 ft. above the town, rather more than the difference between the height of Prince's Street and the top of Arthur's seat at Edinburgh; but in this instance the castle almost overshadows the town, so abrupt is the ascent, and on the rocks on which it is built are masses of the yellow-flowered *Phlomis fruticosa,* with its sage-like leaves; the graceful asses' fennel, *Fœniculum piperatum,* most beautiful of the Umbelliferæ; the everlasting *Phagnalon saxatile,* the brilliant *Calendula bicolor,* the shrubby *Euphorbia dendroides,* here and there the shrubby *Silene fruticosa,* a woody scabious (*Scabiosa cretica*), and the aromatic *Rosmarinus officinalis.* On one of the slopes we found a plant of parasitic *Orobanche lavandulacea,* the *Phelipœa lavandulacea* of De Candolle, more than a foot high. Here we also gathered the pretty *Biscutella lævigata,* with its curious siliculas, the prickly *Smilax aspera,* the beautiful *Hyacinthus dubius,* with its flower the most beautiful porcelain blue, the asphodel (*Asphodelus fistulosus*), the seedflax (*Linaria chalepensis*), the grass *Avena sterilis,* albeit the beastly prickly opuntia is not a nice thing to climb through. Under a shady rock we saw magnificent plants of *Acanthus mollis,* the leaves of which form the ornament on Corinthian capitals, and the curious little arum, *Arum anisarum,* was also common.



GROUP OF ACANTHUS AT TAORMINA.

Above Taormina rises the hill town of Molo, 2,080 ft. high, and we made an early expedition to it. One climbs up by a path leading near the castle, but leaving that to the east, and turning slightly to the west up the steep scala, where we are joined by a Sicilian boy, a native of the hill, who has been down to Taormina for some lemons, of which he has a bag full, a heavy bundle of school books, and a small wooden vessel holding nearly a gallon of wine; but he trudges on as if the load were nothing. He tells me he is the only son of his father, who has a farm high up on Venere, so he is obliged to be a farmer, although he would like to be a priest and a student. He is very observant, and as we reach the steep rock on which Molo is built, I climb up to gather the leaves, for no flowers are visible, of a *Centaurea* of which I was in quest, but I find some flower-stalks and the capitula of last year, and I have little doubt that my treasure is the very local and rare *Centaurea tauromenitana,* only known from this district in the world. I asked the lad what the colour of the flowers was, and he replied, "*gialli,*" which put the matter beyond doubt. The radial leaves are quite large, coriaceous, and probably last through the winter. Nothing can be more striking than to see this hill of Molo rising up abruptly to its rocky crest, on which is built, heaven knows how, the ancient town; yet it was once captured and burned by the Moors, and the whole population massacred. Now its buildings make a coronet on the rock, but as no spring water is in the town the natives rarely wash, and its odour is something to remember, even the Sicilian lad who had held his nose. The view, as I have said, from Taormina is beautiful, but that afforded by its castle, 900 ft. above, has the advantage of revealing the beauties of Taormina itself, while from Molo, 800 ft. above the castle, a still more wonderful prospect can be obtained. But from Molo we saw still 800 ft. above us the summit of Mount Venere, and that was a temptation to climb we could not resist. We had picked spider orchis, *Ophrys aranifera,* on our way to Molo, but the Sicilian boy said there were many kinds on Venere, and he proved correct, for on one narrow piece of limestone rock, with cornfields on each side, we found fourteen different species, including the man orchid, *Aceras anthropophora,* beautiful specimens of *Orchis undulatifolia,* with *Ophrys lutea, O. aranifera, O. fusca, O. tenthredinifera, O. bombyliflora, O. bertolomi, Orchis lactea,* and *O. brancifortii,* only known elsewhere from Sardinia.

VIEW FROM GREEK THEATRE AT TAORMINA LOOKING SOUTH-EAST.

AMPHITHEATRE AT TAORMINA, WITH MOUNT ETNA IN THE BACKGROUND.

The walk was full of interest; insect life and bird life were plentiful. The boy took us to his home, where his mother made us some lemon squash and gave us good red wine, and we sat and gazed down the mountain side, with its tiny walled-in enclosures called fields, in which grew vines, corn, or sumach. The actual summit of Mont Venere, which is 2,834 ft. (higher than Cader Idris), is a small cornfield, so high can corn be ripened in Sicily, and on a small rocky piece of ground at this elevation I gathered *Ophrys tenthredinifera* and *O. lutea*, and I believe a hybrid of the two which I do not think has hitherto been observed.

It was indeed worth the journey to see the superb view and enjoy the pleasure of inhaling that bracing air. Etna grew in dignity and beauty from this elevation. The numerous villages round its base showed how thickly populous is the area, while the hill town of Molo, now well below us, was just a halting-place for the eye as it ranged over Taormina to the sea. On the homeward walk we chose a different route, and were rewarded by finding the beautiful *Cistus villosus* and *salvifolius*, and an umbelliferous plant, *Tinguarra sicula*, only known from Sicily and South Italy. We also had a pretty *Arabis*, which I think is *verna* (and if so, not given by Tornabene for Sicily), and a meadow rue, *Thalictrum calabricum*, confined to Sicily and the South of Italy, a form of the beautiful azure-blue flowered *Ajuga genevensis* and the *Carex serrata*. The special sight of Taormina is the Greek amphitheatre, which was practically reconstructed in Roman times. On and about its ruined tiers of seats and its upper walls grow many species of flower and the beautiful little blue iris (*Iris sisyrinchium*) is especially frequent, the pretty grass *Lamarckia aurea*, and *Trifolium stellatum*, *T. resupinatum*, *Reseda alba*, *Scorpiurus subvillosa*, *Erodium moschatum*, and *E. malacoides*.

But it is the prospect from the upper part of the theatre which is said to be the most beautiful in Italy, the cone of Etna appearing to be framed in the opening above the stage, then there is the Hermitage Santa Maria della Rocca, the Castle of Taormina, beyond that Molo and Monte Venere, the rocky peak of Lapa, and the precipitous Monte Zineto with its marble quarries. To see the rosy flush on the snows of Etna in the early morning is a sight never to be forgotten. Looking directly down to the east is one of the most beautiful islands one can imagine, the deepest blue sea, then a zone near the shore, where it shallows, the colour of a peacock's neck, then the light yellow sand, and the rocky isle with its luxuriant growth of prickly pear.

There is a wondrous walk to the west of the hotel with a very rich flora, where *Hedysarum coronarium*, *Lotus tetragonolobus* and *L. parviflorus*, *Medicago orbicularis*, *Scorpiurus subvillosus*, *Lathyrus ochrus*, *L. tenuifolius*, *Nigella damascena*, *Camelina sativa*, *Muscari comosum*, *Vicia bithynica*, *V. lutea*, *V. hirta*, *Convolvulus tenuissimus*, *Chrysanthemum myconis*, with whitish instead of the normal rich golden flowers, the magnificent orange blossoms of *Lotus biflorus*, also *L. cytisioides*, *Melilotus infesta*, *Medicago litoralis*, *M. tribuloides*, and *M. lappacea*, *Ervum lens*, *Cicer arietinum*, *Trifolium lappaceum*, *Filago gallica*, *Odontospermum aquaticum*, the very local *Hypochoeris achyrophorus*, var. *glauca* (Lin.), only known from Calabria and Sicily, and I also found *Ononis reclinata*, an addition to the Sicilian flora, although known from other places in Italy. Although there is a very good photographer with a large collection of local views at Taormina, he had none of the big tree, and although he promised to go over in the summer and take one, he has since written to me to say he was unsuccessful, but he has some fine types of Sicilian faces. In Greece one may look for days to find a Greek profile, but here in Sicily both Greek, Roman, and Saracenic types are to be found, and these hill peasants are often a well-built, sturdy, and handsome, if somewhat odorous, race.

Near the railway the pretty blue crucifer, *Moricandia arvensis* (which also grows near La Mortola, in Liguria), was the last flower we gathered, as, all reluctantly, we bade adieu—one could not say good-bye—to Taormina.

Our way led by the coast to Scaletta, past the lovely Capo Sant' Alessio, with its deserted fort, and the picturesque castle of the Ruffo Princes of Scaletta; and we cross over numerous dry river beds, which, presumably, in wet seasons can be raging torrents; and then, bearing slightly to the north, with magnificent views of mountain scenery on our way, we reach Messina (the second largest town in Sicily), with the sickle-shaped harbour, the busiest in Italy and one of the best in the world. The houses are well built, the streets are fairly clean and very busy; but in hotel accommodation it does not compete with Palermo. Still, we were fairly comfortable, and among the few visitors was a young member of the University of Vienna (an Austrian Baron), whose cousin I found was one whom I knew very well at Oxford. So we went together to the large Theatre Vittorio Emanuele, where we had excellent places for three lire each, and certainly too long a performance for the money. He was supposed to be in residence at his university—evidently they are more lax there than at Oxford, where a night away means mischief.

The harbour was a great attraction for the curious merchandise on its quays. Here they were very busy in packing orange and lemon and citron peel for export, and very dexterous and rapid were the packers in nesting the empty half-fruits in each other, covering each layer with a sprinkling of salt—a practice that explained to me the mystery of the suspicion of salt flavour in the citron peel which in days gone by one had surreptitiously commandeered. Huge barrels of lemon juice were in great evidence. The fragrance of the lemon was in the air. In the City Gardens splendid trees of *Erythrina corallodendron*, a blaze of colour, delighted the eye.

The Cathedral is not particularly interesting, although it was begun in 1098; but it has twice suffered from fire, repeatedly from alterations, and occasionally from earthquakes. The high altar is said to have cost nearly 4,000,000 lire, and is reputed to contain a letter written by the Virgin Mary and brought by St. Paul to the inhabitants of Messina; but it is said to be, and doubtless is, a forgery.

The open air in Messina offered more attraction than the rococo decorations of sacred edifices, so we climbed the Torrente Portalegni, and struggled up the steep and slippery Salita del Castellaccio to the dismantled fort of that name situated high above and slightly to the west of the town. On the way we gathered the pretty and rare white-flowered *Cistus crispus*, with *Helianthemum guttatum*, *Galactites tomentosus*, *Melilotus sulcata*, *Senecio leucanthemifolius*, var. *vernus*. The view from the fort was very fine. Beneath us lay the town of Messina, with its picturesque harbour, the beautiful Straits of Messina, and opposite on the mainland the Calabrian mountains rise up grandly into the sky. Not far off is Fort Gonzaga, and near to this again is Mons Chalcidicus, where Hiero pitched his camp in 264. The mountain is named after the Chalcidians, who in 732 founded the town on the site of an earlier place called Zande—a sickle—from the shape of its harbour, which formed a natural haven for all vessels passing through the narrow turbulent straits, scarcely more than two miles wide at its narrowest part. Very interesting is the history of this important place. Our own Richard the Lion-hearted, when on the Crusades, broke the monotony of his journey by doing some "ragging" here, and afterwards, repenting of his looseness of life, "made a general confession of his sins before the bishops and archbishops who were at

Messina, and from that time forward became a man who feared God, and left what was evil and did what was good." Here, too, came the Emperor Henry the Sixth of Germany on conquest bent, and he eventually got possession not only of Messina, but the capital. He looted the treasury, thus accounting for the presence to-day in the Imperial Treasury at Vienna of the richly embroidered tunic of William the Good, with its florid description of Palermo in Cufic characters. Henry established himself in the magnificent palace called Cuba, and practically exterminated the house of Tancred, actually causing an executioner to nail a kingly crown upon the living head of one of the last descendants of the late king.

We had a very interesting expedition to Monte Cicci, which we climbed by the Torrente di Paradiso, but the temperature in this stony gorge suggested the appropriateness of selecting another name. But when we emerged from its heated air we had a glorious walk over more attractive country, where the flowers were more beautiful and interesting. Here we found the curious parasite, *Cytinus hypocistus*, Linn., var. *Kermesinus*, Guss., growing on the roots of *Cistus*, and obtaining its varietal name from its curious reddish hue. Here, too, we met with the red broom-rape (*Orobanche sanguineum*).

The bright yellow-flowered *Linaria stricta* was a charming plant, and is only known from this and the opposite coast of Calabria, and the yellow lupine (*Lupinus luteus*) was also very showy. The upper part of Cicci was extremely steep, and it was curious to see a thick pine forest growing on a most acute slope on one of its shoulders. We then walked on to the Telegrapho, or Colle di San Rizzo, 1,120 ft., with its magnificent view, which commands not only the straits and the Calabrian coast, with Scylla, Reggio, and San Giovanni, the lofty Aspromonte being its culminating peak, but also an equally beautiful sight to the north-west of the Neptunian Mountains, while seawards the Lipari Islands, with the volcano Stromboli, were visible. On the grassy slopes of the pass we pick the pretty *Bartsia latifolia;* in a wooded place we gather the bright-coloured *Orchis longicornis*, with *Lycopodium denticulatum*, *Callitriche stagnalis*, also the yellow wort (*Chlora* or *Blackstonia perfoliata*, var. *intermedia*), the blue toadflax (*Linaria pelisseriana*) which also grows in Jersey. We were also fortunate enough to find the pretty orchis which occurs in Mayo and Galway, and which is known by so many different names; it now appears in our British lists as *Habenaria intacta*, and this is not included in Archangeli's 'Flora Italiana,' although given in the 'Flora Sicula'; *Vicia pseudo-cracca* also occurred. While we were sitting down on one of the remote shoulders of Monte Cicci—a name which looks easy enough to pronounce, but which no Englishman could properly enunciate unless he had first heard a Sicilian speak it —we thought we were surely in the home of the wizards, so wild did the pine woods look and so dark the recesses in the deeper scooped-out ravines, when suddenly above the edge of the plateau appeared a couple of men with guns pointing towards us; but they appeared equally startled to see us, and I think they were doing a little poaching on their own. I understood them to say they were after a porcupine, but, if so, we did not see even a single quill. The Sicilian pines are *P. Halepensis*, *Pinea* and *Laricio*, and the fossil resin of the latter is found in the Pliocene beds near the River Simeta.

This very pleasing expedition was a fitting one to finish for the time our Sicilian wanderings, and left us with the impression that we had only just scratched the surface in our rambles, that it was a land one ought to visit again, since it was evident much yet remained to be done, not only in working out its flora, large and interesting as it is, but that its history and scenic beauty afforded an almost inexhaustible mine. But (our) time was on the wing, and reluctantly we had to say good-bye to one of the fairest islands in the old world, on which we cast eyes of regret as we crossed over the Straits to Reggio, and had a long tiring night not devoid of incident on our journey northwards.

PHARMACEUTICAL EXPERIENCES ON THE CONTINENT AND A CONSIDERATION OF THE METRIC SYSTEM.*

BY W. PALMER.

If any of you have visited Mentone you cannot have failed to notice the large Pharmacy Lindewald Bain standing in the Place St. Roch, and now carried on by M. Péjon. It was in this shop that I made my first acquaintance with Continental methods. The shop was arranged in much the same way as the average high-class English shop. The bottles were arranged on shelves around the shop, and all enclosed behind glass doors. For dispensing purposes there were two counters, one for the Continental department, and the other exclusively for the English. This is an absolute necessity in order to avoid confusion between preparations of different strengths from the various pharmacopœias. The English also had one window reserved for them, and we kept it stocked for the most part with hot-water bottles, air cushions, bed baths, and other rubber articles, for which there was a good and constant demand.

Our staff was necessarily a rather large one, on account of the number of foreign visitors who came down to winter there. It consisted of two Frenchmen, two Englishmen, one German, and one Dane. Amongst us we spoke ten European languages—viz., English, French, German, Italian, Russian, Swiss, Spanish, Danish, Swedish, and Norwegian—so that we were a cosmopolitan and polyglot little family. The day's work consisted chiefly of dispensing and the sale of medicinal preparations and surgical appliances. There is one great difference between an English prescription and a Continental one, and it is this: As a general rule a Continental prescription contains not more than one or two ingredients. One sees continually orders of this kind—"Strych. Sulph., gr. 1/30, aq. ad ℥i." We came in for a good deal of chaff from our foreign medical friends on this subject. They used to say that English doctors put in five or six drugs, and if one did not do good the others might. With regard to the actual dispensing of prescriptions, the French and Germans are very ingenious and neat. Cachets were the Dane's specialty. These articles are at present very little used in Denmark, and as he was anxious to excel in the art of making them, we kept him pretty busy. Hypodermic solutions were ordered largely, and always sterilised.

I now come to the sale of medicinal preparations and proprietary articles. There seemed to me to be a great difference between a foreign proprietary and an English one. Theirs for the most part were scientifically prepared combinations or elegant forms of administration of certain various drugs, while ours, as we all know, are frequently nothing more nor less than advertisement puffed quackeries. It seems as though they cater for the doctors' needs while we cater for the public fancy. And this, I think, must be due to the different relation between doctor and chemist abroad and doctor and chemist at home. The law on the Continent says that doctors must not dispense. Now, this means a great deal to the chemist. It means not only that prescriptions must be dispensed through his agency, but it also brings about a social transformation. He is treated as a *confrère* and helpmate by the medical profession, and he is looked up to and respected by the people as being a man of the utmost integrity and uprightness.

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* Abstract of a paper read before the Cheltenham and District Chemists Association, on Friday, April 15, 1904.

There is another side of the pharmacien's duties on which I have not yet touched, and that is the analytical department. Analyses of all kinds—qualitative, quantitative, and bacteriological—were undertaken for the doctors and charged to the patients. In the three years' curriculum through which pharmacists of the first class have to pass, very careful and thorough training is given for this work. During my short stay several urine analyses from the English counter passed through the patron's hands, while from the other side urine, milk sputum, and drinking water were investigated. Good fees were charged for this work, and I think it a pity that more of it is not done in this country. Another point of interest which I ought to have mentioned while talking of dispensing is the repetition of prescriptions. In this country a person may obtain a prescription and continue to take the same medicine for months, or even years, sometimes with very regrettable results. Now, in France this is not so. It is a general rule, though I am not prepared to say that it is law, that prescriptions are not repeated without the consent of the medical attendant. The prescription-book is arranged according to definite form provided for by law, separate columns being allotted to the date, patient's name, ingredients, description of medicine, doctor's name. I must confess this seemed to me a stupid and quite unnecessary idea.

The Metric System.

It was in 1790 that the first attempt was made in France to make the metric system compulsory. It was about the time of the Revolution, when everything was going through a process of thorough reorganisation and overhauling, and the French people said, "We will sweep away all these old and inconvenient measures of pints and ounces, etc., and we will have one standard, from which all our measures shall be derived, and that standard shall itself be in direct relation to a fixed and unalterable condition. So they took the measurement of the quadrant of the earth's meridian at Paris and divided it into ten million parts, and called that their metre. And they decided to have their multiples and fractions of a metre on the decimal system. And they further decided that for multiples they would use Greek prefixes, and for the fractions they would use Latin prefixes. Thus they arrived at decimetres, or tenth parts of a metre; and decametres, or ten metres; hectometres and kilometres. Then they took 1 C.c. of distilled water at its greatest density at 4° C., and at normal pressure, and said, this shall be our unit of weight. And they called it a gramme. And they divided and multiplied this in the same way as the metre for the smaller and larger weights. They then took 1,000 such grammes of water and called it a litre, which should be the measure of fluid capacity. And this was divided into deci, centi, and millilitres, the millilitre being equivalent to a C.c. and weighing 1 gramme. So that we have a system equal to all occasions, and in which each and every standard is directly related to every other standard, and all related to the father of them all, "the metre."

The general advantages of such a system as this must be obvious to every impartial observer. But I should like to call attention to a few of the special advantages which we as chemists shall derive from its adoption, and also to point out some inconvenience from which we should suffer during the transition from the old to the new.

I think the greatest benefit of all would be found in the fact that English pharmacy would be brought into the line of international European pharmacy. Wherever our English prescriptions go now on the Continent there is danger of their being wrongly dispensed on account of the very pardonable ignorance of our weights and measures which exists among our foreign contemporaries. Another special advantage which I shall mention is that it does away with the confusion which exists as to the preparation of solutions. Suppose we wish to prepare a solution of pot. brom. 1-4 for dispensing purposes. What do we do? We cannot take an avoirdupois ounce of potassium bromide and dissolve and make up to 4 fluid oz. with water, for, although 4 oz. of that solution contains 1 oz. of pot. brom., 4 minims would not contain 1 gr., but something less than a grain. So that we are all obliged to take the apothecaries' weights, and make a "grains in minims" solution. But this is useless so far as large quantities are concerned, because to get an avoirdupois ounce of pot. brom. we should not have to use 4 fluid oz. of solution, but 29 drachms and 10 minims. Suppose, however, we are dealing with the metric system. Then we have only to take 1 gramme of substance, dissolve, and make up to 4 C.c. of solution, and we have a solution which answers equally well for the very smallest and the very largest quantities that can possibly be required.

One real difficulty which we shall have to overcome exists in the sizes of our bottles and the graduations. The teaspoonful and the tablespoonful will still remain as the favourite doses, and, indeed, they still remain so on the Continent. And there is a little difficulty in adjusting the number of doses to a bottle containing 250 Gm. This corresponds to our 8-oz. bottle, but not exactly, as it contains rather more. I think this difficulty could be overcome by making the bottle contain 240 Gm. and making the tablespoonful equivalent to 15 Gm. There would then be sixteen doses in the bottle, and it might be graduated accordingly. All other sizes might be dealt with in the same way.

MUSEUM NOTE.

BY E. M. HOLMES, F.L.S.

Curator of the Museums of the Pharmaceutical Society.

False Ipecacuanha.

A root of a species of *Richardsonia,* very similar in colour to the true ipecacuanha, has recently been offered in the London market. Samples sent to the Museum for identification show the peculiar starch grains, acicular raphides, porous vessels, and wood fibres, given as characteristic of undulated ipecacuanha by Greenish and Collin in the 'Anatomical Atlas of Vegetable Powders.' I learn from Mr. J. C. Umney that a considerable parcel of it has been purchased by a drug jobber, and there is, therefore, a possibility, if it eventually comes into the hands of unscrupulous dealers, that it may be used to adulterate the official drug in powdered form, either in this country or on the Continent. The characters above mentioned will serve to distinguish its presence in the powder of the genuine drug, from which porous vessels and wood fibres should be absent, their place being taken by tracheids (*l.c.*, p. 239). Under the lens the outer surface of the root is seen to be fissured transversely here and there, but to be without the raised rings, or annulations, characteristic of ipecacuanha. Mr. Umney has confirmed the presence of a minute quantity of alkaloid, previously detected by other observers, which he estimates at 0·12 per cent. in the spurious drug.

Glove Cleaning Powder.

Powdered pipe-clay, 120; powdered orris root, 60; powdered soap, 15; powdered borax, 30; powdered ammonium chloride, 5. Mix. Damp the gloves with a wet cloth, rub well with the powder, and let it dry on. When perfectly dry, remove the powder by brushing.—*L'Union Pharm.*, **45,** 69.

PRACTICAL ELECTRICITY FROM A PHARMACIST'S POINT OF VIEW.*

BY FRANK A. RINGER, PH.C.

From the title of this short paper it will be seen that we mean to omit from discussion all theories and problems, and to confine ourselves to a study of the apparatus and methods of such electrical appliances as come within the scope, at some time or other, of the ordinary retail chemist. Perhaps the simplest form of electrical apparatus, and the one which is most often called for is

The Portable Dry Cell Battery,

Fluid batteries are rapidly becoming antiquated, and many forms of dry cell batteries have been tried, until at last the chloride of silver cell has been very generally adopted. The most efficient dry cell, however, for commercial purposes, such as telephones or electrical bells, is the chloride of ammonium dry cell. These are much more constant in action, cheaper to renew, and last from one to two years, giving an electromotive force of from one and a-half to two volts. The principal parts of a dry cell battery, therefore, consist of a number of these cells connected together, with the addition of a few other necessary parts—namely, the current controller, the pole changer, and the galvanometer. The number of these kinds of batteries is very large, and in purchasing them it is as well to remember to obtain them with as little mechanism as possible—the simpler the better.

We now come to the

Electric Light Baths,

which are fast superseding all other kinds of sudatory baths, and which allow many people suffering from heart troubles to obtain the luxury of a Turkish bath without the ill effects which would result from the use of the latter. These baths consist of cabinets painted white, lined with white tiles, or corrugated glass mirrors, in which are arranged white, red, and blue electric lights, in various positions, or arc lamps designed in such a way that no loose pieces of carbon can find their way into the bath. Some of these light baths have ozonising apparatus arranged inside, and others have also electrodes by which currents of very high potential, frequently as much as 150,000 to 200,000 volts, can pass over or through the patient. These baths are largely used in cases of rheumatism, sciatica, and in nervous diseases. Whilst on the subject of light, it is as well to call attention to a very satisfactory apparatus known as Bang's lamp.

Bang, who was Finsen's assistant, devised a lamp with hollow iron electrodes, kept cool by a constant circulation of water. The lenses were made of quartz, which by great pressure upon the surface of the skin renders the parts anæmic. The light rays from this lamp are quite cold and have great actinic power. It is cheap and very satisfactory in use.

A new lamp which has lately come very much to the front, and is now found in use at most of the skin hospitals, is known as the London Hospital Lamp. It was originally designed on the suggestion of Dr. Sequiera. It is an open lamp, made in such a way that the arc can be brought very close to the skin, whilst the peculiar shape of the shield allows of its being used on parts of the body which are awkwardly situated. These two last lamps are, of course, only used in the treatment of skin diseases.

For the purpose of

Radiography,

which is of great importance to the medical world, we require apparatus as follows:—(*a*) Accumulators, (*b*) a Rhumkorff inductive coil, (*c*) a mercury or other break, (*d*) a Crookes tube, tube-holder, and a supply of flexible wire, (*e*) a fluorescent screen, (*f*) photographic plates and material, (*g*) an ammeter.

Accumulators, or secondary cells, are generally the best means to use for the source of current, especially where there is no electric lighting. They consist of a number of cells, glass or otherwise, containing zinc and carbon plates, and being filled with dilute sulphuric acid in the proportion of one of acid to five of water. A number of these are arranged in a portable box and connected together in series—that is to say, the positive terminal of one cell is connected to the negative terminal of the next cell, and so on, leaving one positive and one negative pole free at the end of the accumulator. The positive terminal is generally marked with a plus sign or painted red, and the negative with a minus sign or painted black. These accumulators can be charged from the ordinary street main by placing a lamp in the circuit to act as resistance.

The induction coil used in radiography is the ordinary Rhumkorff coil, which consists essentially of a hollow cylinder, in which is a bar of soft iron, or a bundle of iron wires, with two helices coiled round it, one connected with the poles of a battery, the circuit of which is alternately opened and closed by a self-acting arrangement, the other developing the induced current. Underneath the coil is the condenser, which is really a box containing sheets of tinfoil placed over each other, and insulated by larger sheets of stout paper soaked in paraffin or resin. These are connected with the make and break of the primary circuit.

As it is inconvenient to use the ordinary interrupter which is attached to the Rhumkorff coil, many other kinds of breaks have been devised. Amongst the best of these is the Mackensee Davidson's break, in which contacts are made by a radial arm projecting from a rapidly rotating spindle, so that during part of each revolution the arms dip into the mercury. The break is extremely quiet in motion, being almost noiseless.

A Crookes tube is a vacuum tube with a globular end, thoroughly exhausted of air, and having placed in it a concave kathode of aluminium, the rays from which impinge on a piece of platinum, which are again reflected from the antikathode to the walls of the tube, and there excite the X-Rays. It is generally supposed that Crooks tubes are all the same in action, but a little practical experience will prove the fallacy of this. Tubes vary very greatly, both in penetration and in length of life, and success in X-ray work depends largely upon the manipulation of the tube. For the tube stand, any form of wooden stand will do, providing it is fitted with arrangements for altering the distance of the tube. A supply of ordinary flexible wire or insulated bell wire is necessary.

A great many substances fluoresce under the X-rays, but the only two used at present are platino-cyanide of barium and calcium tungstate. A fluorescent screen, therefore, consists of a piece of cardboard, coated with one of these salts, mounted on a wooden frame, and generally used at the end of a triangular box, fitted with aperture for the eyes, the whole being known as a fluoroscope.

The ammeter is simply a small instrument used to indicate on a scale the number of amperes or strength of current used.

The X-rays are used largely for the location of foreign bodies, and the treatment of various

Skin Diseases,

such as lupus, and for the alleviation of pain in cancer. Respecting the bacteriological action of the rays, the evidence is daily growing more stronger that they possess no marked characteristics, and it seems to point to a conclusion that the Röntgen Rays have no effect upon the growth of bacteria.

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* Read before the Manchester Pharmaceutical Association, on Wednesday, February 10, 1904.

The D'Arsonval apparatus, which we have here is one of many forms of high frequency apparatus, the safety of which depends on the enormous number of alternations, and the current from which has great bactericidal power. The complete apparatus consists of accumulators, a mercury break, an induction coil, from which the current passes into two Leyden jars, another current being thereby induced on the outsides of these jars. This current, after being short-circuited, passes up into a solenoid, which is simply a coil of copper wire.

The ends of the conductors connected with the internal portions of the Leyden jars being then brought near to each other, a discharge of sparks takes place, and the solenoid is traversed by an alternating current of high frequency, which may be used by attaching conductors to it. These conductors are attached to a zinc plate, placed a short distance under a couch on which the patient reclines, and separated from it by cushions filled with rubber shavings. This apparatus is useful in nervous ailments and in gouty and rheumatic cases. The treatments may be by general electrification or by direct local contact.

We now come to the

Static Machine,

an instrument which is not at present much used in this country, although it is the favourite one in America. It was formerly unsuccessful in England owing to the moisture of the atmosphere, but this difficulty has now been largely overcome by using mica plates instead of glass ones. They consist of a number of revolving glass or mica plates, moving in opposite directions to each other, the induction taking place between the surfaces excited by a charge of current set up by friction. This initial charge is generated by the friction of small brushes coming into contact with small knobs on the generating plate. This apparatus is especially suitable for giving a spray or breeze, for applying electrical sparks, for giving a direct induced current, for inhaling ozone, and for treatment by cataphoresis, or the introduction of drugs by galvanism through the skin, as it has been found that the absorption of any volatile substance topically applied is made much easier when subjected to a static discharge.

I would point out that with the increased use of these various machines and apparatus I have given a short description of, much business can be done with the medical man, but at the same time I would like to give a word of warning that no patients should be ever treated or radiograms taken without an order or letter from a member of the profession. Untoward results might arise at any time which might leave the chemist in a very grave difficulty, as a radiogram taken for an ordinary member of the public might be used by him to bring an action, or otherwise injure a physician who might probably have performed an operation which was not satisfactory to the patient.

After trying many kinds of plates, I find the ordinary extra rapid plates the best to use for radiography, and in storing these care must be taken that they are kept entirely away from the room in which the X-Ray apparatus is kept, as the rays will easily pass through walls and cupboards and spoil them. The developing is the ordinary photographic process with which I conclude we are all acquainted, and it is therefore unnecessary to give details. There is just one point, however, that I would call your attention to, and that is that the usual error made in developing an X-ray negative is that of under development, which should be continued much longer than with the ordinary photographic process.

THE BRIGHTER SIDE OF A CHEMIST'S LIFE (3).

BY J. TAYLOR.

The exhilarating sensations of a young chemist's assistant about to set forth to a situation in a strange country must be very much akin to, if not identical with, those of our old ancestors in the days of Good Queen Bess, when the exploring fever was taking such a grip of the nation—but with this difference, that in the olden days the safe return home was the exception, whilst the present-day chemist, working on the Continent, can look forward with a certain amount of confidence to a return home at the end of the season.

The rosy hue assumed by things in general is occasioned by the novel feeling of manliness and self-confidence (I am speaking, of course, of the young chemist starting life) following on being landed in a strange country, where the people, perhaps, have very few things in common with him, and yet he is able to hold his own. To get these pleasurable feelings to their full extent you must be going to an entirely foreign pharmacy—not an English pharmacy, abroad—and travelling third class. At first glance this may appear a silly statement, as you would probably say, "Travelling is travelling," and if you go first or second class you have the novelty plus the comfort. Yes! But (apart from the pecuniary outlay) you miss the sometimes amusing, but always interesting, fellow passengers (in the plural always) to be found, for illustration, let us say, in the express from Paris to Marseilles, *en route* for the Riviera.

We all know the first and second class passengers—wealthy English and American families, invalids (also wealthy) in charge of nurses, loudly-dressed men of the world—and that is about the limit of variety; whereas third class you have variety unlimited, which changes at almost every station, so that faces and peculiarities do not have a chance to tire upon you. The long-distance travellers you can single out immediately by the parcels and baskets of food, with the inevitable bottle of wine, which, by its bulkiness and unwieldiness, always "gives the game away." You can form a very good idea of how far the various passengers are going by the supply of food carried, although in some cases you are deceived by some gourmand, who will get through as much food in a journey of a few hours that would last someone more moderate the whole twenty-six hours' journey. I remember an Italian who boarded the train at Paris, armed with two bottles of wine, which he emptied in time to refill at the next stopping-place; this proceeding was repeated at various intervals during the journey. Fortunately for him, the train was an express, and did not stop at many stations, or else the temptation to indulge might have been too great; as it was, it proved a very fine opportunity for his fellow-passengers to study the physiological effect of the toxic properties of vin rouge.

If you arrange your personal time-table carefully, so that the hours of darkness are spent in travelling through comparatively uninteresting country, you arrive at Marseilles in the morning, about six o'clock, and then await, with impatience, the recommencement of your journey, for this stage will be along the shores of the Mediterranean, the beauties of which are supposed by some to be incomparable.

At last a start is made, and you comfortably arrange yourself in a corner seat, which you think will be next the sea (but which, by some unaccountable means, sometimes is not), so that you may obtain the first possible view, which seems to you such a long time coming; so much so that, tired with your night's journey, you are just dozing off to sleep, when you are electrified by an exclamation from a fellow passenger; looking out of the window you find you are speeding along within a few yards only of the tideless sea.

Yes; you think, with a sigh of satisfaction, it comes up to expectations—the sparkling blueness, the cloudless sky, all there, as we had been led to believe by enthusiasts. All that morning you are racing along its shores, losing it at intervals, then suddenly coming upon it again in some new aspect of beauty; the peculiar effect caused by the changing level of the railway lines adding to the variety. At one place the line runs practically along the shore, and the sea seems to rise up from you, at another place you are more elevated, then it lies at your feet, rippling and glistening in the sunshine. With such scenes the way is beguiled, and augurs most favourably for the young chemist's sojourn on the Riviera.

CHINESE PHARMACY.*

BY H. B. MORGAN.

In reading and talking of China one is apt to forget the immense size of the empire, and to imagine that customs and habits are the same all over the country, but this is scarcely so. Though the written language is universally understood by the educated, and the officials all speak the Mandarin dialect, the colloquial varies considerably, that spoken in one province being often quite unintelligible in another. In all there are said to be 200 distinct dialects, and a trader or missionary must learn that of the district where he intends to live. So, in sending you a few notes to avoid misapprehension, I would like to make it clear that they only refer to what I have heard locally, or to what has come under my immediate notice. In some points, perhaps, they may be directly opposite to what another person—say, in Canton—has observed, and we may both be right, in spite of apparent contradiction.

In many points the Chinese are wonderfully alike—*e.g.*, the pigtail. In other customs they vary greatly, according to the latitude in which they live.

Pharmacy in the Celestial Empire is scarcely in an advanced stage. At places like Hong Kong and Shanghai foreign chemists are fairly numerous, but at very few other cities can European prescriptions be prepared. In Hang Chow foreigners, either visiting or living—Customs officials and others—send to us. Our head dispenser can manage any ordinary English prescription, and only refers to me if the writing is more difficult than usual, or one written by French or German doctors should turn up, as even happens in this remote part of the world. Of course, we undertake this kind of work simply as a favour, as there is quite enough to do with the patients, in and out door.

The first thing that strikes the eye at the main entrance to the hospital is a large kind of clock face, but, instead of marking the hours, one finger tells the day of the month, the other the day of the week, that the public may be able to understand our various regulations and know when it is our "worship day," when out-patients are not seen, the Chinese having no division of time at all corresponding to our week.

The number of patients for 1902 was about 19,000, in and out door. Many of these came more than once, making the total number seen about 35,000. There are beds for 250, male and female, besides a leper hospital and opium refuge for the treatment of those addicted to the abuse of that drug. The staff consists of Dr. and Mrs. Main, Dr. Kember and myself (Europeans), and several Chinese doctors who have graduated in modern medicine, about a dozen medical students, three dispensers, and a small regiment of nurses, porters, cooks, etc. The nurses are all the same sex as the patients.

The students' curriculum extends over about five years, and the only drawback to their study is that *post-mortems* cannot be undertaken, lest the easily-roused prejudices of the populace should be stirred up. Vivisection we do not teach. As a race, the Chinese are naturally callous enough without methods of research—the value of which is so extremely problematical—being introduced, which cannot tend to humanise or to soften the feelings.

The in-patients are often extremely difficult to deal with, and to diet those who are not absolutely helpless is often impossible, as, unless they get the full amount of rice, they fancy they are being swindled out of their money, as all except the extremely poor have to pay six shillings a month towards their food; everything else is free of charge.

This is a country where laws regulating the practice of medicine are entirely absent, and native doctors and drug shops are numerous. All the remedies they employ have been so often described that nothing need now be written about the absurd, strange, and—to us—disgusting medicines they often use. Herb stalls are also numerous, but as yet neither time nor opportunity has occurred for me to look into their stock.

At one really very fine and large medicine shop, which is most handsomely furnished and decorated, a notice board invites the public to walk inside and inspect the well-cared-for herd of deer—between twenty and thirty kept in stalls. They make use of their horns and, I believe, also their dung.

The best known poison, opium excepted, is arsenic, and its sale is regulated by law. An illegal sale is punishable by strangulation of the unfortunate druggist, whilst should the sale be followed by an accident the penalty is increased and he is beheaded. To us barbarians the difference in the punishment does not appear great; but, according to the ideas of the people, whose thoughts run in such different grooves, it is much more severe. Grossly materialistic in all their ideas, which even they extend to their conception of the future life, they consider that anyone leaving the world without a head remains and wanders a headless and disgraced ghost in the unseen kingdom. The fear of departed spirits to which they are all their life in bondage is at the bottom of most of their absurd and strange customs, and influences them in nearly all they do.

Quite recently a couple of robbers were beheaded and their heads exhibited at one of the principal gates of the city. Their method was to induce countrymen fresh to the town to accompany them to a tea-shop, drug their tea (with henbane, so it was said), get them to a solitary place, and strip them of all they had. Bribery can do a lot with the corrupt officials here, but in this case it did not save the rascals from their well-deserved punishment.

Most medicine shops put out a sign to the effect that on the 1st and 15th of each month a special discount of 10 per cent. will be allowed on all purchased, and native doctors will often only see patients on certain days—some every other day, some once in three days. Besides those whom we may call regular practitioners (though, of course, anyone may call himself a doctor, as no qualification whatever is needed), there are itinerant medicine men who travel from town to town, often leading a camel with them as a kind of attraction and advertisement.

Suicides are very numerous, and many are brought to the hospital for treatment. The usual drug taken is opium, and I have seen as many as five all brought in at the same time. A usual cause is a quarrel in a family. One of the parties will take it out of anger or spite, and most frequently the other one immediately also takes a dose, that his or her opponent may gain no advantage in the spirit world by only one side of the subject of dispute being related.

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* Read at a meeting of the Liverpool Chemists' Association, on Wednesday, April 20, 1904.

THE ASSAY OF DRUGS.*

BY DR. ADALB. PANCHAUD.

In view of the possible introduction of further drug-assays into the next edition of the British Pharmacopœia, any critical experiments on the methods at present in use for that purpose, or new ones intended to replace the old, must be received and considered with attention, more particularly if they tend to greater simplicity, and consequently to relieving the pharmacist from the necessity of purchasing standardised galenical preparations.

The committee at present sitting for the preparation of a new edition of the Swiss Pharmacopœia commissioned Prof. Carl Hartwich to undertake experiments in this direction, and placed funds at his disposal for the purpose. The necessary work was carried out by Dr. A. Panchaud in the Polytechnikum in Zürich, and the practicability of the methods recommended by him has been independently confirmed.

Dr. Panchaud divides his report into four principal sections:—(1) Critical observations on Keller's method; (2) proposed new method; (3) assay of extracts; (4) details of the assay of numerous drugs by the new method and comparison with other methods.

I. Critical Observations on Keller's Method.

On account of its simplicity and general utility, Keller's method was selected as a basis, and the endeavour made to render it more accurate and more easily carried out. This method consists, as is well known, in treating the powdered drug with ether or ether-chloroform, liberating the alkaloids with ammonia, so that they become soluble in that solvent, and then adding water, so that the powdered drug agglomerates, and the ethereal liquid, separating clear, can easily be poured off. The ethereal solution is then shaken out with 0·5 per cent. hydrochloric acid, the alkaloid transferred to ether-chloroform, and determined by evaporating, weighing, and titrating.

(*a*) *Fineness of Powder.*—In order that the alkaloids may be rapidly and easily extracted, the drug should be in the finest possible powder (No. 100). Any fear that so fine a powder interferes with the clearing of the liquid is groundless; if necessary, the mixture must be set aside for longer than the time specified until the clearing has taken place. On no account may the fine powder be separated by sifting from the coarse and used alone.

(*b*) *Air-dry Powder or Powder dried at 100° C.?*—Air-dry powder is to be preferred, as the prolonged drying at 100° C. is liable to affect injuriously the alkaloids present. The moisture present should, however, be determined on a small separate portion.

(*c*) *Nature of the Solvent.*—Keller frequently employs a mixture of 30 Gm. of chloroform and 90 Gm. of ether. In the subsequent operations, however, a solvent of this composition often exhibits a greater tendency to emulsify than pure ether, and this tendency is increased if the proportion of chloroform is increased. Panchaud found with several drugs that ether gave exactly the same result as ether-chloroform, and Cæsar and Loretz have made the same observation. With ipecacuanha it is even advisable to use ether, as the valueless psychotrine is thereby excluded, it being insoluble in ether.

(*d*) *Proportion of Drug to Solvent.*—Keller generally recommends 120 Gm. of solvent to 12 Gm. of drug, but with aconite and belladonna leaves 125 to 25 Gm. of drug. Panchaud finds that by using half this proportion of drug the alkaloidal yield is increased nearly 10 per cent. in the case of belladonna leaves and from 10 to 20 per cent. in the case of cinchona bark.

(*e*) *Ammonia or Sodium Hydrate.*—Keller uses ammonia, whilst the German Pharmacopœia directs sodium hydrate to be employed. Ammonia is to be preferred, as it is less liable to decompose the alkaloids than soda, and can be completely removed by distillation. Sodium hydrate is not insoluble in ether or ether-chloroform, and might under certain circumstances be titrated and calculated as alkaloid.

(*f*) *Duration of Contact with Alkali.*—Keller directs the drug to be frequently shaken with alkali and solvent for one half to one hour. This length of time is sufficient. Cevadilla seeds alone require two hours.

(*g*) *Should Water be Added or Not?*—After the drug has been shaken with alkali and solvent, Keller directs the addition of sufficient water (10 to 50 Gm.) to make the drug agglomerate. The solution rapidly clears itself, and can easily be poured off. The use of this water, however, introduces an error due to the solubility in it of the alkaloid, an error which can be avoided by omitting the water. With all the drugs examined Panchaud has been able to obtain clear solutions without the use of water, although in some cases the liquids had to be set aside longer to deposit.

The following determinations show the influence of the addition of water:—

	With Water.	Without Water.
Cort. granati	0·633	0·70
	0·634	0·71
Rad. ipecac.	2·44	2·52
Sem. stramon.	0·275	0·312
	0·278	0·303
Cort. cinch.	6·46	6·61
	6·44	6·63
	—	6·62
	—	6·61
Rad. aconiti	0·668	0·692
Nux vomica	2·54	2·54

In the case of aconite root (and hydrastis) the difference is small, and with nux vomica it disappears owing, no doubt, to the very slight solubility of the alkaloids in water. Linde also found Keller's process to yield less than true percentage of alkaloid, but ascribed the loss to the swelling of the cell walls caused by the ammonia, they being thus rendered difficultly permeable by alkaloid.

(*h*) *Shaking Out with Acid.*—Only a few alkaloids can be entirely removed by three successive agitations, most of them requiring four.

(*j*) *Weighing v. Titrating.*—Sometimes the results of these two processes agree exactly, but more often they differ. The formation of emulsion, or the necessity for frequent repetition of the shaking out with ether-chloroform increases the gravimetric but not the volumetric figure. Then, too, the ammonium chloride formed during the process is not entirely insoluble in ether-chloroform, and, passing into this, increases the gravimetric figure. Partial decomposition during the drying, at 90-100, may also contribute to the difference observed, especially may this be the case with aconitine, pilocarpine, emetine, cephaeline, and psychotrine. The German Pharmacopœia orders the alkaloidal solution to be shaken with a measured quantity of acid and the excess determined by which the drying of the residue is avoided. This method appears simple, but is of limited applicability only, as the titration of a mixture of alkaloids widely varying in their molecular weights is not permissible. Panchaud has also found that titration is not to be recommended for the assay of leaf drugs, as the results are too high—due, apparently, to the presence of a non-alkaloidal substance capable of combin-

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*Abstract of a paper published in the *Schweizerische Wochenschrift fur Chemie und Pharmacie*, 1903, Nos. 41 *et seq* ing with part of the acid. For the titration he prefers hæmatoxylin as indicator.

2. Proposed New Method.

The following is the modification of Keller's method, recommended by Panchaud:—

3 to 12 Gm. of the drug are introduced into a bottle capable of holding 100 to 200 C.c., and shaken frequently with the necessary quantity of solvent. After a certain length of time the alkali is added, the mixture again shaken, and allowed to stand. A portion of the clear liquid, representing 5 to 10 Gm. of the drug, is poured off into a tared Erlenmeyer flask and reduced to a certain weight by distillation. A crystal of hæmatoxylin, dissolved in 1 C.c. of alcohol, is added, 10 C.c. of water, and from a burette N/10 hydrochloric acid is run in until the colour changes from violet to reddish-brown. 30 C.c. of water are now added, and titration continued until the colour changes to lemon yellow, and is not altered by further addition of acid. In the case of ether-chloroform as solvent, ether must be added after the solution of hæmatoxylin.

Most assays can be completed in this way in one and a-half hours. The injurious addition of water is avoided, no separating funnel is necessary, and, as there is no titrating back, one volumetric solution suffices. In addition to the alkaloid the ether (or ether-chloroform) solution contains such non-basic substances as it can dissolve from the drug (resin, oil, etc.), but these do not interfere with the titration as they remain dissolved in the ethereal liquid, whilst the alkaloid is titrated in the water that is added, into which their passage is facilitated by the addition of alcohol. The change of colour is distinct, and the end-reaction easily observed.

3. Assay of Extracts.

Panchaud proposes that dry extracts be reduced to fine powder with sand, and treated as a drug-powder; that soft extracts be dissolved in dilute alcohol and treated similarly; that liquid extracts be dried upon sand and powdered; and tinctures be concentrated to one-sixth of their volume and treated in the same way.

4. Details of Assays.

The following drugs were treated by the method described and the alkaloids determined volumetrically:—Cort. cinchonæ, cort. granati, fruct. conii, rad. bellad., rad. ipecac., sem. arecæ, sem. sabadillæ, sem. stramonii, sem. strychni, rad. aconiti. The following were determined gravimetrically:—Fol. aconiti, fol. bellad., fol. cocæ, fol. hyoscyami, fol. jaborandi, guarana, rad. gelsemii, rhiz. hydrastis, rhiz. veratri, sem. colæ, sem. colchici.

Cortex Cinchonæ.—Keller's process gives results that are too low, because (1) the proportion of drug to solvent is too large, (2) the addition of water is injurious, (3) alkaloid is liable to separate from the ether-chloroform and escape from the assay. Panchaud proposes the following modification:—

3 Gm. of cinchona bark, in very fine powder, are introduced into a dry 200 C.c. bottle and frequently shaken during ten minutes with 30 Gm. of chloroform and 90 Gm. of ether. 3 C.c. of 10 per cent. ammonia are added, and the mixture frequently shaken for an hour. After five minutes' standing, 100 Gm. are poured into a 300 C.c. Erlenmeyer flask and reduced to 10 Gm. by distillation. 30 C.c. of ether, 10 C.c. of alcohol, 10 C.c. of water, and three drops of 1 per cent. hæmatoxylin solution are added and N/10 hydrochloric acid run in until the colour changes to reddish brown. 30 C.c. more water are now added, the flask closed with a cork, and violently shaken. Titration is continued with occasional violent agitation until the colour changes to a lemon yellow. Each C.c. of N/10 acid indicates 0·03049 Gm. of alkaloid.

Rad. Aconiti.—12 Gm. of aconite root are treated with 30 Gm. of ether and 90 Gm. of chloroform for ten minutes. 10 C.c. of 10 per cent. ammonia are added, and the mixture shaken frequently and violently during half-an-hour. After standing ten minutes as much as can be poured off clear is transferred to a 150 C.c. flask and reduced by distillation to 10 Gm. 5 C.c. of alcohol, 30 of ether, 10 of water, and three drops of hæmatoxylin solution are added and the titration conducted as above described. 1 C.c. of N/10 acid indicates 0·0645 Gm. alkaloid.

Sem. Strychni.—6 Gm. finely powdered seeds, 40 Gm. chloroform, 80 Gm. ether; shake for thirty minutes and add 5 C.c. of 10 per cent. ammonia. Continue the shaking for two hours, stand for ten minutes, pour off 100 Gm., distil to 10 Gm., add 10 C.c. of water, 5 C.c. of alcohol, 30 C.c. of water, and five drops of hæmatoxylin. Titrate as before. 1 C.c. N/10 acid equals 0·0364 Gm. alkaloid.

Cort. Granati.—10 Gm. of bark and 120 Gm. of ether; shake for ten minutes and add 10 C c. of ammonia. Shake frequently and vigorously for one hour and stand ten minutes. Pour off as much of the clear liquid as possible, distil down to 25 Gm., add 10 C.c. of water, 5 C.c. of alcohol, and ten drops of solution of hæmatoxylin, and titrate as before. 1 C.c. N/10 acid indicates 0·0295 Gm. alkaloid. Yield, 0·724 per cent., against 0·613 per cent. by the official German method.

Rad. Bellad. and Sem. Stramonii.—12 Gm. of drug and 120 Gm. of ether. Shake for fifteen minutes, add 10 C.c. of ammonia, and continue the shaking for thirty minutes. Stand for fifteen minutes, pour off and distil down to 20 Gm. Add 10 C.c. of water, 5 C.c. of alcohol, three drops of hæmatoxylin solution, and titrate as before. 1 C.c. of N/10 acid indicates 0·0291 Gm. alkaloid. Yield from belladonna root, 0·339, 0·341 per cent., against 0·34 by Keller's method (without water).

Rad. Ipecac.—6·0 Gm. of drug and 120 Gm. of ether. Shake for ten minutes, add 5 C.c. of ammonia, and continue for an hour. Stand for five minutes and pour off 100 Gm. of the clear solution. Distil down to 20 Gm., add 10 C.c. of water, 5 C.c. of alcohol, and three drops of hæmatoxylin solution. Titrate as before. 1 C.c. N/10 acid indicates 0·0241 Gm. emetine and cephaeline.

Sem. Arecæ.—12·0 Gm. of finely-powdered seeds and 120 Gm. of ether. Shake for fifteen minutes, add 10 C.c. of ammonia, and continue the shaking for one hour. Stand five minutes, pour off 100 Gm., and distil to 33 Gm., add 10 C.c. of water, 5 C.c. of alcohol, and three drops of solution of hæmatoxylin; titrate as before. 1 C.c. of N/10 acid indicates 0·0151 Gm. arecoline. Yield, 0·538 per cent.

Sem. Sabadillæ.—7·0 Gm. of finely-powdered seeds and 70 Gm. of ether. Shake for one hour, add 7·0 C.c. of ammonia, and shake frequently and vigorously for two hours. Stand for fifteen minutes, pour off 50 Gm., distil down to 20 Gm., add 5 C.c. of alcohol, 10 C.c. of water, and three drops of solution of hæmatoxylin; titrate as before.

Fructus Conii.—Shake 6·0 Gm. of drug with 60 Gm. of ether in a 100 C.c. bottle for ten minutes. Add 5 C.c. of 10 per cent. solution of soda, and continue the shaking for half an hour. Stand for fifteen minutes and pour off 50 Gm. of the ethereal solution. Filter this through a filter-paper 7 Cm. in diameter into a 150 C.c. flask, washing flask and filter with 25 Gm. of ether. Add 10 C.c of water and three drops of solution of hæmatoxylin, and titrate as before.

Sem. Colæ.—Shake 7·0 Gm. of drug with 70·0 Gm. of chloroform for ten minutes, in a 100 C.c. flask. Add 4 C.c. of ammonia, and continue the shaking for an hour. Filter 40 Gm. into a tared flask. Distil the chloroform completely off, add 2 C.c. of chloroform, and 15 C.c. of hot water. Boil for five minutes and filter through hot through a filter-paper, 7 Cm. in diameter, into an accurately-tared porcelain dish, 9

Cm. in diameter. Wash flask and filter with three successive quantities of 10 C.c. of hot water. Evaporate and weigh. Multiply the weight by 25 to obtain the percentage.

Guarana.—As for sem. colæ, but using 5 C.c. of ammonia.

Rhiz. Hydrastis and Rhiz. Veratri.—Shake 12 Gm. of the drug with 120 Gm. of ether for ten minutes in a 200 C.c. flask. Add 10 C.c. of ammonia, and continue the shaking for half an hour. Stand for fifteen minutes, pour off as much as possible, shake out with 0·5 per cent. hydrochloric acid, transfer to ether, evaporate, dry at 95-100°, and weigh.

Leaf Drugs.

Leaf powders require a modification of the above treatment, as titration is often impracticable owing to the formation of emulsion, and yields results that are too high, as leaves contain volatile bases which are got rid of by evaporation during the gravimetric process.

Fol. Bellad. and Fol. Hyoscy.—Shake 10 Gm. of the powder with 120 Gm. of ether for ten minutes. Add 10 C.c. of ammonia and shake frequently and violently for half-an-hour. Stand for fifteen minutes, pour off as much as possible, weigh, transfer to a separator, shake out with 0·5 per cent. hydrochloric acid, filter, if necessary, make alkaline with ammonia, shake out with three successive portions of 40 Gm. of ether. Distil off the ether, dry, and weigh.

Fol. Aconiti.—As above, but using a mixture of 30 Gm. of chloroform and 90 Gm. of ether.

Fol. Cocæ.—As fol. belladonnæ.

In view of the importance of the subject, independent confirmation or otherwise of Dr. Panchaud's methods and results by English pharmacists is much to be desired.

PERCENTAGE SOLUTIONS, WITH REFERENCE TO THE METRIC SYSTEM.*

BY JOSEPH W. ENGLAND.

Considerable confusion exists both in medical and pharmaceutical circles regarding the exact nature of percentage solutions in prescription work. The difficulty seems to be due, first, to a failure to make a sharp distinction between percentage by weight and percentage by volume; and, second, to the lack of authoritative rules of practice.

Percentage by weight and percentage by volume are by no means identical. In the former, the proportions of ingredients are all by weight; in the latter, the active substances are by weight and the solvents by volume. When the term percentage alone is used, percentage by weight is understood; when percentage by volume is meant, it is (or should be) always so expressed.

Regarding percentage, or percentage by weight, the mixing of different weights of different solids, or of different liquids, to obtain certain percentage mixtures, presents no especial difficulties. It is simply a matter of relative proportions. But the determination of the amount of a solid or solids necessary to dissolve in a liquid to make a certain percentage solution is not so easy, especially when it is desired to find the quantity of a solid necessary for a fluid ounce, pint, etc., of the solution.

The weight of a fluid ounce of water—the universal solvent of solids—at the ordinary temperature is 455·7 grains, and of each pint 7,291 grains, and *not* 480 grains and 7,680 grains respectively, as often assumed.

In the making, for example, of a fluid ounce of a 4 per cent. solution of cocaine hydrochlorate in water, several methods may be followed. One method is to assume that the weight of a fluid ounce of water is 96 per cent., and then ascertain the 4 per cent. of alkaloidal salt by simple proportion, as follows:—

96 : 4 : : 455·7 : 18·9

Thus, 18·9 grains of the salt dissolved in 1 fl. oz. of water will give a 4 per cent. solution, slightly more than a fluid ounce (by reason of the increase in volume resulting from the solution of the salt).

Another method is to assume that 455·7 is 100 per cent., and then ascertain the 4 per cent. of alkaloidal salt by proportion as follows:—

100 : 4 : : 455·7 : 18·2

Thus, 18·2 grains of the salt dissolved in sufficient water to make the solution weigh 455·7 grains yields a 4 per cent. solution. The volume of the solution, however, is slightly less than a fluid ounce.

Solids on solution increase the volume of the solution according to the nature of the solid dissolved, and to obtain exactly a fluid ounce or a pint of a certain percentage solution of a compound, correction must be made for the relative expansion in volume of each solid on solution.

Practically, the best method, and the one very generally followed by pharmacists, is to take the weight in grains of a fluid ounce or a pint of water as the basis of calculation, multiply this by the percentage desired, and dissolve the salt in sufficient water to measure 1 fl. oz. or 1 pint, as the case may be. Scientifically, this procedure is not exact; practically, it answers the purpose.

By this method 1 fl. oz. of water would require 18·2 grains of cocaine hydrochlorate to make a 4 per cent. solution, and if we wished to make a 1-1,000, 1-1,500, or 1-2,000 solution of mercuric chloride, we would divide 7,291 by 1,000, 1,500, or 2,000, as the case may be, to ascertain the number of grains needed for each pint, and then dissolve in sufficient water to make the pint. With solutions of carbolic acid (1-20, 1-40, or 1-60, etc.), we would divide 7,291 by 20, 40, and 60 respectively, and then dissolve the necessary number of grains of acid in sufficient water to make the final volume measure 1 pint. Gallon quantities would require, of course, eight times the quantities necessary for pints.

When a liquid other than water is used as the solvent, the weight in grains of a fluid ounce or pint must first be obtained by multiplying 455·7 or 7,291 by the specific gravity of the liquid, and with this factor the quantity of solid necessary can be ascertained. If the specific gravity of a liquid be 0·820, then 455·7 multiplied by the gravity will give its weight in grains. Or, if instead of alcohol (with its gravity of 0·820), ether, with a gravity of 0·725, or glycerin, with a gravity of 1·25, or chloroform, with a gravity of 1·485, be employed, a similar course of action can be followed. As a matter of fact, however, these solvents are very rarely used in percentage solutions in prescription writing.

Several months ago I called the attention of the Revision Committee of the U.S. Pharmacopœia to the question of percentage solutions in prescription work, and urged that there be given in the forthcoming edition of the national standard authoritative rules of procedure for determining percentage, and the question is being considered by the Committee.

It would be a much simpler procedure, however, if

It would be a much simpler procedure, however, if

the metric system of weights and measures. This system is essentially a percentage system, and calculations can be made most easily with it. Instead of using 18 grains of cocaine hydrochlorate in a fluid ounce of water (to make a 4 per cent. solution), how much simpler it would be to use 1 Gm. in 25 C.c., or in place of 7·3 grains of mercuric chloride in a pint of water (to make a 1-1,000 solution), to use 1 Gm. in 1,000 C.c., or instead of dissolving 365 grains of carbolic acid in a pint of water (to make a 1-20 solution), to use 50 Gm. in 1,000 C.c.

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* Reprinted from *American Medicine*, January 2, 1904.

If this were done the real merits of the metric system would become much more apparent than at present, and its use in American medical practice much more general. The adoption of the metric system by the Anglo-Saxon has been handicapped by the employment of a needless multiplicity of terms and an unnecessary use of scientifically exact equivalents.

The United States Government adopted, a century ago, its decimal or metric system of money—with its mills, dimes, cents, and dollars—but popular usage, in writing, at least, has reduced the terms in number to dollars and cents.

Similarly, if the metric system of weights and measures for the writing of prescriptions is ever going to be generally employed it will only be after it has been decided to use as few terms as possible. For prescription work there is no need of more than three terms for solids and one for liquids, and one or two for linear measurements (the centimetre, Cm., and possibly the metre).

If the German practice of weighing both solids and liquids were to obtain in this country, weights only would be necessary, but it is most improbable that the Anglo-Saxon will weigh liquids. With him it is, always has been, and probably always will be, "solids by weight and liquids by measure."

The three terms necessary for metric weights are the gramme (Gm., or 1·0), the centigramme (Cg., or 0·01), and the milligramme (Mg., or 0·001); for volumetric measure, one term only need be used—the cubic centimetre (C.c.).

Objection has been made to the use of the metric system in prescription-writing on the ground that the employment of the metric decimal point or dividing line opens the door to very serious possibilities of error in prescribing, errors of one point resulting in ten times too much of a substance being given or ten times too little. These possibilities could be obviated, if desired, by writing the terms Gm., Cg., Mg., or C.c. in place of using the period or dividing line. This would be an improvement also, so far as the number of terms is concerned, over the use of the terms grain, drachm, ounce, pound, minim, fluid drachm, fluid ounce, or pint.

In speaking or writing metrically, the quantities of solid drugs for which the doses are 1 grain or less could be expressed in milligrammes; those for which doses are less than 15 grains, in centigrammes, and larger doses in grammes. It would also greatly simplify calculations if the usual custom of ordering six or eight or multiple doses in prescriptions for internal use was entirely abolished, and in its place five or ten or multiple doses were prescribed. By this means the quantities of ingredients to be used could be more readily made into even amounts.

When the metric system was first proposed for American medical practice the mistake was made of giving absolutely exact equivalents of the metric weights and measures in the old form of weights and measures, of carrying the equivalents out to three or four decimal places. Such a procedure fell by its own weight. No one would prescribe, for example, 10-grain doses of potassium iodide in its exact metric equivalent of 0·648 Gm., and multiply this by the number of doses required, nor 20-grain doses of potassium bromide in its exact metrical equivalent of 1·296 Gm., nor ⅛-grain doses of potassium cyanide in its exact metrical equivalent of 0·0081 Gm. Life was too short, and the use of scientifically exact equivalents "died a bornin'."

The unwisdom of such a method of introduction is obvious. The only right way to use the metric system is to think in metric terms—not to think in one system and then laboriously translate into another. If medicine was an exact science, or, expressing the thought differently, if drugs and human beings were both of exact and uniform composition, there might be reason in requiring punctiliously exact dosage; but since both are very variable factors, and since the dose of a drug is "enough to produce physiologic results," it follows that doses must vary within rather wide limits relatively. Practically, what therapeutic difference does it make whether one gives 0·65 Gm. (10·03 grains), or 0·648 Gm. (10 grains) of potassium iodide; 1·25 Gm (19·29 grains) or 1·296 Gm. (20 grains) of potassium bromide; or 0·01 Gm. (1-7 grain) or 0·0081 Gm. (⅛ grain) of potassium cyanide?

The differences are immaterial and far less than obtain, for example, with the common household spoons that are generally used to measure doses for the sick. Some of these utensils hold 25 per cent. more liquid than they are assumed to hold.

It is only by thinking in terms of the metric system that its beautiful simplicity becomes most evident, but this cannot be done in prescription work until there is fixed in the mind reasonably exact equivalents in as even numbers as possible of the usual doses, as basic principles, and then ordering quantities of five or ten doses or multiples.

It will be of value in this connection to know that comprehensive investigations have shown that the usual teaspoon holds 5 C.c. of liquid, the dessertspoon 10 C.c., and the tablespoon 15 C.c. A minim is practically 0·06 C.c; a grain is practically 0·065 Gm.

If the metric system is ever going to find common usage among the English-speaking people, multiplicity of terms must be avoided, and a clear, simple and rational method of use must be followed, just as has been done with the monetary system of the United States.

THE DETERMINATION OF MORPHINE IN OPIUM.*

BY PHILIP SCHIDROWITZ, PH.D.

The new process is to a certain extent based on the Pharmacopœia Germanica IV. method, but is simpler than the latter, and, owing to the modifications introduced, gives substantially different results. The process is as follows:—

Six grammes of opium (previously roughly powdered) should be weighed into a small porcelain dish, 6 C.c. of distilled water added, and the whole allowed to stand for about fifteen minutes. The contents of the dish are then worked up to an even creamy consistency by means of an agate pestle, and are then transferred (by means of successive small quantities of water) to a 100 C.c. Erlenmeyer flask, the latter having been previously counterpoised. The total weight of opium and water is then made up to 54 grammes. The flask, after corking, is shaken vigorously for five minutes, and is then allowed to stand for one hour, with an occasional brief shaking. The contents are then filtered through a plain filter, 10 centimetres in diameter, into a second previously counterpoised 100 C.c. Erlenmeyer flask. If the filtrate does not run clear at first it must be returned to the filter. When exactly 42 grammes of filtrate have been collected filtration is stopped. Next add to the 42 grammes of filtrate exactly 2 grammes of a solution of salicylate of soda in water, containing 50 grammes of salicylate per 100 C.c. The whole is then shaken for about half a minute, and thereafter immediately filtered as before. Of the filtrate 36 grammes is collected, and to this is added 15 C.c. of ether, and, after rotating the flask once or twice, 5·2 C.c. of a solution of ammonia,

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*Abstract of a paper read before the Society of Public Analysts on March 2, 1904, and printed in the *Analyst*.

prepared by mixing 17 grammes of ammonia (specific gravity 0·960) with 83 grammes of water. The whole is then vigorously shaken for ten minutes,* and the flask and contents are subsequently kept for twenty-four hours at a temperature of 12° C. After this, as much of the ether as is possible is poured off through a filter of 8 centimetres in diameter, 15 C.c. of fresh ether is run into the flask, the latter rotated briskly (but so as to avoid forming an emulsion), and the ether again poured off through the filter. After this the whole of the liquid is poured through the filter, the greater part (roughly two-thirds) of the crystals, however, being retained in the flask. The flask and filter are then washed with three lots of 5 C.c. each of water saturated with ether, and delivered from a pipette. Of each 5 C.c., 3 C.c. should be used to rinse the flask, and 2 C.c. run directly on to the filter. The filter with its contents is removed from the funnel, folded, and gently but firmly pressed between sheets of filter-paper. The filter is then opened, and the greater part of the crystals returned to the flask. Filter and flask are then placed in an air oven at 55° until dry. It is then perfectly easy to transfer the small quantity of crystals still adhering to the filter to the flask. Subsequently the crystals are dissolved in 25 C.c. N/10 H_2SO_4, and the excess of acid titrated with N/10 alkali, using methyl orange as an indicator. It is preferable, prior to this titration, to dilute the liquid to roughly 50 C.c., and to fix the end-point by means of the droplet method. The percentage of morphine in the sample is then calculated as follows:—

Let x = number of C.c. N/10 acid employed, then $x \times 0{\cdot}7575 + 1/13\ (x \times 0{\cdot}7575)$ = per cent. morphine.

The results obtained by the process above described, and that according to which the greater part of the opium imported is assayed, are in excellent accord.

REVIEWS AND NOTICES OF BOOKS.

'Medical Laboratory Methods and Tests.' By Herbert French, M.D., M.R.C.P. Pp. viii. + 152. Illustrated. Price 3s. 6d. net. London: Baillière, Tindall, and Cox. 1904.

Among several elementary manuals on clinical laboratory methods of diagnosis which have lately been published there is no better one than this. The arrangement of the matter is excellent, the directions are simple, and the explanations clear. One of the few deviations from accuracy is to be found in the section on Esbach's albuminometer, while the short chapter on poisons, which closes the work, is also unsatisfactory. Otherwise the work seems thoroughly trustworthy, and it is well indexed and printed. Within its limitations, it can be strongly recommended.

'Practical Slide Making.' By G. T. Harris, F.R.P.S. Pp. 136. Price 1s. nett. London: Iliffe and Sons, Limited, 3, St. Bride Street, E.C. 1904.

The book under review is No. 2 of the 'Photography' Bookshelf Series, and the volumes comprising this series, being intended for working guides, are neatly but substantially bound. The author has endeavoured to place before slide workers a general review of the standard processes for the production of slides, with descriptions of reduction and contact methods and details of such accessories as are required by the slide-maker. The book forms a fairly complete treatise upon the subject of lantern slide making, the author dealing not only with the lantern plate of commerce, but also with the collodio-bromide, albumen, wet-plate, carbon, and other methods, as well as putting in clouds, modifying colours, etc. A very suitable book for the beginner.

'Photography for All: An Elementary Text-Book and Introduction to the Art of Taking Photographs.' By W. Jerome Harrison, F.G.S. Sixth edition and No. 1 'Photography' Bookshelf Series. Pp. 170. Price 1s. London: Iliffe and Sons, Limited 3, St. Bride Street, E.C. 1904.

There are so many elementary text-books on photography that those thinking of taking up the art need not be at a loss for practical information on the subject. Mr. Harrison's book has the merit of being concise, and at the same time covers the whole ground of photography in its most popular forms. Good advice is given on the selection of apparatus and general instruction how to avoid the numerous difficulties likely to trouble the beginner. The paragraphs dealing with the various methods and processes are numbered and indexed, so that the amateur photographer may readily refer to any paragraph when in doubt how to proceed. A very useful book.

PROPRIETARY ARTICLES' TRADE ASSOCIATION.

COUNCIL MEETING.

Thursday, May 12, 1904, at the Holborn Viaduct Hotel, the President, Mr. C. J. G. Bunker, in the chair. There were also present:—Messrs. G. R. Barclay (Farringdon Street, E.C.), W. R. Barnes (Upton Manor), W. C. Beetham (Cheltenham), G. H. Burroughs (John Thompson, Limited, Liverpool), H. W. Colley (Grimsby), Percy C. Edgar (Deal), J. E. Garratt (Southwark Street, S.E.), B. Hirst (Leeds), A. Le Blanc Newbery (Charterhouse Square, E.C.), G. P. Pond (Fleet Street, E.C.), F. W. Powell (Albion Place, S.E.), P. F. Rowsell (Exeter), D. F. Smith (John Sanger and Sons), J. W. Sutherland (Frazer and Green, Glasgow), A. Tebbutt (W. Sutton and Co.), A. T. Webb (May Roberts and Co.), W. H. Wood (W. Edwards and Son), and J. C. Umney (Southwark Street, S.E.).

Congratulations.

The President moved a vote of congratulation to the Secretary of the P.A.T.A.—Mr. W. S. Glyn-Jones—on his recent success at the Bar Final Examinations. He was sure he expressed the feeling of the entire Council by sincerely congratulating Mr. Glyn-Jones on the high honour he had attained.

The motion was supported by several members, and passed unanimously.

Mr. Glyn-Jones said he was glad his new position would not compel him to sever his connection with the P.A.T.A., though he regretted to say he had been compelled by legal etiquette to resign the Secretaryship of the Chemists' Defence Association. He mentioned that the directors had that morning accepted his resignation, and made arrangements which they hoped would be satisfactory for the continuance of the work.

Co-operative Stores and P.A.T.A. Prices.

Correspondence was read between members and local associations in Yorkshire on the question of the giving of dividends by Co-operative stores off P.A.T.A. minimum prices. Much sympathy was expressed with retailers in industrial districts at the present unsatisfactory position. It was agreed that any attempt to force an issue at the present juncture would be premature; that the evil could not be effectively dealt with piecemeal, but only as a whole and when the right moment arrived; and that the soundest policy was to "bide their time." It was recognised that to take decisive action just now would be to wreck the Association—which very few, even of those hardest pressed by the co-ops., were prepared to vote for.

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* It is essential that the corks with which the Erlenmeyer flasks are provided should fit perfectly. It is well to prepare these corks previously by soaking them for a few hours in water containing a little ether.

Buying Clubs.

The Secretary reported that he had carried out the instructions given to him at a previous meeting *re* "Buying Clubs." He had written to all the local associations in the trade, and had visited some of them. Several replied to the effect that they had no buying committees, while most of those who had acquiesced in the Council's decision. Two or three had sent expressions of regret at the new restriction, but not one had refused to comply.

Other Business.

It was decided that no action be taken in arranging for a summer excursion this year.

At the conclusion of the ordinary business, the President intimated that as he had a personal matter to bring before the Council, it would be convenient if Mr. Glyn-Jones withdrew from the meeting. He then moved that a committee be appointed, with power to add to the number, to arrange for a testimonial to Mr. Glyn-Jones from the trade. Several persons during the past few years had suggested something of the kind, and he thought the time was now most opportune.

The proposal met with hearty approval, and a number of those present were appointed as the nucleus of a committee, and a date was fixed for the first meeting.

CHEMISTS' DEFENCE ASSOCIATION, LIMITED.

DIRECTORS' MEETING.

Thursday, May 12, 1904, at 111, Temple Chambers, E.C., Mr. P. F. Rowsell in the chair.

Before commencing the routine business, the Chairman congratulated Mr. Glyn-Jones, on behalf of the directors and of the Association, on his recent success.

Resignation of Mr. Glyn-Jones.

The Secretary intimated that in view of the fact that he hoped to be called to the Bar in June next, he felt it necessary to tender his resignation of the C.D.A. secretaryship. This was accepted with great regret, and Mr. William Johnston, Ph.C., was appointed in his place. It was arranged that the changes should date as from the end of May.

The Indemnity Guarantee.

After other routine business, such as the allotment of shares, the passing of grants where damages had been claimed, etc., the question of amount of indemnity guaranteed by the Association was discussed. The directors have felt for some time past that they were giving too much for the subscription, and they decided to recommend a modification of the present terms. It is intended to ask the shareholders at the annual meeting in July to agree to the sum guaranteed being reduced to £200 for 10s. 6d., the premium for £500 to be a guinea, and the other conditions to remain as at present.

CHEMISTS' ASSISTANTS' ASSOCIATION.

ANNUAL MEETING.

Thursday, May 12, 1904, at 73, Newman Street, London, Mr. A. B. Britton, President, in the chair.

The minutes of two previous meetings were read and confirmed, and Messrs. Lumley and Ridge were then appointed to scrutinise the votes for the election of Council.

Annual Reports.

The Treasurer's report showed a balance brought forward from last session of £74 2s. 2d., which, together with £41 9s. 1d. received from various sources during the session 1903-4, amounted to £115 11s. 3d. The expenditure amounted to £44 15s. 10d., leaving a balance in hand of £70 15s. 5d.

On the motion of Mr. Strother, seconded by Mr. Frost, the report was adopted, and the Auditors, Messrs. Charles Morley and C. E. Franklin Vallet, were thanked for their services.

The report of the Council showed that twenty-seven meetings had been held during the session, that twenty-two new members had been elected, and that the Association had contributed various sums, amounting to nearly £3, to the Benevolent Fund of the Pharmaceutical Society. The result of the Essay Prize Competition was not yet known, but would be announced early next session.

On the motion of the President, seconded by Mr. Arrowsmith, the report of the Council was adopted.

Election of Council.

The Scrutineers reported that thirty-nine voting-papers had been sent in, of which two were invalid. A scrutiny of the votes showed that Messrs. Britton, Latreille, Lownsbrough, and Matthews had secured 35 votes each; Messrs. Strother and Town, 32; Messrs. Parker and Paterson, 31; Mr. Haylings, 29; Mr. Presant, 26; Messrs. Arrowsmith and Williamson, 25; and Messrs. Webb and Wendon, 23. These constitute the Council for the ensuing session. The unsuccessful candidates were Messrs. Johns, Garsed, Jones, and Thompson.

A hearty vote of thanks was accorded to the Scrutineers.

Valedictory Address.

The President then delivered his valedictory address. He thanked his fellow officers for their support and efforts to make the session the success it had been. His chief regret was that the members had not contributed as largely to the scientific section as he would have wished. The cinderellas, too, had not been so well supported by members as the organisers had hoped, and he pointed out that if these pleasant evenings were to be continued next session there would have to be an improvement in that respect. With reference to the publication of the proceedings of the Association, the Council had under consideration a suggestion that a summary of the proceedings be prepared ready for distribution before the next session commences. It was thought that if an epitome of a really interesting session was distributed among chemists' assistants it would help to correct some of the wrong ideas which existed concerning the C.A.A. He hoped that a scheme would be decided upon at the next meeting of the Council.

The thanks of the meeting were conveyed to the President for his services during the past session and for his address that evening, and the session then terminated.

THE ROYAL SOCIETY'S CONVERSAZIONE.

Friday, May 13, 1904, at Burlington House, London, W.

Few of the exhibits shown were of direct pharmaceutical interest, but chemistry, botany, and others of the allied sciences were well represented.

Chemical Exhibits.

The new phosphorescent materials shown by Professor H. Jackson, one of the Pharmaceutical Society's examiners, and Mr. D. Northall Laurie (formerly a demonstrator in the School of Pharmacy) were among the more interesting chemical exhibits. The specimens exhibited were mainly compounds of zinc recently prepared in the chemical research laboratory of King's College to illustrate the different phosphorescent colours which can be obtained from one and the same metal by combining its oxide with varying proportions of such acids as silicic, boric, and phosphoric acids. These compounds were shown glowing brilliantly under the influence of kathode rays, ultra-violet light, and heat or friction after excitation. Pieces of zinc silicate and zinc phosphate containing excess of the oxide of the metal were shown glowing brilliantly for some time after exposure to ultra-violet light of kathode rays, thus illustrating the marked influence of the presence of an insulating basic oxide in ensuring ready response to the exciting undulations and in prolonging the time of discharge of the glow. Mr. W. A. Shenstone, F.R.S., had an experiment showing the motion of a radium-coated body in the electric field. Mr. W. R. Dunstan, F.R.S., showed several mineral and rock specimens from Ceylon and Southern Nigeria, the specimens including the new radio-active mineral from Ceylon, which furnishes 3·5 C.c. of helium per gramme, and for which the name "thorianite" has been suggested. Mr. Sherard Cowper-Coles had an exhibit showing a process for coating various metallic surfaces, particularly iron, with zinc dust. Iron, copper and its alloys, aluminium, nickel, cobalt, and the rarer metals can be coated with zinc by placing them in zinc dust and heating them to a temperature of some two or three hundred degrees below the melting point of zinc. The process is also being applied for hardening the surface of aluminium and copper alloys, and for giving reflectors a hard and untarnishable surface. Dr. A. Scott, F.R.S., showed specimens of the methyl iodides of sulphur, selenium, and tellurium, the close relationship of these three elements being very clearly shown. The methods employed in the preparation of the compounds reveal notable differences in their behaviour with the same reagents. The trimethyl iodides resemble one another very closely, and may be prepared easily from the compounds obtained by the direct action of methyl iodide on the element. In the case of tellurium, one atom of the element unites with two molecules of methyl iodide, whilst one atom of sulphur and of selenium each unites with three molecules. The compounds exhibited are being employed in the determination of the atomic weights of these three elements.

Botanical Exhibits.

A series of hybrid wheats illustrating Mendel's laws was shown by Mr. R. H. Biffen. The hybrids are between races of wheats with bearded and beardless ears, glabrous and velvet chaff, lax and dense spikes, rounded and keeled glumes, red and white, grey and white, and grey and red chaff, red and white grain. The Director of the Royal Botanic Gardens, Kew, showed several plants which form part of a proposed new natural order, the Amphipterygiaceæ. This order consists, so far as present knowledge goes, of two genera and five species:—*Amphipterygium*, Schiede (*Juliania*, Schlechtendal), four species, all native of Mexico, and *Orthopterygium*, Hemsley, one species, native of Peru. Its affinities are with the Cupuliferæ, Juglandaceæ, and Anacardiaceæ. Male flowers, exactly like those of *Quercus*. Female flowers, three or four in a closed receptacle. Fruit composite, indehiscent. Seeds solitary, exalbuminous. Other plants shown by Sir W. T. Dyer were the fruits of *Melocanna bambusoides*, an exalbuminous bamboo; *Aspidium anomalum*, an anomalous fern, bearing sori exclusively on the upper surface of the frond. Mr. W. R. Dunstan, F.R.S., showed specimens of the seeds of *Hevea brasiliensis* (Para rubber) from the Straits Settlements. These seeds contain a "drying" oil closely resembling linseed oil, and an enzyme which has the property of hydrolysing this oil forming glycerin and the fatty acid. Specimens illustrative of cotton cultivation in British Colonies and Dependencies were also exhibited. Mr. A. W. Hill, M.A., showed a number of plants which had been collected in the plateau region of Bolivia and Peru from an altitude of more than 13,000 feet. The majority of the plants in this region show a striking uniformity as regards their vegetative habit, and grow usually in rosettes or mounds. They have very long tap roots—though their leaf surface is small—which enable them to absorb the water they require from the warmer soil at a considerable distance below the surface. The leaves are generally linear, and often hairy, and are composed internally almost entirely of palisade tissue. These peculiarities are induced by the climatic conditions, since the plants have to endure a burning sun during the day followed by frost at night, with cold, cutting winds; there is often a difference in temperature of as much as 70° F. in a few hours. Mr. Hill also showed several tubers of "Ocas" (*Oxalis tuberosa*), which are extensively eaten by the natives of the district.

Bacteriological Exhibits.

Dr. Alan B. Green showed some curious photographs illustrative of the radio-activity of bacteria exposed to pure radium bromide. Small masses of bacterial growth were exposed for three days to the β and γ rays of 10 Mg. of virtually pure radium bromide. In a large number of instances such masses, when removed from the influence of the radium and placed between two thin sheets of glass, themselves not radio-active, were capable of so affecting the sensitised film of a photographic plate with which they were brought in contact, that on development in the ordinary way the plate showed a dark area corresponding to the shape of the bacterial mass. The photo-actinic rays proceeding from the bacteria which had been exposed to radium were capable of affecting a photographic plate through a double layer of lead foil. Dr. A. E. Wright showed the apparatus and methods employed for measuring, in the case of human blood, its content in agglutinating substances, bactericidal substances, red blood corpuscles, albuminous substances, calcium salts, and salts generally. The apparatus consists of ungraduated or graduated capillary tubes which serve (*a*) for making progressive dilutions of the blood or of the reagent or bacterial culture which is added to the blood, and (*b*) for storing for the purpose of observation the series of mixtures of blood and reagent, or blood and culture which are to be examined. Where graduated tubes are appropriate, these are graduated by the aid of an "automatic mercury pipette," or by a device involving the employment of alternate equal volumes of water and mercury.

Microscopical Preparations.

Exhibits in this class were very numerous. Among the most interesting were the slides shown by Professor J. B. Farmer, F.R.S., illustrating his recent discoveries on the methods of nuclear divisions in cells of cancerous growths in man. The cells that are actively dividing in malignant growths sooner or later pass through a form of nuclear division characteristic of the normal reproductive tissues of the body. The slides illustrate the occurrence of these characteristic heterotype and homotype nuclear divisions in the cells of the malignant growths. Professor H. Marshall Ward, D.Sc., F.R.S., showed microscopic preparations illustrating the parasitism of the rust fungi or Uredineæ. The preparations show the entrance of the germ-tubes through stomata; the vesicular swellings on the stomata during infection; haustoria; nuclei in the hyphæ, the inception of new uredospores and their nuclei.

Other Exhibits.

One of the most interesting of all the exhibits illustrated Mr. T. C. Porter's method of mechanically reinforcing sounds. An ordinary "Home" Edison-Bell phonograph with the "reproducer" is used as the source of the sounds. In this instrument the roughness of the record makes a rod vibrate, and these vibrations are communicated mechanically to a thin disc of glass or mica, which in turn transmits them to the air on the side of the disc remote from the rod; the aerial disturbances are then conducted by a tube usually to a trumpet, but in this experiment the reinforcement of the sounds is obtained by the combustion of coal-gas and air. The mixed gases are led over the disc of the "reproducer" and conveyed by tubing to two convergent jets and then ignited. A further reinforcement is obtained by placing platinum foil in the flame. Mr. H. H. Cunynghame, C.B., showed some improved muffle and melting furnaces for use in laboratories or art studios. The plan on which these furnaces are constructed is to jacket them thickly with non-conducting material in such a way that heat cannot escape as fast as it is developed, until a high temperature has been attained. By this plan, muffle furnaces can be heated with from one-quarter to one-sixth the amount of gas or petroleum which is required without jacketing, and at the same time evenness of temperature is obtained, and the operator not exposed to heat. The exterior of the furnace only becomes hot by reason of prolonged or severe heating. The furnaces can be used with petroleum or gas. As the gas jet for muffles up to 7 in. width is only a single Bunsen burner, no flues are required to carry off the fumes.

Of the electrical, geological, and other exhibits it is impossible, by reason of limitations of space, to give any description.

TORQUAY AND DISTRICT CHEMISTS' ASSOCIATION.

ANNUAL MEETING.

Monday, May 9, 1904, at the Pavilion Hotel, Torquay. Present: Messrs. Newton (President), Rawling, Bourne, Quant, Ness, Knight, Jefferson, Douglas, Sloman, and Horner.

Mr. Rawling was elected President, Mr. March Vice-President, Mr. Quant Hon. Treasurer, and Mr. Bourne Hon. Secretary.

The usual vote of thanks was accorded the retiring officers for their services during the past year. It was decided to develop the scientific side of the Association during the year, two members present promising to read papers.

WEST HAM AND DISTRICT CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Thursday, May 12, 1904, at the Earlham Hall, Forest Gate, Mr. Matthews, President, in the chair. There were also present Messrs. Mitchell, Cleland, Savage, Parker, Webster, White, Forbes, Johnson, Evans, Soper, Potter, Elliott, Webster, Neale, Blades, and Gwinn.

The Chairman said before entering upon the formal business of the meeting he should like to bring before the members the election addresses of Messrs. Hagon, Sargeant, Gibson, Betty, Higgs, and Currie. He also mentioned the special claims of these gentlemen for the support of the electors, and particularly urged those present who had votes to do their duty and use them.

The Secretary read a letter from Mr. Watson-Will, promising to address the Association in January next.

It was proposed by Mr. Blades, and seconded by Mr. Mitchell, that a letter be sent to Mr. Glyn-Jones, congratulating him on his success in his legal examinations.

The Chairman drew attention to the syllabus which had been sent through the post to each member, and mentioned that Mr. Forbes had again kindly presented them. He said it was very gratifying to find that they had members not only willing to help the Association by working, but also by giving it financial assistance, and although he had intended, while President, not to make any formal propositions, yet in this case he should like to break the rule, and propose a hearty vote of thanks to Mr. Forbes. This was seconded by Mr. Savage, and carried unanimously.

Mr. Forbes having replied,

The Secretary read a circular letter that had been sent to every chemist on the Register residing in West Ham and surrounding districts, inviting them to support the Association by becoming members.

Alteration of Rules.

Mr. Forbes, pursuant to notice, moved the following new rule:—"Rule 6. That qualified chemists, not conforming to Rule 2 as to residence, shall be eligible for election as honorary members, and that the Association shall be empowered to elect any gentleman, not necessarily a qualified chemist, whom it thinks desirable, as an honorary member." In moving this Mr. Forbes mentioned that the first part of his proposition had been suggested by Mr. Savage, who saw some difficulty in the fact of gentlemen living outside the district wishing to become members. The second half he wished to explain a little. They had recently had a very successful demonstration by two scientific gentlemen, and he thought it would be a very pleasant thing if they could elect such gentlemen as hon. members. Mr. Savage seconded, and Messrs. Mitchell and Cleland having spoken, it was carried.

Mr. Mitchell proposed, and Mr. Soper seconded, that Messrs. R. R. Clapp and H. G. Lacell be elected hon. members. This was carried unanimously.

Other Business.

The Secretary read a letter which had been sent concerning the Pharmacy Bill to Mr. Ernest Gray, Major Banes, Mr. Morgan, and Mr. L. Sinclair, members of Parliament. The replies received were of a most gratifying nature.

Mr. Soper said that since he had brought forward his proposition for a buying club a letter had been received from the P.A.T.A., and in face of that he thought the subject had better be withdrawn.

The report of the Committee appointed to decide the headquarters for the summer outing showed that Oakhill Farm, Theydon Bois, had been selected. Tickets for tea (2s. 6d. each) to be obtained from the Hon. Secretary. Full particulars will be given later.

BRITISH PHARMACEUTICAL CONFERENCE.

GENERAL MEETING.

Tuesday, May 17, 1904, at the House of the Pharmaceutical Society, Bloomsbury Square, London (by permission), Mr. T. H. W. Idris, J.P., President, in the chair.

The Formulary and the Compendium.

The meeting had been specially arranged, in accordance with a resolution of the Executive Committee, to consider the desirability of placing the 'B.P.C. Formulary' at the disposal of the Council of the Pharmaceutical Society for use in connection with the 'Compendium of Medicines' which the Council has decided to publish.

Mr. Peck, one of the Hon. General Secretaries, read a letter from Mr. D. B. Dott, who considered that a meeting such as that could not be held, as the constitution of the Conference made no provision for special general meetings; and, further, that the meeting had not been properly summoned.

The President thought the Executive Committee had power to summon a special general meeting, although no provision were made for it.

Mr. John C. Umney explained that he had written twice to Mr. Dott, who had consulted his legal adviser. That gentleman thought that the meeting might be called, but that it had not been properly called. Mr. Dott had further expressed his disapproval of the proposal with regard to the 'B.P.C. Formulary,' because the proposed 'Compendium' had never been discussed by the Executive of the North British Branch of the Pharmaceutical Society. Mr. Umney explained that £10 or £12 was saved by the method by which the Honorary Secretaries had called the meeting, and proceeded to move:—

> That the Council of the Pharmaceutical Society be asked to make a definite offer to the British Pharmaceutical Conference for their formulæ already published and those in readiness for publication, which publication was delayed owing to the proposal of the Pharmaceutical Society to publish a 'Compendium of Medicines.'

In answer to Professor Attfield, Mr. Umney said that if terms for the disposal of the formulæ were arrived at, the Formulary Committee of the Conference would not be re-appointed at Sheffield.

Mr. Edmund White explained the circumstances which had led up to that meeting being called. After the Council of the Pharmaceutical Society had decided to publish a 'Compendium of Medicines,' the Executive Committee of the Conference met on November 10, and the fear was expressed that the two books would clash. It was decided to approach the Council of the Pharmaceutical Society, in order to get an idea of the scope of the proposed 'Compendium.' Mr. Carteighe having met the Committee, and given certain particulars, the Committee decided that the 'B.P.C. Formulary' would probably cease to be a productive work, and that the Conference might therefore fairly look for compensation. The Committee, therefore, resolved to call a general meeting of the members of the Conference.

Dr. Symes thought it should be made clear that this meeting was called because it became a question, the 'Formulary' being nearly ready, whether to publish it at once, and forestall the 'Compendium,' or hand it over. If they resolved to continue their own book it should be published at once.

Mr. W. A. H. Naylor said that the Chairman of the Compendium Committee had distinctly and vehemently stated that the Editor of the 'Compendium,' whoever he might be, would take and use for that book any formula of the Conference which he thought fit.

Mr. F. C. J. Bird seconded Mr. Umney's motion.

Mr. T. Maben said any loss to the Conference would only be temporary. It should be remembered that the Conference formulæ had been stolen year after year, without acknowledgment. For instance, the British Pharmacopœia of 1898 took half their formulæ. Personally, he thought the 'Compendium' unnecessary.

Mr. Walter Hills wished it to be clear that the Council of the Pharmaceutical Society, not the Compendium Committee, should be approached. He had been unable to find out the scope of the powers of the Compendium Committee.

Mr. G. T. W. Newsholme said the Committee was appointed by the Council, which had authorised certain proceedings. Moreover, the Committee had a very tender feeling for the Formulary Committee of the Conference, and it was on account of that feeling that the matter had been delayed. He thought that the work of the members of the Conference was now somewhat wasted, and would, if it appeared under the auspices of the more important body, the Pharmaceutical Society, receive fuller recognition.

Mr. Peck explained that the first action between the two bodies was initated by the Executive of the Conference.

The President said that on all sides there had been the utmost solicitude that there should be no ill-feeling.

Mr. R. A. Robinson said that when the 'Compendium' was first proposed, the Council had in mind a certain decision under the Medicine Stamp Duty Acts. That idea had changed, but the Council was still wishful that a book should be produced. He was wishful to see complete unity and amalgamation with regard to research, and was sure that it would be in the best interests of pharmacy.

The President explained, in answer to Mr. Newsholme and Dr. Symes—who complained that if the meeting simply passed Mr. Umney's motion it would render the meeting valueless—that, as there was some doubt as to the legality of the method of summoning the meeting, it was well that no binding resolution should be passed.

Mr. Edmund White said that the Executive might have settled the matter without referring it to a general meeting at all.

Mr. Hills thought the resolution should be merely the expression of a pious opinion. The less hurry and the more consideration given to the whole proposal the better it would be.

The President and Mr. Peck, answering Mr. Newsholme, stated that, if the motion was adopted the Secretaries would at once write to the Council, and the reply, which would doubtless be from the Council, not from any Committee or individual member, would be considered by the Executive Committee and brought before the general meeting at Sheffield.

Mr. Umney having stated that the Conference has been in the habit of making a profit on the 'Formulary,'

Mr. F. Ransom said he hoped that when they met to consider the subject again they would know definitely what the 'Compendium' would be like, and whether it would be an annual publication or not.

The motion was then carried unanimously.

EDINBURGH DISTRICT CHEMISTS' TRADE ASSOCIATION.

ANNUAL MEETING.

Tuesday, May 17, 1904. in the Pharmaceutical Society's House, 36, York Place, Edinburgh, Mr. W. S. GLASS, Chairman, presiding.

The Council Election.

The HON. SECRETARY, Mr. G. H. C. Rowland, said that by instruction of the Committee he had sent a series of queries to each of the candidates for the Council of the Pharmaceutical Society, and had received replies from all except Mr. Newsholme. The queries and replies had been fully published in the *Pharmaceutical Journal*.

Mr. NESBIT said he thought the Association might have adopted a candidate as a territorial representative.

It was moved by Mr. BOA, seconded by Mr. BOWMAN, and agreed:—

> That this Association cordially approves of Mr. Tocher's scheme for territorial representation in the election of the Council of the Pharmaceutical Society.

The resolution is to be forwarded to the Federation of Local Associations for the annual meeting.

On the motion of the CHAIRMAN, seconded by Mr. HENRY, it was unanimously agreed to send a resolution to the Federation suggesting that it should frame a set of questions to candidates before each election of Council of the Pharmaceutical Society and publish the replies.

Shop Hours Bill.

A communication from the Federation directed attention to the Government Shop Hours Bill. After discussion, in which Messrs. Bowman, Macpherson, McGlashan, and Hill took part, it was agreed, on the motion of Mr. MACPHERSON, seconded by Mr. BOA, to send the following resolution to the Federation:—

> That the Government Shop Hours Bill should be amended by the adoption of the clause in Lord Avebury's Bill applying to chemists' shops.

Social Arrangements.

The HON. SECRETARY said the Association had accepted an invitation to join the Glasgow and West of Scotland Association in an excursion to Lanark and Falls of Clyde on Tuesday, June 7. Tickets were 11s. 6d. single and 22s. 6d. double, inclusive, and as the Glasgow Association had specially decided on Lanark to suit those from Edinburgh, it was hoped there would be a good turn-out.

To Encourage Practical Pharmacy.

The SECRETARY read the report of the Committee on the remit of March 10 anent Mr. Glass's scheme. The Committee had agreed to recommend the Association to elect an Advisory Committee for the purpose of advising its members regarding combinations of drugs for medicinal or other purposes. The work of the Committee would be subject to the following conditions:—(1) To select or devise formulæ for pharmaceutical and other preparations, with the view of meeting the demand by medical men for elegant and suitable preparations, and in aiding members to acquire and retain the trade which properly belongs to them. (2) To advise members regarding labels, packages, etc., for such preparations. (3) To assist members in initiating preparations, sending samples to medical men, etc. (4) The credit of the Association shall not be pledged by the Advisory Committee without the consent of the members. (5) The Committee shall not assist or advise members regarding secret medicinal preparations or quack remedies which are advertised to the public. (6) Formulæ devised by the Committee shall belong to it, and may not be used by members for proprietaries.

The CHAIRMAN, in moving the adoption of the report, said this Committee was proposed in the hope that it might benefit the members of the Association. It was intended that it should concern itself with practical pharmacy, and in such a way as to enable chemists to reap the fruits of their labour. First, the selection or devising of formulæ for those preparations which have become so popular with medical men would form one of the important functions of such a Committee; and secondly, formulæ for pharmaceutical and general preparations which a chemist is expected to keep in stock. This was an age when even a new pharmacopœia soon outlived its usefulness. It was perhaps good that the Pharmacopœia did not include every formula. and it was right that the chemist should supplement it from time to time according as medical men and the public demanded new and fashionable preparations. The Advisory Committee, it was hoped, would be able to do for the individual what the individual could not so well do for himself. Union was strength, and they could only hope to compete effectively with combinations by combining among themselves. It was to be hoped the day was not far distant when the qualified pharmacist would be something better than an agent for the multitude of secret quack remedies which were foisted upon a gullible public by those whose only interest was the making of money by whatever means it might be done.

Mr. CLARK asked if the preparations were to be original or to take the place of existing ones?

The CHAIRMAN said no hard and fast rule was laid down.

Mr. MCGLASHAN asked how they would prevent the formulæ falling into the hands of others than members.

The HON. SECRETARY said the integrity of every member would have to be above suspicion with regard to the formulæ.

Mr. MACPHERSON said the suggestion was that the formulæ should be communicated to doctors, and there was no provision by which that could be done and yet retain them among members of the Association only.

The CHAIRMAN said many pharmaceutical preparations were submitted to medical men, but only the main constituents were stated, and not the method of manufacture or the excipient or colouring matter which gave the preparation its character, but was unimportant from the point of view of its action.

Mr. NESBIT said he supposed they meant that doctors preferred to have their prescriptions written for them, and chemists were prepared to do so, instead of doctors prescribing quack things from America or anywhere else.

The CHAIRMAN said that was so. If they went about it carefully something would come out of it.

Mr. BOWMAN said it was very necessary, and he seconded the adoption of the report, which was agreed to.

It was moved by Mr. BOA, seconded by Mr. CLARK, and agreed that an Advisory Committee of seven be appointed, with power to add to their number.—The following Committee was then appointed:—Messrs. Boa, Bowman, Forret, Glass, Henry, Lunan, and Rowland—Mr. Glass convener.

Annual Report.

The HON. SECRETARY then read the annual report, which was highly satisfactory, indicating a net increase of eleven members. The matters chiefly engaging attention during the year had been the medicine stamp question, the Pharmacy Bill, co-operative buying, formulæ for medical men, protection of prices of proprietaries, the Council election, etc.

On the motion of Mr BOA, seconded by Mr. NESBIT, the report was adopted.

The HON. TREASURER, Mr. R. L. Hendry, submitted the financial statement, indicating an income of £75 17s. 8d., and closing with a balance of £38 12s. 3d., which was regarded as eminently satisfactory.

The statement was adopted.

Election of Officers.

The following were elected office-bearers for the ensuing year:—Chairman, Mr. J. A. Forret; Vice-Chairman, Mr. C. F. Henry; Secretary, Mr. G. H. C. Rowland, 177, Prince's Street, Edinburgh; Assistant Secretary, Mr. James McBain; Treasurer, Mr. R. L. Hendry; and as members of Committee, Messrs. Blenkiron, Boa, Bowman, Clark, Glass, Lunan, McGlashan, McLaren, Macpherson, and Nesbit.

A cordial vote of thanks was awarded to Mr. Glass for his able services as Chairman.—Mr. Glass, in acknowledging the vote, said he was very sensible of the kindness with which he had been treated, and his period of service had been very enjoyable.

FEDERATION OF LOCAL PHARMACEUTICAL ASSOCIATIONS.

MEETING OF EXECUTIVE.

Wednesday, May 18, 1904, in the Holborn Restaurant, London, W.C., Mr. W. L. Currie, Chairman, in the chair.

A considerable amount of business was accomplished, including correspondence dealing with the various matters discussed by the affiliated associations, and arrangements were made for the next annual meeting to be held at Sheffield on the Friday of the Conference week, notices of which will be remitted to the honorary secretaries of the various associations in due course.

WOLVERHAMPTON CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Wednesday, May 11, at the Star and Garter Hotel, Wolverhampton, Mr. F. A. Willcock in the chair.

Mr. S. Phillips read a paper on

The Flowerless Plants of Pharmacy.

Mr. Phillips said the truer title should be the flowerless plants of interest to pharmacists, being used in the preparations either of medicines, invalid foods, or surgical sundries. The distinction between the flowerless and flowering plants is a convenient one, though sometimes not very real. The plants under consideration are found in the great classes:—Algæ, Fungi, Lichenes, Lycopods, and Ferns, and may be grouped as follows:—

Brown Algæ.—*Fucus vesiculosus*, *Fucus serratus*, *Laminaria digitata*.

Red Algæ.—*Gigartina mammillosa*, *Chondrus crispus*, *Gelidium*, *Gracilaria*, and others agar-agar; *Corallina officinalis*.

Fungi.—*Saccharomyces* (yeast plants), *Eurotium* (mould fungi), *Claviceps purpurea*, *Polyporus fomentarius* (surgical fungus), *Lycoperdon*.

Lichens.—*Cetraria islandica*, *Rocella tinctoria*.

Mosses.—*Sphagnum*.

Ferns.—*Aspidium filix-mas*.

Lycopods.—*Lycopodium clavatum*.

Mr. Phillips described several of the above-mentioned plants, the paper being illustrated by pictures and specimens.

The President proposed, Mr. Cullwich seconded, and Mr. Gibson supported, a hearty vote of thanks to Mr. Phillips, which was unanimously carried.—Mr. Phillips suitably responded.

LEGAL INTELLIGENCE.

Medicine Stamp Duty Acts.

Magic Ointment.

On Thursday, May 12, 1904, at Barnsley, John Timpson, of Normanton, described as an insurance agent, was brought before the borough magistrates, charged with having sold penny boxes of "magic arizonic ointment for the feet," without a medicine stamp.

For the defence, Mr. Dickinson, Wakefield, said that if the article had been sold as soap, which it really was, no stamp would have been needed.

A fine of 5s. and costs was imposed.

Sale of Food and Drugs Acts.

Cream of Tartar.

On Friday, May 13, 1904, at the Lambeth Police Court, Frederick Banks, chemist and druggist, of Walworth Road, S.E., was summoned, at the instance of Mr. James Weatheritt, food and drugs inspector to the Southwark Borough Council, for selling, to the prejudice of the purchaser, purified cream of tartar containing foreign ingredients, viz., lead compounds equivalent to metallic lead to the extent of 0·6 grain to the pound. Mr. G. C. Topham, solicitor to the Council, supported the summons on their behalf; and Mr. George Kebbell appeared for the defendant.

As a preliminary objection, Mr. Kebbell pointed out that the summons alleged two offences. It charged the defendant with selling "an article of food or drug." He submitted, on the authority of a decided case, that the Court had no power to amend.

Mr. Topham pointed out that in this case the article was both a food and a drug.

Mr. Francis amended the summons by omitting the words "an article of food."

Mr. C. W. Pardoe stated that on March 22 he went to the defendant's shop and asked for 4 oz. of purified cream of tartar. He was supplied with an article for which he paid 7d.

Mr. Kebbell: Did you call the defendant's attention to the fact that it was only labelled "Cream of Tartar"?

Witness: No; I asked for purified cream of tartar.

Dr. W. Scott-Tebb, public analyst for the Borough of Southwark, gave evidence in support of the summons, and said lead was a cumulative poison, and in very small doses was apt to produce bad effects. Cream of tartar could be made without lead. The greater proportion of the samples he had examined were perfectly free. Cross-examined by Mr. Kebbell, the witness said there was not the slightest reason for the fact that the analysis was not carried out for twenty-four days. He admitted that the article named in the 1885 Pharmacopœia is now looked upon as a purely commercial article. In the 1898 Pharmacopœia, the witness said, the drug was referred to as "Purified cream of tartar."

Dr. Geo. Millson, medical officer of health for the Borough of Southwark, was also called in support of the summons.

Mr. Kebbell submitted, on the authority of the decision in Sandys and Small, that this summons must fail. The article supplied to Pardoe was labelled, in big type, "Cream of Tartar," and it was thus brought home to him in the clearest possible manner what he was receiving.

Mr. Topham contended that that point must fail, because it had not been shown that the words on the label were brought to the notice of the purchaser.

Mr. Kebbell said that the proportion of lead in this case was so infinitesimal that it could not be said to be injurious to health. He proposed to call evidence showing that it was impossible that so small a quantity could be injurious to health.

Mr. F. Banks, the defendant, was then called, and said the witness Pardoe did not use the word "purified," but simply asked for cream of tartar. He supplied that article, and so labelled it.

By the Magistrate: He did not sell purified cream of tartar. The public simply required cream of tartar. Many chemists kept the commercial article only.

Dr. L. A. Parry and Mr. E. Parry, F.I.C., gave expert evidence for the defence.

Mr. Francis said he had come to the conclusion that there must be a conviction, but, inasmuch as the offence appeared to him to be only a small one, he should only impose a nominal fine of 5s.

Mr. Topham asked for £2 2s. costs.

Mr. Kebbell asked that no costs should be allowed, but Mr. Francis said he would allow 12s. 6d.

Brandy.

On Monday, May 16, 1904, at the North London Police Court, Mr. E. S. Fordham resumed the hearing of a case in which the Islington Borough Council summoned nine separate wine and spirit merchants for selling as brandy an article not made from the spirit of the grape. It had been decided to take one of these as a test case, and Mr. Alfred Hillier, of Hornsey Road, answered a summons which alleged that the sample bottle of "brandy," purchased at his shop, contained 60 per cent. of spirit not derived from the grape. The defence was that the constituents of this spirit were derived from the grape, but that it was not so rich in ethers as cognac or other higher priced brandies. Mr. A. M. Bramall prosecuted for the Borough Council, and Mr. Horace Avory, K.C., defended. The previous hearing of the case was reported at page 664.

Mr. Gordon Salaman was recalled for cross-examination. He said that the presence of 468 parts of higher alcohols and 32 part of ethers did not indicate to him a grain spirit. He did not differentiate between whisky and brandy by the higher alcohols in the whisky. The grain spirit showed a higher alcohol and lower ether value, but it all depended upon the degree of rectification There was an enormous variation in the brandies from the various districts of France, and whilst he could not say he had met with such a low percentage of ethers as here shown, the probabilities were in favour of some of the interior qualities of the spirit from the grape being blended with cognac or other high-class brandy. He disagreed with the suggestion that this sample contained 60 per cent. of highly rectified spirit and 40 per cent. of cognac. And his reason for saying so was that it was impossible to place any such estimate upon the proportion of ether contained in such brandy, and that opinion had been adopted by leading Continental chemists. The analysis of this sample led him to believe that the rectified spirit was from the grape, but he would not like to swear it—no chemist could.

By Mr. Horace Avory: No brandy is exactly as it comes from the old pot still. It is all coloured with caramels. It would not be right to say that pure spirit is brandy; but if the pure spirit derived from the grape is mixed with cognac it becomes brandy. It is part and parcel of the manufacture

Other evidence having been given, Mr. Fordham said that he would take time to consider his decision.

Poisoned Grain Prohibition Act.

Selling Poisoned Wheat.

On Monday, May 9, 1904, at St. Ives Divisional Sessions, Arthur John Allsop, dealer, of Lakenheath, was charged on two counts with offering poisoned wheat for sale.

Mr. A. Scargill, gamekeeper to Mr. Gilliatt, of Abbots Ripton, said he went into the Golden Lion, St. Ives, on April 11, and the defendant produced and sold him a bag of wheat for 1s.

Mr. J. West Knights, Cambridge, said he analysed the contents of the bag, and found the wheat to contain 6·055 gr. of strychnine.

Defendant on oath said he only sold the grain for killing mice and rats.

The second charge was then gone into.

Inspector Storey said he saw defendant in St. Ives on April 25, and watched him, ultimately purchasing a bag of wheat. He told defendant he was a farmer, and ultimately said he was an inspector of the police. It was submitted to the analyst, who deposed that there was about the same quantity of poison as in the last case.

After retirement, the Bench inflicted a fine of £5 in each case, inclusive of costs. Defendant found £5, and he was allowed a month to pay the remainder.

Glasgow Sheriff Court.

Belladonna Plasters: Action for Damages.

On Wednesday, May 18, 1904, in the Glasgow Sheriff Court, before Sheriff Strachan, an action was called at the instance of Jessie Rankine, Bryce, or Aitken, residing at 24, Cartvale Road, Langside, Glasgow, against David Watson, chemist and druggist, 41, Sinclair Drive, Langside, whom she sued for £100, in name of damages, for injury alleged to have been sustained by her through the use of a porous belladonna breast plaster, purchased at the defender's shop.

Pursuer's agent stated that on November 3 last pursuer's husband, on her behalf, purchased at defender's shop a porous belladonna breast plaster, and he used it in the manner described on the label.

Pursuer's agent having produced a belladonna plaster,

Mr. D. M. M'Leod, defender's agent, said that pursuer had been called upon to produce the original plaster, but had failed to do so.

Mr. Murray explained that the original plaster had been destroyed, and, proceeding, said that on the date in question pursuer applied the plaster. On the fifth day, on account of the intense pain it caused, she deemed it advisable to have the plaster removed. Notwithstanding the care that was taken in its removal, the plaster took the whole skin off the breast, and desquamation set in over the shoulders, ears, nose, and face. Pursuer had to call in a medical man, who declared that there must have been some irritant in the plaster, otherwise such results would not have followed. Defender was told for what purpose the plaster was to be used.

Mr. M'Leod, for defender, denied this. The plasters had a particular name, and were famed for a particular purpose. He cited the arsenical beer case, and that of Priest against Last, in which the complainant purchased a bottle which was guaranteed to hold hot water. The bottle burst, however. Mrs. Priest was scalded, and she was awarded damages in respect of the injuries. That case, he contended, constituted a precedent, and he had confidence in asking his Lordship to allow the case to go to proof.

Mr. M'Leod complained that throughout her entire pleadings there was no statement of the pursuer to show for what purpose she wanted the plaster. Such plasters were used for a variety of purposes, and it was not mentioned to the defender for what purpose this plaster was ordered. The second plea of the pursuer was that as the plaster contained an irritant, defender was liable for its effects. He submitted that it was not sufficient for the pursuer to come forward and aver that the plaster contained an irritant without specifying exactly what that irritant was. If it was an irritant that caused the mischief it was surely very easy to say what irritant it was. The only ground upon which pursuer could possibly proceed would be by averring that the plaster did not conform to the guarantee, which was simply that it contained the full amount of alkaloids of belladonna root required by the B.P. of 1898. Pursuer admitted that she used the plaster on the advice of a medical man, and if there was any question between parties it was between pursuer and her medical man, and not between her and the chemist.

Mr. Murray made a supplementary statement, in the course of which he said that in the *Pharmaceutical Journal* an article appeared in which the writer gave his experiences of the sale of porous belladonna plasters, and stated that it had caused him considerable trouble and anxiety a few years ago. Two customers bought plasters from him, and the result of the application in the first place was so serious that an additional doctor had to be called in, while in the second the results were also serious. Happily neither of the persons died, but a claim for damages in each case had nevertheless to be met. Since then he had done his best to discourage the sale of these plasters.

Mr. M'Leod observed that possibly the cause of the trouble was the plasters being too strong. Be that as it might, they were made according to the standard of the B.P., and if there was any injury he was not to blame.

Sheriff Strachan: If you had not acted up to that standard you might not have skinned the woman and been before me to-day.

Mr. M'Leod: We acted up to the B.P.

His Lordship said that it was a novel point that had been raised, and he would take time to consider it before giving judgment.

POISONING CASES AND INQUESTS.

The deaths from poisoning recorded during the seven days ended Wednesday, May 18, 1904, numbered ten, thus:—

Poison.	Accident.	Suicide.
Anæsthetic	1	—
Carbolic Acid	2	1
Chlorodyne	1	—
Hydrochloric Acid	—	1
Hydrocyanic Acid	—	1
Laudanum	—	1
Morphine	1	—
Oxalic Acid	—	1
Total	5	5

Anæsthetic.—At Charing Cross Hospital a patient died while under an anæsthetic consisting of a mixture of chloroform and ether.

Carbolic Acid.—At Wednesbury a laundress committed suicide by drinking some carbolic acid which was kept in the house for disinfecting purposes. At Exeter a married woman drank some of the contents of a bottle which she thought contained medicine, but in reality it contained carbolic acid. At Canning Town a woman threw a small bottle containing some carbolic acid out of the window and it fell into the garden next door. A child picked up the bottle and drank the contents.

Chlorodyne.—At Combemartin, the wife of an Army pensioner died from an overdose of chlorodyne.

Hydrochloric Acid.—At York, a young man committed suicide by drinking a quantity of tinsmith's soldering acid; he also cut his throat.

Hydrocyanic Acid.—A man at Bradford purchased some prussic acid at a local chemist's shop, signing the "poison book," and afterwards drank the acid.

Laudanum.—At Seaham Harbour a seaman died from the effects of laudanum, taken with suicidal intent. At the inquest Thomas Walton, chemist and druggist, of Sunderland, stated that he supplied the man with two-pennyworth of laudanum, which he said he wanted for his rheumatic pains. Unless he knew the customers well, he never supplied them with more than two-pennyworth, and he always labelled it "Poison."—The Coroner (Mr. Maynard) said he was aware that laudanum was not one of the scheduled poisons (*sic*), but he had long been of opinion that there ought to be greater restrictions regarding its sale.

Morphine.—A medical missionary from China accidentally took an overdose of morphine at Sutton, Surrey.

Oxalic Acid.—An old man at Hull committed suicide by taking a solution of oxalic acid.

Non-Fatal Cases.—Several cases of attempted suicide are reported, the poisons used being carbolic acid, and phosphorus obtained from matches.

Inquests.—At an inquest held at Manchester on Monday last concerning the death of a child six months old, Alice Lawton, a registered chemist, of 79, Upper Moss Lane, Hulme, said she had mixed for the child, who had a cough, a medicine consisting of oil of almonds, syrup of violets, and syrup of squills, to be taken in one teaspoonful doses three times a day. No comment was made by the Coroner respecting the medicine, and a verdict of "Death from convulsions" was recorded.——At Fulham last week an inquest was held concerning the death of Eveline Holderness (14), who, it was alleged, had injured her thumb at Palmer's Stores, Hammersmith, where she had been employed as a cashier.—A young man in the drug department at the Stores stated that, thinking the girl was suffering from nervous exhaustion, he gave her a mixture containing some opium.—Ernest F. Strickland, chemist and druggist, said that the last witness, who was an unqualified man, was not allowed to serve customers with poisons, except in the presence of a qualified person. Witness was on the premises at the time the girl was given the mixture.—The Coroner asked whether the bottle given to the girl ought not to have been labelled "Poison."—Witness said he thought it came under a special section of the Act.—In answer to further questions, witness said he did not think that the serving of the mixture in question was entered in a book, but it was the custom at the Stores for everything of the kind to be booked. The mixture was given without the father's sanction.—The Coroner: Here is a case of a girl seriously ill, and yet she is treated for a trivial complaint.—Witness: The assistant has assisted a doctor for a number of years.—The Coroner: Oh, rubbish!—Joshua Rambriat, an unqualified assistant to a chemist in Fulham, said that when the father described the girl's symptoms to him, he concluded that the trouble was an influenza cold. The father asked him to recommend something, and witness prescribed a stock mixture of ammonia and camphor.—Asked by the Coroner why he did not label this mixture as "Poison," witness replied that he did not think it necessary to do so. It was not entered in a book, because he understood it to be a "safe" mixture.—In reply to the Coroner, Mr. Strickland said it was not the custom to label "Poison" such bottles as that containing the mixture given to the girl at the Stores.—The Coroner: Oh, you had better look up the Act.—Mr. Strickland: If you go to a qualified chemist's, like Allen and Hanburys——The Coroner: I don't go to a chemist's; I go to a qualified man.—Other evidence having been given, the jury found that death was due to blood-poisoning, following the injury to the thumb.

A Fatal Accident with Nitric Acid.—An inquest was held at the Kettering General Hospital on Wednesday, May 11, touching the death of John Herbert Reeve. Mr. E. S. Waring (a director of Messrs. Boots, Limited, cash chemists) and Mr. O. W. Hind, solicitor, represented Messrs. Boots, Limited. Mr. Herbert Victor Reeve, station-master at Weldon and Corby, identified the body as that of his son. Deceased had told witness he had bought some "stuff" to plate his bicycle-handle, at Messrs. Boots, having obtained the recipe for the plating from the "Union Jack Library." The recipe, with a brief account of the accident, was printed in the *Pharmaceutical Journal* of May 7 (see page 636). Alfred William Haynes, assistant at the Kettering branch of Messrs. Boots, Limited, stated that he was not a registered chemist, but had had nine years' experience. On the day in question he was in the shop when the deceased entered and handed witness a paper similar to that read by the coroner. Witness read the names of the two drugs mentioned in the recipe, but did not read the whole paragraph. Deceased asked for a pennyworth of each drug—nitric acid and mercury—and handed witness a bottle, but he declined to use this, putting the mixture instead in one of the firm's own poison bottles. He knew nitric acid was a dangerous substance, but he did not think there was any extra danger in mixing the two. Witness put a cork in the bottle, and, in handing it to deceased, cautioned him to carry it carefully, because of the danger of the nitric acid. Deceased had only got as far as the door of the shop when the cork blew out of the bottle, and the deceased crying out, witness went to him, and found the acid all over the lad's face. Witness at once fetched a doctor. Medical evidence having been given to the effect that deceased died from the effects of the burns, the jury returned a verdict of accidental death, and expressed the opinion that the assistant had been neglectful, though not criminally liable. Mr. Hind expressed the deepest sympathy of Messrs. Boots with the family of the deceased. The deceased's father thanked Messrs. Boots for what they had done for his son in the matter of providing expert attendance.

NOTES IN PARLIAMENT.

Arsenical Poisoning Commission.

The President of the Local Government Board has been asked by Sir Cuthbert Quilter whether, in reference to the recommendations of the Royal Commission on Arsenical Poisoning, the conference between representatives of the Government Departments concerned had yet taken place, and whether he was in a position to announce what course he proposed to adopt to give effect to the recommendations of the Commission, more especially for the protection of the public against the use of injurious ingredients in beer and the fixing of a standard of purity. In reply, Mr. Long wrote that some preliminary questions had to be considered before any conference could be held. These questions were now receiving his attention, and he hoped to arrive at a decision upon them very shortly.

The Manufacture of Ether in Bond for the War Department.

The Chancellor of the Exchequer has been asked by Mr. Ernest Gray whether his attention had been drawn to the fact that ether from pure spirit should be used in the manufacture of certain articles required by the War Office; that this spirit is subject to a heavy duty, and hence, if the article is to be manufactured at a reasonable price, methylated ether must be substituted for the pure, or the contract sent abroad, where manufacturers obtain spirit duty free for manufacturing purposes; and whether, under these circumstances, he would consider the desirability of permitting the manufacture of such goods in bond under practicable conditions, or of allowing in the price paid by the War Office for the duty received by the Excise. In reply, Mr. A. Chamberlain states that Section 8 of the Finance Act of 1902 appears to cover such cases as the honourable member has in view. Manufacturers desiring to be allowed the benefit of that section should address an application to the Board of Inland Revenue, by whom it will be carefully considered.

Shop Hours Bill.

The Shop Hours Bill of the Government stood on the orders for second reading on Monday last, but the whole of the available time was taken up with the Finance Bill, and the Shops Bill wa not reached. It is now down for second reading on May 31. Sir Charles Dilke intends to move as an amendment: "That in the opinion of this House, the proposed measure for the early closing of shops is unduly hampered by restrictions, and, not providing for the regulation of the hours of shop assistants, fails to satisfy the terms of the unanimous resolution of this House."

Alkali Works.

In the House of Commons on Tuesday last the President of the Local Government Board (Mr. Long), presented a Bill to consolidate and amend the Alkali and Works Regulation Acts, 1881 and 1892. It was read a first time.

Weights and Measures (Metric System) Bill.

Lord Belhaven moved in the House of Lords on Tuesday that this Bill be read a third time. He hoped the Government would assist its further progress through Parliament, as the Select Committee to which the Bill had been referred had embodied in it various amendments proposed by the public departments, and, moreover, the Bill had received great support throughout the country. He had that day presented many further petitions in favour of the measure from town, city, and county councils, chambers of commerce and of agriculture, and other bodies, representing a very large population. The Bill was read a third time, the amendments agreed to, and the Bill passed.

LONDON GAZETTE NOTICES.

ADJUDICATIONS.

Herbert Cracknell, Craven Road, Paddington, W., and Messaline Avenue, Acton, W., pharmaceutical chemist.

John H. Bowden, Bolton, Lancashire, manufacturing chemist.

ORDER MADE ON APPLICATION FOR DISCHARGE.

Harrington Wyndham Darrell, Norwich, doctor of medicine. Discharge suspended for one month, ending May 20, 1904.

PATENTS AND TRADE MARKS.*

New Patent Applications.

MANUFACTURE OF IONONE (No. 26,089 of 1903).—A. Verley, 4, Rue Henrione-Berthier, Paris-Neuilly, France; and L. Givaudan, Vernier, near Genève, Switzerland. One molecule cyclocitrylidene acetate of methyl, one molecule acetone, and one molecule sodium ethylate are brought to react in the presence of anhydrous ether. The sodium ethylate will be dissolved, and after the mass has been left for about a day the sodic salt of acetyl-ionone will be formed. The reaction mass is treated with water. The lower layer contains the sodic salt of acetyl-ionone dissolved in water. The acetyl-ionone is precipitated by the addition of an acid. This acetyl-ionone gives with copper acetate a dark green precipitate soluble in chloroform, and characterises this body as a diketone. By boiling the acetyl-ionone with alkalies, it will be transformed into ionone and acetic acid. The cyclocitrylidene acetate of methyl may be replaced by cyclocitrylidene acetate of ethyl, or of another alkyl ether of cyclocitrylidene acetic acid.

AN IMPROVED METHOD AND APPARATUS FOR MIXING OILY MEDICINAL SUBSTANCES WITH LIQUIDS SUPPLIED TO THE SPRAYERS OF INHALING APPARATUS (No. 28,189 of 1903).—Dr. A. Bulling, Karlstrasse 21/I., Munich, Germany. For the purpose mentioned in the above title, a current of compressed air is directed on to the surface of the liquid to be inhaled—that is to say, on to the medicinal oily substance floating on the surface of the said liquid. The air, coming into contact with the oily substance, causes part of the latter to evaporate with intensity, and to saturate the air. At the same time, the powerful air current forces part of the oily substance underneath the surface of the liquid, and conveys it, intimately mixed with the latter, to the sprayer. Apparatus for this purpose consists of a tube, or tubes, concentrically arranged about the sprayer, and provided with holes in its, or their, surface or surfaces.

MANUFACTURE OF PHENYL-GLYCINE-CARBOXYLIC ACID NITRILE AND INTERMEDIATE PRODUCTS RELATING THERETO (No. 14,676 of 1903).—J. Y. Johnson, 47, Lincoln's Inn Fields, London. (Communicated by the Badische Anilin and Soda Fabrik, Ludwigshafen-on-the-Rhine, Germany). Relates to the manufacture of (1) a compound, which is insoluble in dilute soda solution, by treating anthranilic acid with formaldehyde in water solution; (2) the nitrile of phenyl-glycine-carboxylic acid, by treating with hydrogen cyanide the original compound; (3) the same, by treating with a metallic cyanide the original compound; (4) the same, by treating with a sulphite and with a cyanide the original compound; (5) the same, by treating with a bisulphite and with a cyanide the original compound; (6) an anhydro-formaldehyde-bisulphite compound, by causing a sulphite to act on the original compound; and (7) the same, by causing a bisulphite to act on the original compound. Example:—(*a*) Rub together into a paste 160 parts of moist anthranilic acid (containing 85 6/10 per cent. of pure acid) and 79 parts of a technical formaldehyde solution (containing 40 per cent. of CH_2O). Gently warm the whole for a short time, until the reaction is completed. The mixture solidifies, and a product is obtained which is insoluble in carbonate of soda solution. (*b*) Dissolve 137 parts of anthranilic acid in about 1,000 parts of boiling ether, and to the warm solution add 79 parts of technical solution of formaldehyde (containing 40 per cent. of CH_2O). In a short time a part of the product of reaction separates out in crystalline form. The remainder can be obtained by distilling off the ether.

MANUFACTURE OF A CONDENSATION PRODUCT FROM HAEMATOXYLIN AND FORMALDEHYDE (No. 6,428 of 1904).—Dr. R. Lepetit, Garessio, Italy. Relates to the manufacture of a new chemical compound from hæmatoxylin (or logwood extract) and formaldehyde, being a fine powder of reddish-brown colour, insoluble in water, soluble in weak alkaline solutions, with a deep blue-red colour, soluble in alcohol or glycerin, with a red-brown colour, very slightly soluble in chloroform, ether or bisulphide of carbon. It has an exceptional healing effect, and constitutes a relatively inexpensive, harmless and odourless iodoform substitute. It passes the stomach unaltered, and only acts in the intestines. Example:—Dissolve 1 kilo of hæmatoxylin in 10 litres of water and 3 kilos of 40 per cent. formaldehyde. This solution is heated until it boils, and 2½ kilos of hydrochloric acid of 1·12 specific weight are added whilst stirring. After about ten minutes the whole is quickly poured into 20-30 litres of cold water. The mass is then allowed to settle for twelve hours, after which neutral washing with cold water and filtering and drying at a low temperature are effected.

LINIMENT FOR HUMAN AND ANIMAL USE (No. 6,487 of 1904).—E. W. Cooper and G. Shelmerdine, trading as the Dakos Liniment Co., 16, Lancaster Avenue, Manchester. Relates to an improved liniment for the cure or relief of sprains, stiffness, rheumatism and like ailments. It is composed of the following materials or ingredients in or about the following proportions:—Oil, preferably rape seed oil, 29 parts by weight; turpentine, 16 parts by weight; ammonia, 8 parts by weight; soap liniment, 29 parts by weight; water, 18 parts by weight.

Note.—Opposition to the grant of patent applications Nos. 26,089 (1903) and 28,189 (1903) must be filed at the Patent Office on or before June 20, 1904, and to Nos. 14,676 (1903) and 6,428 (1904) and 6,487 (1904) on or before June 27, 1904.

New Trade Mark Applications.

CRESCENT DEVICE AND INITIALS "B. M. AND CO.," for (1) alkalies used for agricultural, horticultural, and veterinary purposes; (2) bicarbonate of soda for use as food, by Brunner, Mond, and Co., Limited, Winnington, Northwich, Cheshire. 261,595-6.

"**LASSO,**" for (1) soaps of every description included in class 2, and (2) soaps of every description included in class 3; and

"**NAPO-CARBO,**" for perfumery, by E. Cook and Co., Limited, 10, Mark Lane, E.C. 260,712-13 and 262,088.

Label, bearing devices of chickens, for substances used for veterinary and sanitary purposes, by M. W. Savage, 121, First Avenue, North Minneapolis, U.S.A. 261,754.

"**HOOFINE**" ("Hoof" disclaimed), for a preparation for veterinary purposes, by G. and J. Riddell, Fish Street, Aberdeen. 262,810.

Device of a youth, carrying flag, for chemical substances used for agricultural, horticultural, veterinary and sanitary purposes, but not including sheep dip or chemical and artificial manure, by R. J. Nell and Co., Limited, 11, Corn Market, Louth. 261,793.

"**KERATINISED**" Pills (ornamental) label (words disclaimed), for pills, by Menut and Philippe, 28, Rue Grenette, Lyons, France. 259,849.

Note.—Opposition to the registration of above-mentioned trade-marks must be filed at the Patent Office on or before June 18, 1904.

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* These abridgments of new patent applications and particulars of new applications for trade marks have been specially compiled from official sources, for the *Pharmaceutical Journal*, by Mr. Reginald W. Barker, agent for procuring patents and registering trade marks and designs, 56, Ludgate Hill, London, E.C., from whom any information on the subjects may be obtained. Mr. Barker will also send copies of his 'Trade Mark Notes' and Patent Notes for Inventors' free on application.

MISCELLANEOUS NEWS.

Divisional Secretaries and other Members of the Pharmaceutical Society are requested to assist the Editor by sending local newspapers containing items of interest to chemists and druggists.

Edinburgh Pharmacy Athletic Club.—Entries for the thirteenth annual sports close on Wednesday, May 25. Mr. D. S. Napier, Ruby Villa, Sciennes Gardens, Edinburgh, is the Sports Secretary.

Fire.—A fire occurred on May 10 at the premises of Mr. P. W. Taylor, chemist and druggist, of 164, High Street, Notting Hill, and in trying to subdue the flames Mr. John Aldrin sustained painful burns.

"Dispensing Chemists."—The London County Council has resolved that in future its dispensers shall be designated "dispensing chemists." It has also been decided to add £10 a year to the maximum salary of the dispensers.

Notts. Chemists' Cricket Club.—This club played a match on Thursday, May 12, 1904, against the Nottingham Banks Club. The chemists made 37 (P. C. Cartledge 14), and dismissed their opponents for 32, W. Lee taking five wickets for 9 runs.

Poisoned Grain.—A contractor at Cuckfield has been fined £10, and £15 costs, on a charge of laying poisoned grain. With the grain had been mixed a quantity of arsenical weed-killer, which had been bought ostensibly for the purpose of destroying moss. The poison-book of the vendor had been duly signed.

A New Dispensary at Leeds.—On May 12, at Leeds, in the presence of leading citizens, physicians, and surgeons, Dr. Clifford Allbutt, Regius Professor of Physics at the University of Cambridge, opened a new public dispensary—the finest of its kind, it is claimed, in the country. The building has cost £33,000.

Smuggling Saccharin.—An elderly Jewish woman residing at 66, South Portland Street, Glasgow, has been fined £50, with the alternative of three months' imprisonment, for an offence against the Customs Consolidation Act, in respect of having acquired possession of uncustomed goods to the amount of 25 lb. 4 oz. of saccharin.

An Addition to the P.A.T.A. List.—The whole of Benger's preparations are now placed upon the Proprietary Articles Trade Association Protected List. This decision on the part of this old-established firm will without doubt meet with the approval of retailers. The revised price-list and terms will be found in the advertisement columns of this issue.

Inferior Camphorated Oil.—Camphorated oil was the only drug found to be adulterated in North Staffordshire last quarter. Of nineteen samples analysed, one was deficient in camphor to the extent of 29 per cent., and another, although containing the correct amount of camphor, contained 38 per cent. of mineral oil instead of pure olive oil. The remaining seventeen were correct.

Wine Licences.—At Ellesmere Petty Sessions, on May 9, Mr. J. J. Clayton, chemist and druggist, of Ellesmere, again applied for the transfer of his medicated wine licence from his old shop in Scotland Street to new premises in Cross Street. Mr. B. Bickley, chemist and druggist, opposed the application, but the transfer was granted. Mr. Bickley, who has taken Mr. Clayton's old premises, was also granted a wine licence.

The "Luna" Paper and sensitised textile fabrics are prepared by the "Luna" Company for photographic purposes, and give a variety of tones, from copper red to platinum black, including all shades of brown and violet. The paper lends itself readily to tinting or painting in water-colour, while prints mounted on canvas are excellent as the basis of oil paintings. Thus the "Luna" paper and the fabrics appeal strongly to those amateur photographers who desire to produce pictures differing from the ordinary P.O.P. or bromide prints.

Supply of Workhouse Drugs.—The Watford Board of Guardians on May 11 discussed the recommendation of the Local Government Board that the Guardians should obtain medicines and expensive drugs by contract, instead of the medical officer supplying them out of his salary. The Local Government Board, whilst admitting that under the present contract it was the duty of the doctor to provide drugs, etc., they strongly recommended the discontinuance of the contract. The Guardians decided to rescind the contract, and to provide the drugs and medicines themselves.

Theft from a Chemist's Warehouse.—James Farrell, a youth, was charged on Wednesday last, at Gateshead Police Court, with theft. Geoffrey T. Mitchell, chemist, of Low Fell, Gateshead, said a number of soda-water syphons, valued at 2s. each, were stored in his warehouse, and he found on May 12 that the metal tops had been abstracted from seventy bottles. Some of the bottles were broken. A marine store dealer deposed to paying defendant 3d. per lb. for seven or eight pounds of the metal tops. Farrell pleaded guilty, and was sent to gaol for a month.

Coco-nut Oil for Toothache.—Coco-nut oil is used by the natives of China as a specific for toothache, and is said to be a never-failing remedy. The directions for use are as follow:—Procure a fresh coco-nut, cut it in half, place one half with the concave side facing upwards on a large cup containing some cotton wool, and inside the coco-nut put some live charcoal. When the oil exudes on to the wool, take the latter out, and insert it with the aid of a blunt needle into the aching cavity. Care must be taken not to let the oil drop on to the tongue or skin, since it raises a most painful blister.

Chemist's Manager Allowed Further Time to Pay.—An application was made at Preston County Court, on May 10, for the commitment of J. Topping, chemist's manager, Preston, in respect of the non-payment of a balance of £143, costs of an injunction obtained against him by Forrest, Livesey, and Co., chemists, Preston, in the Lancashire Chancery Court. Defendant set up the defence that he could not possibly pay the money at present. He was only earning 30s. per week as manager of a chemist's shop, and had to help to support his father. His Honour granted defendant a further extension of two months.

Drug Analysis in Leicestershire.—Amongst the samples taken in Leicestershire under the Food and Drugs Act last quarter were thirty-two of cream of tartar. Of these six were certified to contain lead in proportion varying from 4 gr. to ¾ gr. per lb., while four others were certified to contain arsenic in quantities varying from one-tenth to one-thirtieth of a grain per lb. The vendors, who numbered thirteen, were prosecuted, and twelve were fined, the penalties amounting to £32 1s. In one case a warranty was pleaded and the summons dismissed, but lapse of time prevented proceedings being taken against the firm giving the warranty. The vendors of three other samples of cream of tartar which contained less than ¾ gr. of lead per lb. had been cautioned.

The Pharmacy Bill.—A meeting of the Patent Medicine Vendors and Drug Stores Association was held at the Grosvenor Hotel, Hull, on Thursday, May 12, 1904, to consider the Pharmacy Acts Amendment Bill (1904), Mr. W. J. Leggett presiding. Mr. A. Beeby (Local Secretary, Leeds) intimated that unqualified vendors of drugs were now recognised by the Inland Revenue as chemists, and it was their intention to be recognised by Parliament as such. The Chairman, in an address, expressed the opinion that it was reasonable to claim legal rights for unregistered druggists—men who had been in the trade all their lives, men who held indentures, and who had held positions as managers and assistants. It was the intention of the Association strenuously to guard that interest, and claim exemption at any cost, and if not exemption, compensation for vested interests.

Wills.—Sir Henry Thompson, of 35, Wimpole Street, Cavendish Square, first baronet, F.R.C.S., M.D., left estate of the gross value of £226,298 2s. 5d. and of the net value of £223,748 0s. 5d., and probate of his will of October 9, 1900, has been granted to his son, Sir Henry Francis Herbert Thompson (now second baronet), Mr. Ayscough Thompson, of Rosemead, Potter's Bar, Herts, wholesale druggist, and Mr. Herbert Thomas Herring, of 50, Harley Street, M.R.C.S., to each of whom the testator bequeathed £200, and to his wife, Dame Kate Fanny Thompson (daughter of Mr. George Loder, of Bath), £500, such of his furniture and household effects as she shall select to the value of £1,000, and an annuity of £1,500. Other legacies and annuities are provided for in the will.—The late Mr. Geo. Handyside, originator of Handyside's Cure for Consumption, of Newcastle-on-Tyne, has left £90,000 to be devoted to charities, including £20,000 to the Newcastle Royal Infirmary.

International Congress of Medicine, 1906.—We have received the first number of the 'Journal of the Fifteenth International Congress of Medicine,' which event will take place in Lisbon on April 19-26, 1906. This number contains the statute of the Congress, the organisation of the sections, and of the national committees of the different nations. The work of the Congress is distributed in seventeen sections. The Executive Committee of the Congress proposes to print, before the réunion, all the official reports; it is necessary that they shall be given before September 30, 1905, to the General Secretary. Free communications should be given before December 31, 1905, if the authors desire that the conclusions be printed before the opening of the Congress. The official language is French, but in the general assemblies, as in the sections, the English, German, and French may be used. All communications are to be addressed to Dr. Miguel, Bombarda, Hospital de Rilhafolles, Lisbon.

Chemist v. Photographer.—At Melton Mowbray County Court, on May 12, before Judge Wightman Wood, Mr. R. W. Brownlow, chemist and druggist, of Melton Mowbray, sued Mr. H. R. Holt, photographer, of Oakham, for £15 12s. 3d., due for goods supplied. Defendant entered a counter-claim for £49 4s. 2d. for work done, and admitted the claim. As to the counter-claim, defendant stated that in the spring of 1901 he saw Mr. Brownlow with reference to starting a photographic business at Melton Mowbray, but nothing came of it until January, 1902, when Mr. Brownlow re-opened the matter. As a result of the negotiations, plaintiff decided to start the business over his premises in Cheapside, and engaged witness to come over twice a week for 10s. per week and travelling expenses. A person was to be engaged to do the retouching, etc., but no one else was engaged, and he had to take the work back to Oakham. That necessitated neglect of his own business, and he claimed £16 12s. 4d. as damage sustained. The rest of the claim was for actual work done at Melton and materials supplied. For the defence, it was suggested that there was a partnership arrangement, but this defendant denied. Without calling upon Mr. Brownlow, the Judge said he regarded the business as a partnership affair. There would be judgment for £15 12s. 3d., and the counter-claim was dismissed.

The Bankruptcy of a Medicated Lozenge Manufacturer.—At the Manchester Bankruptcy Court, on Monday, before Mr. Registrar Atkinson, Henry Baldwin, carrying on business as a medicated lozenge and liquid chlorodyne manufacturer, under the style of "Henry Baldwin and Son," at 98a, Bury New Road, Manchester, came up for his public examination. The liabilities had been scheduled at £220, and the assets at £67 14s., leaving a deficiency of £152. The debtor said he commenced business about twenty-three years ago with a capital of about £30. For the last fourteen years he had traded as "Henry Baldwin and Son," although his son was never a partner, and only worked as an employee for the firm. He first became aware of his insolvency about eighteen months ago. He was quite unable to prove that he was solvent even three years ago, but about two years ago he prepared a rough statement of his affairs, which then showed that his assets were of the value of 27s. in the £ on the amount of his then liabilities, but he could not remember what the total assets and liabilities amounted to. He believed his insolvency to be the result of a falling off in his turnover, partly through the loss of several of his best customers, who themselves commenced manufacturing lozenges, and partly because he was unable from want of capital to purchase modern machinery, which he required to enable him to compete with other manufacturers. His excuse for not keeping proper books was because he did not think it necessary, nor did he know the law required him to do so.—The examination was closed.

The Testing of Petroleum Compounds.—Captain J. H. Thomson, Chief Inspector of Explosives, and Dr. Boverton Redwood have issued a memorandum from the Home Office on the application of the legal test for petroleum to samples of liquid metal-polish. From the memorandum we extract the following:—The results obtained are sometimes entirely misleading, as they do not represent the temperature of the portion of the liquid from which inflammable vapour is being evolved. If the sample contains solid matter in suspension the formation of convection currents is interfered with, and the surface of the liquid from which inflammable vapour is evolved acquires a higher temperature than that of the portion in contact with the bulb of the thermometer. Thus the thermometer may indicate a temperature of 59° F., when the temperature of the surface is 83° F., and a sample may be erroneously reported as having a flash-point below the legal limit of 73° F., when the true flash-point is far above the limit. Testing officers should take steps to ascertain the true flash-point of samples of liquid metal-polish or other substances which are not thoroughly liquid, and, therefore, cannot be satisfactorily tested in precise accordance with the directions given in the schedule to the Act. In many instances it may be possible to obtain a sample of the petroleum used in the substance, or the solid matter present in the sample can be removed by straining or filtration, care being taken to avoid loss of the more volatile constituents by evaporation, when the separated liquid can be tested in the prescribed manner. The liquid should not, however, be separated by distillation, as this operation may yield a distillate of lower flash-point than that of the petroleum with which the mixture was made. For guidance in determining whether there has been any infraction of the law the sample may also be tested in an apparatus provided with an efficient stirrer.

AMERICAN NOTES.

(*By Our Special Correspondent.*)

Raising the Standard of the Pharmacist.

The event of the greatest importance during the last few weeks in America has been the final passage of the Prerequisite Bill in the New York Legislature. This measure makes graduation in pharmacy compulsory on the part of those who would practise the calling, and who desire to be examined as candidates by the State Board of Pharmacy. A certain degree of preliminary general education is provided for in the Bill; the standard, however, is purposely not made high at the start, but it will be elevated from time to time as the conditions make such action possible. There is general rejoicing all over the country among the better class of pharmacists that this important step in advance has been taken. It is realised that it means the beginning of a higher educational and professional standard in the calling. Medicine began its upward trend in the same way twenty-five or thirty years ago, and now about three-quarters of the States demand a diploma of the candidate for registration. The State of Minnesota is likely to follow the lead of New York so far as pharmacy is concerned, and it is expected that other States will fall into line later on. It is important that two or three of the anti-narcotic or anti-cocaine measures in as many State Legislatures have also been enacted into law. Virginia and Maryland each has a new law, and the National Congress is expected to follow suit before the session adjourns. This makes a pretty fair year's record, in view of the fifteen or twenty State Acts which previously existed.

"Smoking the Animal Out."

A very interesting situation has developed in Indianapolis, Indiana, one of the large cities in the Middle West. In previous letters I have described the operations of the committee of fourteen patent-medicine proprietors who have been endeavouring to correct the cut-rate situation throughout the country. These gentlemen took up the task presented at Indianapolis some time ago, but found that there were six cutters who positively refused to agree upon any uniform schedule of prices. After diplomacy had failed, a fighting policy was adopted. The proprietors got together, appointed an agent in Indianapolis, and began sending him their goods for distribution to the loyal retailers. Then they directed the prices at which the goods should be sold. These prices were in every instance lower than those which the six cutters could stand, and the process of "smoking the animal out" is still being continued. It is expected that the cutters will cry quits ere long. This is certainly a unique way of rooting out cut-rates!

Severe Restriction on the Sale of Carbolic Acid.

Chicago has an unusual ordinance covering the sale of carbolic acid. It was enacted a few weeks ago, and has attracted general interest. Carbolic acid may now be sold only upon the prescription of a regularly licensed physician, and this prescription must bear the full name of the physician and his address, and the full name and address of the individual for whom it is written. Moreover, the prescription may be dispensed only upon the day it is written, and it may not be repeated under any conditions. Exceptions to this rule are provided for in the case of crude carbolic acid used for insecticide purposes and sold in quantities of over a gallon at a time. Again, if the acid is present in a solution of less than 5 per cent. strength, or (if present in a still larger quantity) is mixed with equal portions of glycerin and alcohol, it may also be sold without complying with the terms of the ordinance. This seems a rather radical law, but the druggists of Chicago are pleased with it, and it is due to their determined efforts that a measure decidedly inimical to their interests was not passed by the Common Council of the city.

Pharmacists as Office-seekers.

The druggists of Greater New York are in the throes of a political campaign. The State Board of Pharmacy, it may be explained, is divided into three branches, one of which, the so-called Eastern Branch, exercises jurisdiction over Greater New York and vicinity. Five members comprise this branch, and inasmuch as a position on the Board carries considerable prestige with it, not to mention emoluments of rather gratifying dimensions, the offices are sought after with great eagerness. Two elections to the branch are to be held in June, and already numerous candidates are in the field. Campaign "issues" have been framed, and the contest waxes warm. Every college or local society has its own favourite "son" to put forth, and a merry time is expected between now and June. The pharmacists of Greater New York are politicians of the first water!

Grocers Want to Sell Drugs.

Every once in a while pharmacists have to get together and fight some backward movement which emanates outside the ranks. In New York State the grocers have been endeavouring for three or four years to secure the passage of a law which would give them the privilege in rural districts of handling drugs and medicines if sold in original containers. Now it happens that the State Board of Pharmacy grants a special licence to the general merchants in small towns, and thus gives them every opportunity which they really deserve. It is very necessary that this jurisdiction over the matter should be held by the Board, inasmuch as the Board is thus able to insist upon a compliance with certain conditions, and is in position to see that the law is properly obeyed. The grocers, however, are restless under this surveillance, and they want things thrown open without any restriction whatever—an end which would manifestly be contrary to the interests of the public health. The pharmacists succeeded in killing the measure brought forward by the grocers in the Legislature last year, but they are this year compelled to fight another one of the same sort. It remains to be seen whether the wheel of progress will be turned backwards or not.

TRADE NOTES.

The Vinolia Co., Limited, have been awarded a gold medal by the Glasgow Industrial Exhibition, for Vinolia toilet soaps.

The 'Barnet Photographic Record' for May contains a series of hints by Mr. Henry W. Bennett on carbon printing. These hints should prove of value to those who work this process.

Hooper's Marking Ink was one of the exhibits at last week's exhibition at the Skating Palace. This ink already enjoys a good reputation, and hardly needs describing here; it may not be generally known, however, that Messrs. Hooper and Co., 24, Russell Street, London, put up their ink with the customer's own name if so desired. Terms may be had on application.

A Perfect Emulsion.—Messrs. Baiss Brothers and Stevenson, Limited, Jewry Street, London, E.C., are makers of an emulsion of cod-liver oil with hypophosphites of perfect appearance, which is guaranteed not to separate. This preparation is packed in an attractive style (bearing retailer's own name), and supplied in white glass bottles, containing six, twelve, and twenty-four ounces. Chemists who have retailed this have found it very saleable.

The 'P.J.F.'—Colonial readers will please note that copies of the 'Pharmaceutical Journal Formulary' can now be obtained (price 21s. net) from the following firms, who hold stocks:—Australia: Messrs. Elliott Bros., O'Connell Street, Sydney; South Africa: Messrs. Lennon, Limited, at their various branches in Cape Town, Port Elizabeth, East London, Durban, Johannesburg, and Bulawayo; Canada: Messrs. Evans and Sons, Limited, Montreal.

Messrs. Ayrton, Saunders, and Kemp, Limited, of 57, Parr Street, Liverpool, have recently carried out the entire alteration for Mr. J. Dale, of Steel Bank Pharmacy, Commonside, Sheffield, who has replaced his old fittings with entirely new and up-to-date fittings in plate-glass and mahogany. The same firm have also fitted up a new shop for Mr. S. P. Billington, of Rotherham, as well as a new shop front for Mr. J. J. Clayton. of Ellesmere.

James Woolley, Sons and Co., Limited, Victoria Bridge, Manchester.—A very complete list of photographic goods has recently been issued by the above firm. It comprises not far short of 200 profusely illustrated pages, and will prove exceedingly useful for reference. Some sixty pages are devoted to descriptions of numerous patterns of cameras, while all the other photographic accessories are adequately dealt with. It is a useful addition to photographic literature.

The Ninth Edition of Armour's Formulary, recently published, contains a number of practical recipes for preparations containing pepsin, pancreatin, and similar products. Most of these formulæ are included in the 'P.J.F.,' and when ordering any of these preparations it is sufficient to give the number registered in the volume. This is a very handy little book to have near the dispensing counter, and chemists should drop a post-card to 46a, Holborn Viaduct, London, E.C., requesting a copy.

The Patent Cup Shaving Brush is an ingenious arrangement supplied by Mr. Frank Newbery, 85, London Road, Reading. A receptacle surrounding the handle is so arranged as to catch the lather drippings from the brush, thus preventing the disfigurement of the toilet table. This brush, like other articles supplied by Mr. Newbery, is on the P.A.T.A. list, and shows a profit of over 30 per cent. Customers are advised to write to Mr. Newbery for further particulars.

The Summer Holidays.—Chemists who have not yet made up their minds how to spend the summer holidays would do well to refer to Messrs. M. Langland and Son's announcement which appears in the advertisement columns of this issue of the Journal. During the summer months this firm's steamers will leave Liverpool twice a week for a most picturesque cruise to the Highlands. Full particulars can be obtained from 10, Rumford Street, Liverpool, where berths can be booked.

Oldfield, Pattinson, and Co., 17, Todd Street, Manchester, will be pleased to supply a copy of their new photographic list to any reader of the Journal on receipt of business card. This book, consisting of upwards of 150 pages (8vo.) comprises many hundreds of illustrations, and is a most useful volume for reference. Everything the photographer is likely to require in the way of apparatus is mentioned in this catalogue, and every chemist interested in the photographic trade should not fail to obtain a copy.

'The Practical Mineral Water Maker.'—The fourth edition of a very serviceable book bearing the above title has recently been issued by Messrs. Bratby and Hinchcliffe, Limited, Ancoats, Manchester. In addition to containing instructions for the manufacture of aërated water and cordials, this little volume includes a number of selected practical formulæ for various beverages, which should prove very useful. It also comprises much information concerning everything the mineral water manufacturer wants to know. Readers interested in this trade would do well to obtain a copy.

Guessing Competition Result.—Chemists, their families and assistants were invited to guess the number of Russian violet cachous contained in a sealed jar exhibited by Messrs. Potter and Clarke, 60-64, Artillery Lane, London, at the Chemists' Exhibition. The jar and contents were to be awarded to the one who guessed the nearest number, and a further three jars of Japanese Glory Cachous to the three next nearest competitors. The exact number of cachous was 4,654. The following are the prizewinners:—(1) Mr. Pickering (4,720); (2) Mr. J. E. Walden (4,563); (3) Mr. W. Richardson (4,780); (4) Mrs. W. Jenkins (4,530).

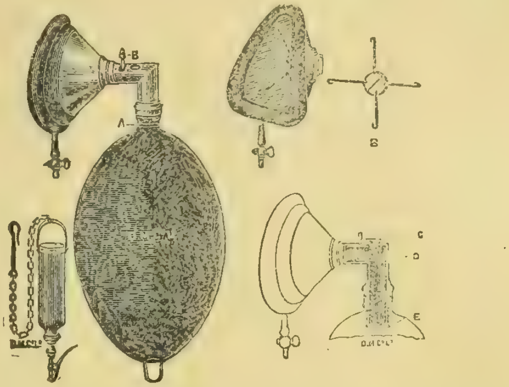
Tidman's Sea Salt is perhaps one of the most widely known of the proprietary articles sold by chemists, and this is the time of the year when it is most in demand. There is likely to be a large sale for the new penny packet which has recently been put on the market; the contents of this packet are sufficient for two gallons of water, being about the volume required for a foot-bath. These penny packets are put up in outers of one dozen packets, with hinged lids, labelled inside for display, and the price to the trade is 8s. per gross. As the penny article is pretty sure to become popular, readers would do well to obtain further particulars from 2a, Bushell Street, Wapping, London, E.

Surgical Dressings and Appliances.—At the recent exhibition at the Skating Palace, Mr. Vincent Wood, 4, Albion Place, London, S.E., had his usual high-class display of the above class of articles. To meet the requirements of existing fashions, Mr. Wood has recently placed on the market an appendicitis belt, with pad for use after operation on the vermiform appendix; a special enema, the wholesale price of which is 20s. per dozen; abdominal belts, elastic hosiery, "Eureka crêpe velpeau bandages," "Vinode" (the new medicated wool), and, in fact, everything the chemist is likely to be asked for in the way of surgical dressings can be obtained from Mr. Vincent Wood, to whom readers should apply for the new catalogue which has just been published.

Dried Milk, as supplied by Messrs. Irven and Co., is in the form of a light, yellowish flaky powder, which has the natural taste and odour of milk. It is easily brought back to liquid milk by adding water, and is obtained by drying milk rapidly at high temperature. The milk solids come off the drying rolls in continuous moist sheets, which become dry instantly upon cooling, and are easily reduced to a uniform powder by being passed through a sieve. The whole operation of evaporating the water of milk and obtaining its solids in dry conservable form occupies less than thirty seconds. The milk is dried as soon as it comes from the cow, and there is, therefore, no possibility of chemical change taking place in it before drying. Fuller particulars can be obtained from 7, Union Court, Old Broad Street, London, E.C.

C. J. Hewlett and Son, 35 to 42, Charlotte Street, London, E.C.—The picture which accompanies this brief note illustrates a corner of the new showroom for surgical instruments, packed goods, etc., recently installed at the above firm's premises. To obtain anything like an adequate idea of the wide range of articles (apart from pharmaceutical preparations) supplied by this house one has to look through the handsomely illustrated list which has just been issued. This catalogue, which comprises 160 pages (9 in. × 11½ in.), is printed on superfine paper and is divided into four sections, dealing with (1) surgical instruments; (2) hospital appliances, bacteriological and analytical apparatus; (3) druggists' sundries; (4) photographic goods and accessories. Out of such a mass of matter it is, perhaps, of little service to pick out for especial mention any particular item, but the reference to and the illustration of Röntgen ray and radium apparatus are proof that the list is thoroughly up to date. Special prominence is given to apparatus for the analysis of water, beer, milk, etc., as well as to bacteriological accessories. As a work of reference it is invaluable, and a copy of the book is a necessary addition to the chemist's library.

The "Ideal" Inhaler, designed by Mr. Vernon Knowles, possesses several advantages which do not belong to many other instruments of a like nature on the market. In the first place the bag is reversible, and therefore can be kept aseptic, while the procedure of the administrator inflating the bag by breathing into it is obviated by means of the air valve, as when closed after an inspiration the bag becomes automatically filled. The particular features of the inhaler will be easily seen from the accompanying illustrations. The inhaler consists of a celluloid facepiece, with a pneumatic air-pad round the edge in contact with the face. In shape it is similar to those used with the nitrous oxide gas apparatus. The inside of the facepiece is lined with a removable piece of lint, cut in the shape of a flattened cone, which is kept in position by means of a spring cone retainer. The external opening is surrounded by the lip C, and the inner horizontal barrel is pierced by the small tube D in such a manner that when the air valve is open the tube D is in a vertical position, and affords ready access to the reversible bag below. Hence, if desired, the anæsthetic can be projected from the bottle straight into the bag, or if capsules are used the necks of the same can be fractured in the tube D, the broken portion being caught in the previously attached perforated cap E. It is impossible, owing to the construction of this air-valve, for the broken tip of the capsule to enter the facepiece. Full particulars concerning this ingenious contrivance will be found in Mr. C. de Trey's pamphlet on "Somnoform," and terms can be had, on application, from the Dental Manufacturing Co., Limited, Lexington Street, Golden Square, London, W.



W. Butcher and Sons, Camera House, Farringdon Avenue, London, E.C.—The new price-list of photographic apparatus for the present season, which has just been issued from the above house, is of especial interest. A particular feature of the book is that nearly the whole of it is devoted to articles of the firm's own manufacture or design. The matter is most conveniently arranged, being divided into thirteen sections, which comprise every article the photographer can require. In addition to this volume, the firm issues a special catalogue, which is prepared for distribution by retailers, whose own name and address can be printed on the front cover. Particulars concerning this arrangement may be had from the firm, who supply copies at very reasonable prices. Either of these two books—which, by-the-way, are copiously illustrated—may be obtained free on application to Messrs. W. Butcher and Sons, and readers are recommended to take advantage of this offer.

MARKET REPORT.

General Markets.

London, Thursday, May 19, 1904.

So far from improving, business in drugs and chemicals seems to be getting worse; everybody is complaining. The approach of the Whitsuntide holidays does not alone account for the slack state of affairs which has existed ever since Easter. No transactions of importance have occurred during the week, and no important change in price is announced. It has been an exceptionally quiet week as far as Quinine is concerned, and prices are only nominal pending the result of to-day's bark auctions at Amsterdam. At the time of going to press the results of these sales had not come to hand, but the opening rates were 7 per cent. lower than last auction prices. Peppermint Oil is practically at a standstill; there have been a few inquiries, but no sales. Ipecacuanha is firmer since the drug sales. The prices now asked are given below. The prices quoted for Menthol on the spot are only nominal, but this article is dearer to come forward. The warm weather seems to have killed whatever little demand there was for Cod-Liver Oil; as announced last week, the fishing is practically over. Prices are again lower. It is anticipated that the price of Santonin will advance. Camphor seems to be firmer this week, and sales of crude and Japanese Refined have been made at higher prices than those recently obtained. Citric and Tartaric Acids are both very firm.

ARROWROOT.—At the sales on Wednesday there was no demand, and all the offerings were bought in at late rates.

ASAFETIDA.—A quantity has been sold since the sales at 90s. for good pinky block. There is nothing to be had below this price.

CAMPHOR.—There is more business doing in crude and Japanese Refined at better prices. The general opinion seems to be that prices will go higher than they are at present.

CAPE ALOES—Is inquired for. Sales have been made at 40s. to 42s. Some more has arrived, but will not be offered till the next drug auctions.

CARBOLIC ACID.—Crystals, 39-40°, 6¾d.

CARDAMOMS.—Some business has been done privately since the auctions at prices showing a profit on last sales.

CASCARA SAGRADA.—There is no demand for this article, which brings out cheap offers from holders wanting money. 70s. is quoted for new bark, but this is rather coarse; for old bark 85s. to 90s. is asked.

CASTOR OIL.—Easier. Belgium, firsts, spot, £19 10s.

CHLOROFORM.—B.P. is 1s. 7d. to 1s. 9d. per lb., according to quantity.

CINCHONA BARK.—The shipments at Java during the first half of the present month were 665,000 Amsterdam lb., against 621,800 Amsterdam lb. during the corresponding period of last year.

CITRIC ACID.—Firmer at 1s. 0¼d.

CLOVES—Were not represented at the Spice Sales. Privately small sales of Zanzibar have been made at 8⅛d. for June-August delivery.

CODEINE.—8s. 4d. per oz.

COD-LIVER OIL—Is again lower, but business is extremely quiet; the warm weather seems to have checked all demand. Norwegian is quoted 175s. c.i.f.

CREAM OF TARTAR.—98 per cent. foreign powder, 87s.

GENTIAN—Is in rather better demand, and 21s. is asked for whole root.

GINGER.—The demand for Cochin was slow at the Spice Sales; the lots which sold were, for the most part, catalogued "without reserve," and were knocked down at rather lower prices. Of Jamaica about 1,300 packages were offered, and about 650 barrels sold, fair bright, rather small, at 45s. to 47s., good middling at 44s.

GLYCERIN.—1·260, chemically pure, in tins and cases, is quoted 67s. to 69s. 6d. per cwt., according to quantity, the lower figure being for five-ton lots.

IODIDES.—Unaltered. Sodium Iodide, 11s. 10d. to 12s. 1d.; Potassium Iodide, 10s. 3d. to 10s. 9d.

IPECACUANHA—Is firmer since the sales; the prices asked are 4s. 6d. to 4s. 8d. for Cartagena, and 4s. 10d. to 5s. 2d. for Rio.

MERCURIALS.—Unaltered. Calomel, 2s. 8d.; Corrosive Sublimate, 2s. 4d.; Red Precipitate, 2s. 11d.; White Precipitate, 2s. 11½d.; Mercuric Sulphate, 2s. 4d.

MENTHOL—Can be had on the spot for 16s. 6d. for Kobayashi, or even slightly below this price. It is dearer to come forward.

MORPHINE.—4s. 5d. per oz. for the Hydrochloride.

OPIUM—Is very quiet, and prices are practically unchanged.

PEPPERMINT OIL.—H. G. H. is extremely quiet, and the nominal quotation is 14s. 9d. to 15s. American Oil, in tins, is quoted 13s. 6d. to 14s. Japan Kobayashi is quoted 6s. 6d. to 6s. 9d. on the spot. It is dearer to come forward.

QUININE.—The bark sales held at Amsterdam to-day opened lower (a decline of 7 per cent. on last sale). Business in Quinine has been at a standstill practically all the week, and prices are only nominal.

SANTONIN.—Up to the time of writing the expected rise had not appeared.

SENNA.—There is plenty of inquiry, but very little green leaf to be found.

SHELLAC.—The demand on the spot is quiet, and the price about unchanged.

TARTARIC ACID.—Easier. 1s. 1¼d. for English.

COCAINE.—Peru is the only South American country in which cocaine manufactories have been established. At the present time there are two in Lima, one at Callao, two in the Province of Cuzco, one at Catamarca, two in the Department of La Libertad, and about a dozen more or less important ones in the district of Huanuco. The quantity exported in 1901 amounted to about 210 cwt., nearly the whole of which was sent to Hamburg, the principal market for this product. The demand for cocaine is continually increasing. The subjoined figures show how largely the exportation of this article has developed:—

Year.		Coca Leaves.	Cocaine.
1897	kilogs.	494,000	4,200
1898		408,000	4,350
1899		312,000	4,500
1900		566,000	7,750
1901		610,000	10,688

As the average price of cocaine in 1901 was £30 per kilog., the value of the amount exported was more than £320,000.—From the *Board of Trade Journal.*

THE CONSUMPTION OF DRUGS IN PERSIA.—It is estimated that more than 10,000 kilos of quinine preparations are annually consumed in Persia. The demand for medicated wine and mercurial preparations is very heavy in that market. Pills and concentrated drugs are imported chiefly from the United Kingdom.

PATENT MEDICINES IN NORWAY.—A measure relating to the importation and sale of apothecaries' goods and patent medicines is just now occupying the attention of the Norwegian legislature. The following is the substance of the provisions of the measure affecting the importation of such articles :—Goods of the retail sale of which apothecaries have the monopoly may be imported into Norway, under certain specified conditions and to the extent authorised by the measure by the following persons only :—(a) Persons in charge of apothecaries' shops; (b) manufacturers and artisans (for use in their own trade or industry); (c) persons in charge of scientific institutions and laboratories (for use in such institutions); (d) licensed traders; (e) such persons as shall have obtained a special permit from the King. The goods imported by classes (c) and (d) must not be parted with to others. The King may prescribe more precise rules with regard to the importation of drugs, and may prohibit the sale of specified medicaments, the composition of which is kept secret.

LIQUORICE ROOT IN GREECE.—Liquorice root grows abundantly in all parts of Greece, and has been traded in spasmodically at all times. During the last four or five years, however, business in this root has been undertaken more methodically, and very large quantities have been exported to Italy and the United States. Labourers receive about 2s. per cwt. on the spot for the raw root just as it is dug out with a certain proportion of earth attaching to it, but before it reaches port of shipment, and is prepared and ready for export, the cost in unpressed bundles is about 4s. to 4s. 6d. per cwt. A factory for extracting the juice has been lately established in the outskirts of Acarnania, and produces what appears to the British Consul to be excellent liquorice paste, which is being exported to all parts of the world.

VETERINARY NOTES.

BY "CENTAUR."

Impaired Appetite.

An unfailing appetite is common to healthy animals of all the species brought under domestication. Inappetence should not be treated as a light matter. It is the ignorant carter and incompetent groom who sees nothing to matter in a manger that has not been cleared up. So unobservant are some men that they do not even know whether the evening "feed" was still in the manger at morning "stables," when a fresh supply was given. There are serious forms of illness in horses and other animals which at first show no greater symptom, to any but the practised eye of the veterinary surgeon, than loss of appetite or indifference to food. The good coachman who knows his business will not harness the animal for the usual work, but prescribe some nostrum of his own or seek professional aid. The careless groom, on the contrary, may bring home a dying horse later in the day, before realising the importance of the fact that his charge had no appetite.

Want of appetite may be only due to temporary and removable causes, and the pharmacist is often called upon to supply some suitable medicament for horses, cattle, or other farm animals. If his many studies permit, he should add to them some knowledge of animals' diseases, and thereby prove his utility to stock owners and make a good name for his preparations.

Beginning with the young, we may say that inappetence or a disgust for food at one time and ravenous desire for it at others is a common symptom of worms, and but little good will be effected by prescribing an appetising condiment if the unwelcome guests remain unmolested. The counter prescriber should note particularly whether the client speaks of a colt, filly, calf, yearling, or young pigs, or of working or fatting cattle or horses being got up for show. If youngsters of the above varieties he will draw a bow at a venture, and include some anthelmintic in his tonic or cordial appetiser, as santonin for round worms and areca pulv. for the tape-worms. Many yearling colts do badly because affected with minute strongyles (*Strongylus tetracanthus*), and the owners seldom observe the parasites in the excreta. Young horned stock are similarly afflicted, and will benefit by a proportion of sodii chloridi in the powders to be prescribed. A convenient mixed powder in bulk or in tins, with doses for different classes of animals, will be appreciated in most country districts, and more label space should be given to clear directions than to vaunting the remedy. The purchaser has already bought it when he seeks the desired information as to dosage, and the "chanting" should be done *vivâ voce* or in other advertisements.

The powders recommended for horses, cattle, and sheep are not suitable for pigs, as these animals are peculiarly susceptible to salt, and will often break out in eruptions of the skin, from the accidental introduction of salt or soda in town-made "wash."

The condition powder No. 3, on page 635 of the 'P.J.F.,' is a good one for simple inappetence, or for making up horses or cattle into show condition. For youngsters suspected of worms, substitute sodium chloride for locust bean, powdered areca for liquorice, and santonin for nitre.

Inappetence in show beasts is often nothing more than satiety, but may lead quickly to congestion of some important organ. Even if this risk did not exist, a bold aperient is commonly the shortest road to restored appetite and digestion, with the desired capacity for piling on more useless fat. The aloetic ball will act the better in combination with gentian, in the case of horses, and clients should be persuaded to consent to one day's nausea and another of poor feeding, as it will be more than made up again in ten days' time. Adult cattle may be given one-third more aloes than average-sized horses, and it should be accompanied with a saline, as mag. sulph. or sodii sulph. and zingib., in draught form, and in plenty of water. Three pints is a fair amount and easier to administer than 3 oz. to some horses.

Show sheep may be drenched with about a fifth part of the dose prescribed for cattle, and the cordial or appetising powders can be mixed with the trough food. Most people fear to give emetics nowadays, but such treatment for pigs that fail with "crop sickness" (satiety) is really the best. The difficulty of administration is always a bar to the medication of pigs, and we have to content ourselves for the most part with substances they will take in food. A saline purge, with sulphur, is always safe treatment, and if mag. sulph. is refused in the trough, enough flor. sulph. can generally be conveyed in it to act as a laxative. In prescribing for swine one should never lose sight of their frequent infestation with worms, particularly the large *Ascaris suis*, for which santonin, iron and vegetable bitters generally are prescribed internally, or, with such as can be handled and drenched on an empty stomach, a small dose of turpentine in skim milk.

Impaired appetite, so-called, may be an inability to masticate, from such causes as injury to the tongue from bad bitting in horses, or overgrown teeth, and the mouth should receive attention. "Quidding" (dropping the food partly masticated) may be due to "wooden tongue" (actinomycosis), and the counter prescriber who supplies appetising powders without inquiry or examination will not favourably impress customers, if this is discovered later when valuable time has been lost. Enough has been said to put our younger friends on the alert when asked for something for a "bad doer," or a beast "off his feed," or "crop sick."

LETTERS TO THE EDITOR.

All Communications for the *Pharmaceutical Journal* must be addressed to the Editor, 17, Bloomsbury Square, London, W.C., and, if intended for publication in the current week's issue, should reach the Office not later than Wednesday, unless specially arranged for in advance. The matter should be written clearly and concisely on one side of the paper only and must be authenticated by the names and addresses of the writers, as no notice can be taken of anonymous letters. Articles submitted for the Editor's approval should be accompanied by stamped addressed envelopes, otherwise no guarantee can be given that they will be returned if not found suitable. Reprints of articles cannot be supplied unless the authors communicate with the Editor before publication. The right to reproduce all original matter and illustrations published in the Journal is strictly reserved.

Camphor Water in Eye Lotions.

On the 30th ult. I dispensed an eye lotion containing 2 drachms of boric acid, ½ oz. of camphor water, and water to 8 fl. oz. Distilled water was, of course, used, and the aq. camph. of the present Pharmacopœia. To-day it was brought back to me unopened, having been shown to the medical man, who condemned it on the appearance of a few minute flocks of matter seen floating in it. As boric acid does not usually give rise to these, I suspected the aq. camphoræ as the cause. Previous observation had taught me that a very small quantity of alcohol will cause a fungoid growth in distilled waters. My stock of camphor water—made by the B.P. 1885 process—remains bright and limpid, so I dispensed the prescription afresh, using this. Will any brother pharmacist say if this trouble has been noted, presumably from the same cause, and oblige.

Dover, May 12, 1904. J. F. Brown.

Powdered Ipecacuanha Root in Pills.

Powdered tragacanth and water give the best result. Use 4 grains to each drachm of ipecacuanha, and a sufficiency of water. Mass and roll out quickly.

Middlesbrough, May 13, 1904. J. W. Hornsby.

Naval Dispensing.

It is always questionable whether it is worth while replying to the letters of writers who hide their identity under a *nom de plume*; but, for the benefit of others interested in this question and "An Astonished Pharmacist's" benefit, I submit the following. For at least thirty years I have had the personal acquaintance of members of both the medical and pharmaceutical staffs of the Navy, and have had occasion to visit relatives and friends in hospitals under their care, and through their courtesy have repeatedly had opportunities of seeing how well the dispensing was done, and the care bestowed on the examination of medical stores when sent in for use. I unhesitatingly state that the bulk of the dispensing is done at establishments mentioned by "An Astonished Pharmacist," and done well, leaving little to be desired. Of the seventeen other places which your correspondent improperly calls "hospitals," the most important ones, and the only ones where there is a considerable force stationed, are the infirmaries and dispensaries connected with the Royal Marine Artillery and Infantry. The dispensing for these forces, I was given to understand, does not come under "naval dispensing," unless serving afloat or abroad. Of the remaining establishments, styled by the Admiralty "sick quarters and medical depôts," two are of so little importance that there is no surgeon appointed. I presume in these places members of the sick berth staff perform all necessary operations and prescribe the prescriptions they dispense; in six others there is one surgeon appointed, so your readers may judge of the amount of dispensing likely to be required. In conclusion, I wish to point out that in these days of fast steaming our fleets are seldom far away from a properly equipped hospital, to which all cases requiring medical attention are sent, and these cases, if requiring prolonged attention, are "invalided home"; the only exceptions, I believe, are the Australian and Pacific stations, which are very healthy ones, and on these there are "sick quarters," in charge, I believe, of civilian medical officers, who, I believe, satisfactorily look after our sick officers and men. I am deeply conscious that my inquiry into this subject was not so complete as I could have wished; if I could have persuaded "my lords" to put a fast cruiser at my disposal to have visited Wei-Hai-Wei, Trincomalee, Esquimault, and a few naval sick quarters between those places, I might possibly have formed other conclusions, or possibly "An Astonished Pharmacist" possesses all the requisite information, and still withholds it.

Plymouth, May 18, 1904. C. J. Park.

Territorial Representation.

I have been much interested in reading the discussions which have taken place on Mr. Tocher's scheme for territorial representation on the Council of the Pharmaceutical Society, and it seems to me that one of the arguments most frequently used in its favour is the strongest argument against the scheme. It is urged that territorial representation would ensure a closer acquaintance between Councillors and their constituents—that each Councillor would be known personally to each of his constituents, and would, consequently, be in a better position to know their wishes and grievances; I agree. But it is also urged that radical changes are sometimes necessary in the personnel of the Council. Under existing conditions it is possible in three years to turn out all the old Councillors and replace them by new members; under Mr. Tocher's scheme, I venture to say, such a radical change would be practically impossible. At present all members of the Society who are dissatisfied with any particular Councillor can vote against him when he seeks re-election, but in the event of Mr. Tocher's scheme being adopted, as it stands, only those members in the Councillor's own constituency could vote for or against him. And, as it may be presumed that each Councillor would endeavour to make personal friends of all the voters in his constituency, the difficulty of ousting any Councillor may readily be imagined.

May 13, 1904. "A Country Chemist" (6/51).

Testimonial to Mr. W. S. Glyn-Jones.

A meeting of the Provisional Organising Committee will be held at the St. Bride's Institute, Bride Lane, Ludgate Circus, E.C., on Friday, May 27, at 3.30 p.m. The meeting will be held for the following purposes:—To elect a Chairman, two Vice-Chairmen, a Treasurer, Honorary Secretary (with any assistants necessary), and an Executive Committee; to take steps to complete the General Committee, by asking the presidents and secretaries of all local chemists' associations, all P.A.T.A. local secretaries, and prominent representatives of all sections of the trade to join the Committee; to suggest the form of testimonial for the ultimate approval of the completed Committee and other business relative thereto; and to receive and discuss any further suggestions on the subject. It is desired to make the Committee, when complete, representative of the whole trade, and gentlemen who may wish to join the Committee are asked to communicate with me.

Twickenham, May 17, 1904. C. J. G. Bunker.

The Pharmacy Bill.

It is sometimes well to see ourselves as others see us, and it is often advisable to know the opinion of persons other than those directly interested in any cause or controversy. Therefore, at this juncture in pharmaceutical affairs, it may be of interest to chemists and druggists to read the personal views of an outsider on matters now being considered in pharmaceutical circles. I refer to the proposed legislation for amending the existing Pharmacy Acts. There can be no doubt that at the time of the passing of the Pharmacy Act, 1868, the practice of pharmacy by limited companies consisting of unqualified persons was not contemplated, and was not provided for. Clause 7 of the Pharmacy Acts Amendment Bill has been drafted to remedy that omission. But circumstances have changed, and though the principle embodied in Clause 7 is sound—viz., that the person or persons directly responsible for the control of a pharmacy should be properly trained and qualified to deal in poisons and to dispense medicines, present-day business methods are, to a certain extent, opposed to that principle. If I may say so, this is the age of companies, and the individual proprietor is gradually being absorbed or crushed. Pharmacy is not the only calling which has suffered, and is still suffering, from the greed and power of the company promoter—even journalism has not escaped, and the individual news correspondent has to a large extent been swallowed by the great Press agencies.

But so long as the public is supplied with what it requires—be it medicine or news—what does the public care whether its wants are supplied by an individual, working on his own, or by the duly qualified servant of a limited company, whose directors have, perhaps, never even heard of either Galen or Sir Isaac Pitman. The public does not care twopence; neither does Parliament, which represents the public. And when trade papers appeal to chemists and druggists to rally round Clause 7 of the Pharmacy Bill as the one and only hope of salvation, I—well, I am surprised at the worldly innocence of those editors. To my mind, it would be wiser and far better to recognise that, so long as the law provides that the actual handling and selling of poisons is restricted to duly qualified persons, it is useless to hope for Parliament now to say that the directors of any company owning a pharmacy must be registered chemists. In all probability, when the matter is discussed in Parliament chemists will be asked, "What have you to complain of?" "Is not the sale of scheduled poisons already restricted to registered chemists?" "What does it signify whether the registered chemist who sells the poison is the proprietor of the business or merely the servant of a company?" I know that the qualified owners of pharmacies say that it signifies a great deal; the trouble is the public do not think so. Again, I know it is alleged that badly trained assistants who have failed to pass the qualifying examination have evaded the law and blossomed out as full-blown proprietors of pharmacies by the simple process of forming "One-man companies." But those who advance that statement as an argument in favour of an amendment of the Pharmacy Acts omit to state also that the law provides for a duly qualified chemist and druggist to transact any business done in poisons. To say that the law is broken daily is no argument for its amendment, but rather that it be more stringently enforced.

Chemists have the matter entirely in their own hands. If the qualified owners of pharmacies could by any means make such terms with qualified assistants now serving limited companies as would induce them to leave the service of the companies, never to return, the company pharmacy problem would be solved. The only alternative is for the Pharmaceutical Society to obtain power to strike off the 'Register of Chemists and Druggists' all persons found guilty of "unprofessional conduct"—a definition of which must include service with unqualified directors of limited companies. Such power the Pharmaceutical Society would in all probability never be able to obtain. I am aware that this has been pointed out again and again, but some persons seem to imagine that by ignoring, ostrich-like, unpleasant facts some more easy way out of the difficulty may be found.

May 17, 1904. "An Outsider" (6/52).

Co-Operative Buying.

I notice there has been a flutter in certain quarters at the introduction of co-operative buying schemes among local pharmaceutical associations. There seems to have been a fear that P.A.T.A. regulations would be infringed. It appears that each limited company, trading as chemists, and having branch shops in all parts of the country, have one buying department only for the whole of the branches, and are thus able to buy in large quantities direct from the manufacturers on better terms than individuals. Chemists and druggists have on that account found competition so keen that they have felt it advisable to co-operate, and through the local associations have established buying schemes, by means of which they are enabled to purchase goods on terms more nearly equal to their "store" competitors. But at this point the P.A.T.A. steps in and says in effect, "This is all very well, but you are infringing the regulations of the P.A.T.A. by distributing to your members P.A.T.A. goods at prices below the recognised minimum wholesale price." Now I fail to understand where the infringement occurs. If I have grasped the situation rightly, it seems to me that an association of chemists and druggists has just as much right to purchase direct from the manufacturers and distribute the goods to its members as a limited company of unqualified persons has to so purchase and distribute to its branches. If it is wrong for local pharmaceutical associations it is equally wrong for limited companies.

London, May 14, 1904. J. Wilson.

NEW REMEDIES.

The Notes in this column embody recent suggestions in therapeutics, for the information of dispensers; they deal with novel applications of drugs and preparations in common use, in addition to new remedies strictly so-called.

Potassium Bromide in Influenza.—Dr. G. A. Ballingall calls attention to the value of potassium bromide in doses of 10 to 15 grains two or three times a day in the treatment of influenza and during convalescence from that disease; in certain cases where the potassium salt is contra-indicated ammonium bromide may be substituted. The combination of a little tincture of nux vomica is advocated as a tonic.—*Brit. Med. Journ.*, 1904, **1**, 725.

Apocynum Cannabinum as a Cardiac and Diuretic Agent.—J. Pawinski confirms the value of *Apocynum cannabinum* as a remedy in heart affections and as a diuretic. He has found that in doses of 10 to 15 minims the fluid extract is a valuable substitute for digitalis, from which it differs in acting more promptly; but the effects are not so lasting. It is an extremely potent diuretic and very prompt in action. In moderate doses it does not give rise to digestive disturbance, but in large quantities may occasion pain, vomiting and sometimes diarrhœa. Its administration should therefore be commenced with small doses, gradually increased. It shows no indication of a cumulative action.—*Nouv. Remèdes*, **20**, 121.

REPLIES TO CORRESPONDENTS.

Information required by readers will be published in this column as early as possible, but the Editor cannot undertake to reply by post, even though stamped addressed envelopes accompany the queries. Replies will, in all cases, be referred to the sender's initials, and the registered number added in each instance should be quoted in any subsequent communication on the same subject. When formulæ are given without definite weights and measures, it should be understood that the solids are to be weighed and liquids measured. Plants for recognition should be addressed to the "Curator, 17, Bloomsbury Square, London, W.C.," accompanied by a stamped, directed envelope for reply. No notice can be taken of anonymous communications.

Label for Dentifrice (B. C. H.—112/4).—Your label does not incur liability.

Fancy Names (W. and N.—112/3).—The names you mention will not incur liability.

Label for Cordial Elixir (H. R. M.—112/2).—There is nothing on your label that appears to incur liability.

Antitoxine (W. W.—112/7).—It is said to contain acetanilide, but apparently no definite information regarding the preparation has been published.

Effects of Cold Water (G. C.—112/9).—The statements to which you refer are of the fictional type current in such publications, and are not worthy of serious attention.

Mouth Wash (R. F.—112/1).—It may be safe to use for the purpose you mention, but must be labelled poison, as it contains more than 3 per cent. of carbolic acid.

Jalapin in Jalap (J. T.—112/8).—Good jalap should yield from 9 to 11 per cent. of resin, about nine-tenths of which should consist of jalapin—the portion insoluble in ether.

Insect Bites (E. S. B.—112/10).—The following is from the 'P.J.F.':—Menthol, 8 grains; alcohol (90 per cent.), 6 fl. drachms; strong solution of ammonia, 2 fl. drachms.

Precipitate in Mixture (E. S. B.—112/10).—The mixture is not one that ought to be dispensed, as the formation of a precipitate containing strychnine cannot be prevented.

Children's Gripe Mixture (R. T. F.—112/5).—If any appreciable quantity be present the fact should be indicated, but it may be better to omit the ingredient you mention.

Optician (F. B.—111/23).—You should refer to the Photographic and Optical Supplement, published with the *P.J.* of March 26 last, and containing such information as you require.

Numbers in 'P. J. F.' (F. B. E.—6/18).—We are obliged for your suggestions, but fail to understand why you should suggest the alteration of so many numbers. Kindly explain what is the object of the list you have sent.

Shampoo Liquids (H. K.—111/33).—(1) Quinine sulphate, 15 grains; tincture of quillaia, 5 fl. ounces; eau de Cologne, 2 fl. ounces; glycerin, 1½ fl. ounces; distilled water, sufficient to make 1 pint. Dissolve the quinine in the tincture and perfume, then add the other ingredients. (2) Ionone, 20 minims; tincture of quillaia, ½ fl. ounce; borax, ½ ounce; ammonium carbonate, ½ ounce; alcohol (90 per cent.), 5 fl. ounces; distilled water, sufficient to make 1 pint.

Price of 'P. J. Formulary' (A. J.—112/35).—The explanation is very simple. Some four thousand members of the Pharmaceutical Society were sufficiently enterprising to subscribe for the book before it was published, and they received one copy each at what was virtually the net cost price. At present any member can procure a single copy at half the published price, but the offer to supply copies at that price will not be repeated after June 1. A non-member can obtain the same preferential terms by applying before that date to join the Society and sending with his application a cheque or money order for 31s. 6d.

MARRIAGE.

Welton—Berry.—On May 12, at Thorpe Hamlet Church, Edward George Welton, M.P.S., of Cromer, to Maria Elizabeth (Cecie) Berry, of Thorpe Hamlet, Norwich.

DEATHS.

Beatson.—On May 10, Wm. Beatson, Chemical Manufacturer, of Rotherham. Aged 83. Mr. Beatson carried on for many years the extensive chemical works at Masbro' and Wheathill, Westgate, Rotherham. He was a life member of the British Association.

Bell.—On May 2, after a brief illness, Mrs. Bell, widow of the late Thos. Bell, Chemist and Druggist, of Ambleside. Aged 83.

Fowke.—On May 11, Robert Main Fowke, Chemist and Druggist, Chelsea. Aged 52.

Sutton.—On May 14, Charles William Sutton, of the firm of Sutton and Phillips, Limited, Manufacturing Chemists, of Stowmarket and Ipswich. Aged 39. Mr. Sutton was the eldest son of the late Charles William Sutton, of Stonham and Ipswich, and after receiving his education at Framlingham, and the Royal College of Science, London, he entered the business at Stowmarket.

PUBLICATIONS RECEIVED.

Practical Enlarging. By John A. Hodges, F.R.P.S. Sixth Edition. Pp. 142. Price 1s. nett. London: Iliffe and Sons, Limited, 3, St. Bride Street, E.C. 1904. From the Publishers.

Tourist Guide to the Continent. Edited by Percy Lindley. Pp. 160. Illustrated and with Maps. Great Eastern Railway Company, and 30, Fleet Street, London, E.C. 1904.

Corrections.

Sir Michael's Analogy.—In Mr. R. O. Hayes's letter under the above title, printed at page 675 in last week's issue, *for* contrast, line 11, *read* contract, and *for* especially to, line 20, *read* especially so.

Calendar for the Week (May 22—28, 1904).

Days of		Events of the Week.	Sun	
M	W		Rise	Sets
22	**S**	**Whit Sunday.** ☽First Quarter, 10.19 a.m.	4.1	7.51
23	M	Bank Holiday.	4.0	7.53
24	Tu	Linnean Society, Burlington House, Piccadilly, W., at 3 p.m.—Anniversary Meeting. School of Pharmacy reopened.	3.59	7.55
25	W	Public Dispensers' Association, St. Bride's Institute, E.C.—Ordinary Meeting. Western Chemists' Association (of London), Norfolk Square Hotel, Paddington, at 9 p.m.—Ordinary Meeting.	3.58	7.56
26	Th	Cambridge Pharmaceutical Association, Pharmacological Laboratory, at 9 p.m.—Demonstration upon the Physiological Action of Drugs. By Dr. W. E. Dixon.	3.56	7.58
27	F		3 55	7.57
28	S	Sir Humphry Davy died, 1829.	3.54	8.0

LETTERS, NEWSPAPERS, QUERIES, and other COMMUNICATIONS have been received from Messrs. Antcliffe, Bagshaw, Barrie, Barry, Baynes, Bell, Boorne, Bourne, Brigham, Brown, Bunker, Campkin, Cashmore, Coleman, Crombie, Crook, Davidson, Elwell, Forbes, Fraser, Gwinn, Hamnett, Helton, Hodgson, Hooper, Hornsby, Hutchen, Jackson, Johnson, Jones, Kerfoot, Knight, Lyne, Manning, Mason, Mathieson, Patterson, Prince, Robinson, Thoms, Timmins, Tully, Welford, Wilkinson, Williams, Wilson, Woolley.

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The Pharmaceutical Journal Office,

17, Bloomsbury Square, London, W.C.
Thursday, May 26, 1904.

Several Local Associations have this week wound up the 1903-4 session. The Brighton Association of Pharmacy, at a meeting held on Thursday of last week, at which Mr. Gibson's success as a candidate for the Council of the Pharmaceutical Society was announced, decided to invite him, as the retiring President, to a dinner on June 9.

Western Australia has not been so fortunate in the matter of pharmaceutical legislation as the Orange River Colony. But by an Act which has just been sanctioned by the Colonial Office the practice of pharmacy by limited companies in Western Australia is only permitted when conducted "under the personal supervision of a pharmaceutical chemist."

This is the Period of the Year at which a large volume of trade is bodily transferred from normally busy centres to seaside resorts and inland watering-places. The short season during which the chemist by the sea reaps his little harvest has commenced very auspiciously, and it is to be hoped that the coming summer has better things in store than were experienced last year.

Intending Competitors for the Jacob Bell and Manchester Scholarships should note that all entries must be in the hands of the Registrar of the Pharmaceutical Society on or before Wednesday next, June 1. While on the subject of examinations, it may be mentioned that the questions for the third prize competition in connection with the Students' Columns of the Journal appear in this issue.

The Delegates Attending the triennial assembly in London of the International Association of Academies were the guests of the Royal Society at a dinner held at the Hôtel Métropole on Tuesday night. Sir William Huggins presided over a most distinguished assembly of scientists. Lord Goschen proposed the toast of the evening in a singularly eloquent speech, in the course of which he said that science did not wish that one nation should outstrip another; science said, "We will cooperate together."

Upon Joining the R.A.M.C. it is quite possible that the chemist may find the non-commissioned officer over him a former errand boy. If the private shows resentment to the domineering of the N.C.O. he will probably find himself under arrest, in consequence of which he may have to spend the night in the guard-room. These inviting particulars are culled from an article which appears in this issue of the Journal. It might also be mentioned that some of the men belonging to other regiments affect to look down on members of the R.A.M.C., which they facetiously call "The Poultice Walloper Brigade."

Vol. 72. No. 3423. (4th Series, Vol. 18. No. 1770.)

A Few Impressions of the Greatest Exhibition ever organised have been given to the Journal by Mr. Charles T. Tyrer, who has just returned from St. Louis. British chemical manufacturers make a very good show, while the exhibits sent by English professors, universities, and colleges are attracting considerable notice. Collections of antique mortars and old-time pharmaceutical appliances have been sent from this country by wholesale and retail chemists, and are very much admired by our American cousins, who set greater store on curios than do the people of any other country. It is a pity that the prohibitive tariffs of the United States prevent exhibitors of pharmaceutical and chemical manufactures from getting anything like an adequate return for their outlay.

Extreme Dulness has characterised the drug and chemical markets during the week. Messrs. Howards and Sons, Limited, have reduced the price of sulphate of quinine to 1s. 2d. per oz. for large quantities in 100 oz. tins; for quantities of not less than 100 ounces in 1 oz. phials the price is 1s. 4d. The German manufacturers have also reduced their official price 1d. per oz. The second-hand market continues inactive, and quotations are only nominal.

THE COUNCIL ELECTION.

The result of the election of seven members to the Council of the Pharmaceutical Society was announced last week just before the Journal went to press, and at too late an hour for comment in that issue. Necessarily, the results are satisfactory to some and unsatisfactory to others. Probably few will be found to complain of the increased number of votes recorded. Three thousand four hundred and sixty valid voting papers, representing approximately 59 per cent. of those issued, were received by the Secretary. To state the moral of the election is a task of exceptional difficulty. One conclusion which may be drawn by some from the position of Mr. Newsholme and Mr. Atkins at the head of the poll is this: that the electorate is not so enamoured of territorial representation as has been supposed. For both the gentlemen named are known as opponents to Mr. Tocher's scheme, and Mr. Newsholme in particular has spoken emphatically against it. Mr. Newsholme's neglect of the questions submitted by the Edinburgh District Chemists' Trade Association does not seem to have had an appreciably adverse effect on his position. On the other hand, the fact that both the Councillors named had filled with distinction the presidential chair of the Society was doubtless in some measure responsible for their position at the head of the poll. The election of Mr. W. H. Gibson and Mr. A. Hagon, two of the candidates who had not previously sought admission to the Bloomsbury Council, is a striking tribute to the importance of energetic "electioneering."

Mr. Gifford and Mr. Currie may be mentioned together as members who seem to have advanced considerably in the esteem of their constituents since the former occasions on which they respectively sought election. Mr. Gifford has received 633 more votes than in 1901, and Mr. Currie's supporters have increased in number by 500 during a single year. The sixth of the successful candidates, Mr. Robinson, is the only London man to be elected. It may be noted that the number of London members of Council, which was reduced when Mr. Currie was co-opted in place of Mr. Savory last July, has now been further lessened, as Mr. Allen's place has been filled by a member from the provinces. London is represented now by seven members only—Messrs. Carteighe, Cooper, Glyn-Jones, Harrington, Hills, Robinson, and Wootton. Advocates of the "territorial principle" will doubtless notice with pleasure that Wales is no longer unrepresented, that Scotland retains its two representatives, and that the South-East Coast of England again provides a Councillor after a long interval. The application of the territorial principle is also probably the cause of Mr. Corder's loss of his seat, as the recent co-optation of Mr. Campkin has secured the representation, for the next two years, of the Eastern Counties. The Council, as now constituted, is a body of men with a varied experience of affairs, a thorough knowledge of pharmaceutical politics, and a healthy divergence of opinion on non-essentials. Each one may be trusted to advocate the course of action which seems to him the most expedient in the best interests of the calling, and all are united in their desire to see the Pharmacy Bill passed into law.

THE JACOB BELL AND MANCHESTER SCHOLARSHIPS.

Student-Associates of the Pharmaceutical Society are reminded that all entries for the Jacob Bell and Manchester Scholarships must be in the hands of the Registrar of the Pharmaceutical Society on or before June 1, accompanied by the certificates and declarations required by the regulations. Instances have been known in the past when students, with excellent chances of success, have been debarred from the benefits of one or other of these valuable scholarships merely through ignorance or non-observance of the conditions of the examinations. Those who are commencing their apprenticeship to pharmacy may be reminded that the advantage of a Jacob Bell Scholarship is by no means confined to its pecuniary value —some £80 usually. For, in most careers, if it is the first step which costs, it is also the first step which counts, and pharmacy is no exception to the rule, as may be seen by a reference to the list of scholars in the Society's Calendar. Tilden, Charles Umney, Pedler, Shenstone, Plowman, Luff, Greenish—all these are to be found among the Bell Scholars for the years 1861 to 1875, and all have achieved academic, professional or commercial success. An important addition to the long list of distinctions secured by Bell Scholars is chronicled this week, as we are able to announce that the Viceroy of India has conferred on Professor Alexander Pedler, F.R.S., the Vice-Chancellorship of the University of Calcutta. The keenest spur to ambition is, with some men, their first success. To others, the first failure proves a blessing in disguise. But no student, whether successful or not, has ever been the worse for his attempt to win a Jacob Bell Scholarship. A course of study conscientiously pursued, whether alone or under supervision, for that examination, and taken concurrently with apprenticeship, is the best of preliminary preparations for the qualifying examinations, and—most important of all—the best of foundations for a successful career, either in pharmacy, or one of the most nearly allied professions.

PHARMACY LEGISLATION IN WESTERN AUSTRALIA.

Early this year an Ordinance was promulgated for the regulation of the practice of pharmacy in the Orange River Colony (see page 322, *ante*). That Ordinance, as will be remembered by all who are interested in the rights and wrongs of chemists and druggists, contained a clause substantially the same as Clause 7 of the Pharmacy Bill promoted by the Pharmaceutical Society of Great Britain. In addition, it provided for the imposition of heavy penalties on any unregistered person who should use a title implying registration. The Colonial Office has now sanctioned certain amendments to the Pharmacy and Poisons Law in another British Colony—Western Australia. By an Act which was passed in that State on December 1, 1903, the assumption or use of any title implying registration as a pharmaceutical chemist—the title there granted to every qualified person—is restricted to such persons and to legally qualified medical practitioners. The penalty for a breach of this provision is a fine not exceeding fifty pounds, or imprisonment for twelve months or less.

On the "protection of titles," as the phrase runs, Western Australia is to be heartily congratulated; but it is a matter for regret that it has not been found possible to pass a clause similar to Clause 7 of the Pharmacy Bill and to that which has become law in the Orange River Colony. The practice of pharmacy by limited companies is subjected, however, to a useful restriction, as no company or registered friendly society may carry on the business of a chemist and druggist unless such business is conducted "by and under the personal supervision of a pharmaceutical chemist." Such a clause as that does not give to the registered individual the recognition he has a right to expect, nor does it give the maximum safeguard to the public safety; but it is assuredly better, both for the public and for the qualified chemist, that every shop of a limited drug company should be supervised by a qualified man than by an unqualified man. Putting aside for a moment the undesirability of the legal recognition of a joint-stock company carrying on a chemist's business, the clause which has been quoted will possibly add to the value of the qualified assistant. Moreover, when once the public is taught—as is only possible by the restriction of titles—that there is a real difference between the pharmacist with his unlimited responsibility and the company with its limited liability, something for the advantage of the former has been accomplished. On the whole, therefore, while one may withhold unqualified approbation from the new Pharmacy Act of Western Australia, its advantages may be considered to be distinctly on the positive side.

THE GENERAL MEDICAL COUNCIL.

Among the subjects which were brought before the General Medical Council this week were the Metric Weights and Measures Bills, so far as they affect the British Pharmacopœia, and the recent decisions in the Irish Courts of Justice with reference to the practice of dentistry and the use of the title "dentist" by companies.

ALFRED H. WADDINGTON.

We record with great regret the death of Mr. Alfred Henry Waddington, homœopathic chemist, of Darley Street, Bradford, which occurred on Wednesday last, May 25, from pneumonia, after three days' illness. Mr. Waddington has for years past been not only one of the leaders in pharmaceutical affairs in the West Riding of Yorkshire, but has also figured with considerable prominence in the local affairs of Bradford. Mr. Waddington was born in Hull of a Quaker family in 1860, was educated at Ackworth School, and went to Bradford to act as assistant to his brother, Dr. C. E. Waddington, who established the business in Darley Street. When the brother took his medical degree he transferred the chemist's business to Mr. Waddington, who had qualified in 1887, and he has since carried on the concern with very marked success. He became connected with the Bradford Chemists' Association at an early period in its history, and soon became prominent by reason of his energy and ability in discussing pharmaceutical politics. He was always a keen debater, and quick to see a point and deal with it. At times the force and pungency of his criticism excited more hostility than would have been displayed if the true inwardness of his character had been better known. For many years he had acted as Divisional and Local Secretary to the Pharmaceutical Society for the Central Division of Bradford, and in that capacity had done much service of the most useful kind in the interests of registered chemists, in connection with the Benevolent Fund, and in other directions. He was directly instrumental in getting Mr. J. L. Wanklyn, M.P., to interest himself in the Pharmacy Bill, and his personality was so much appreciated that at one time he was regarded as a probable candidate for the Pharmaceutical Council, but he declared that he had no ambition in that direction. But Mr. Waddington was a frequent contributor on political matters to the *Pharmaceutical Journal*, and his influence was thus widespread. His loss will be deeply mourned by members of the craft all over the West Riding of Yorkshire. Mr. Waddington found time for many other interests. He was for many years local secretary to the Society for the Prevention of Cruelty to Animals, and a feature at his shop door was a drinking-trough for dogs. He was prominent, too, in the affairs of the Society of Friends. To him was chiefly due the organisation of the May Day parades, and he worked most assiduously also in organising a trades' procession in connection with the Coronation celebrations in Bradford. Latterly he had devoted much time and labour to the interests of the Bradford Chamber of Trades, of which he was a Vice-President, and which was established about eighteen months ago as a result of a circular signed by himself and two other of the chief tradesmen in the city. It would not be too much to say that the great success of this organisation, embracing now all the separate tradesmen's societies in the city and large numbers of individual members, is due to his efforts more than to those of any other person connected with it. He was often pressed to take public honours, but never found himself able to devote time to that kind of work. It would have been remarkable if he had done so, for he was also managing director of the large grocery business of Moreland Bros., in Darley Street, in connection with which he was in partnership with his wife's father, Mr. Lidbetter, of Dewsbury. Mr. Waddington leaves a widow and three children. The interment will take place on Saturday morning at Undercliffe Cemetery, Bradford.

WHIT WEEK.

Like all other public holidays Whit Monday is a day on which the chemist realises more than ever that his calling differs in a very material respect from all other callings whose followers are keepers of open shops. For the most part, of course, pharmacies are closed on that day, but there is almost invariably someone behind the closed shutters awaiting the call which must be answered. A bank holiday, as far as the chemist is concerned, is like the night bell—an uncomfortable reminder that with his privileges goes an irksome duty. Whitsuntide, except for holiday-makers and those who cater for them, is a very quiet time indeed. Parliament is enjoying a brief vacation, the law courts are not sitting, the drug and chemical markets are even duller than usual, business generally is exceedingly quiet, and there is a corresponding dearth of news. Those local associations which have not already closed their doors are, some of them, holding their final meetings this week.

Although the calendar may say otherwise, custom regards Whitsunday as the first day of summer. It is the day on which fashion wills that all things pertaining to wintry weather, March winds, and April showers should be laid aside, whether the climate is ready for the change or not. Whitsuntide is the time when the chemist puts on the back shelf all those preparations which have been in demand during the preceding six months or so. Cough emulsions, lung tonics, cod-liver oil, and the like winter specialties give place to diarrhœa mixtures, salines, seidlitz powders, and other more seasonable remedies. It is at this period that a volume of business is bodily transferred from inland towns to country and seaside resorts, and what will be the quiet time for the town chemist and the busy one for his seaside confrère is about to commence. In connection with this transference of business from one district to another, one is reminded of the difference in demand for different articles in various parts of the country irrespective of seasons. It often happens that by some chance or other a chemist has a stock of what is in his neighbourhood an unsaleable line, but it may happen that in another district there is a demand for this class of article. For instance, a chemist in the Black Country may by some curious chance have on hand a stock of bathing caps, which he will possibly find is not an article in everyday demand. The chemist at Clacton-on-Sea, on the other hand, may find there is more demand for bathing caps than for anything else. A very popular means of transferring this stock from the district where it is not wanted to the district where it is in demand is through the Sale and Exchange column of the "*P.J.* 'Inset.'" A note in that inset serves a very profitable purpose, and frequently helps chemists to realise on what would otherwise have been dead stock.

ABSTRACTS—SCIENTIFIC AND TECHNICAL

A REVIEW OF CURRENT WORK IN PHARMACOPEDICS AND ALLIED SCIENCES

A New General Reaction for Aldehydes.

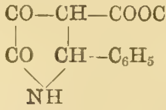
L. J. Simon and A. Conduché find that oxalacetic ether in the presence of ammonia forms solid condensation products with aldehydes, which are ketopyrrolidones. A molecular weight of oxalacetic ether, diluted in alcohol, is treated with a molecular weight of the aldehyde, benzaldehyde for example; a quantity of strong aqueous solution of ammonia equal in weight to the oxalacetic ether is then added. The mixture becomes hot, and must be cooled with a stream of water. It is then set aside, and after a few hours an abundant crystalline precipitate is formed, which is the ammoniacal salt of the condensation product. This is collected, washed with alcohol, and dried. It may be liberated with facility from its combination with the base in the usual manner with dilute acid. The reaction takes place according to the following equations:—

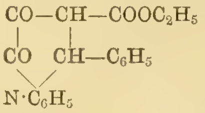
$$COOC_2H_5\cdot CH_2\cdot CO\cdot COOC_2H_5 + C_6H_5\cdot COH + 2NH_3 = C_2H_5(OH) + H_2O + C_{13}H_{13}NO_4NH_3$$

and

$$C_{13}H_{13}NO_4NH_3 + HCl = NH_4Cl + C_{13}H_{13}NO_4.$$

The body thus obtained with benzaldehyde is a white solid, which is sparingly soluble in cold alcohol and cold water. It may be recrystallised from hot solutions. It decomposes, without melting, at about 185° C. It is soluble, without decomposition, in strong acids, and is reprecipitated on dilution with water. It is a feeble acid and may be titrated by means of alkaline solutions, using phenol-phthalein as indicator. A series of salts of this acid have been examined, and are described. It gives a phenyl-hydrazone, melting at 172-173° C., and an oxime which, when hydrated, melts at about 100° C., but when anhydrous at 150° C. This reaction also occurs with furfural and other aldehydes, which may be identified by the decomposition point of the condensation product and of its ammonium salts. Thus the compound of benzaldehyde decomposes at 185° C.; of metanitrobenzaldehyde at 173° C.; of salicaldehyde at 175° C.; of anisaldehyde at 160° C.; of vanillin at 180° C.; of piperonal at 155° C. Any primary base, such as methylamine or aniline may replace ammonia in the reaction, but secondary amines do not react. The compound with benzaldehyde appears to have the following structural formula, when ammonia and aniline have been respectively used:—





—*Comp. rend.*, **138**, 977.

Kuromoji Oil.

This fragrant Japanese oil, obtained from *Lindera sericea*, Bl., has been found to contain linalool and cineol, thus differing from W. Kwasnik's analysis (Gildemeister and Hoffmann, 'Ætherischen Oele,' p. 526), in which it is stated to yield two terpenes and two oxidised bodies, viz., *d*-limonene and dipentene, terpineol and *l*-carvon. The specific gravity is now given as 0·8947, the rotation as −14° 29′, and the ester number as 29·87. It is soluble in 0·9 volume or more of 80 per cent. alcohol. The present analysis differs chiefly in the rotation which, according to Kwasnik's analysis, is −0° 4′. [It may be mentioned, by the way, that there are two species with similar Japanese names, viz., kouro motsi (*Lindera sericea*, Bl.) and kuro matsi (*Lindera umbellata*, Thunb.). This may account for the difference in the oils.]—*Schimmel's Bericht, April*, 1904.

Colouring Matter of Mimosa Flowers as an Indicator.

L. Robin states that a decoction of mimosa flowers, obtained by boiling 10 Gm. in 200 C.c. of water, cooling, adding 50 C.c. of alcohol, 95 per cent., and filtering into a brown glass bottle, affords a very sensitive indicator for alkalimetry. A little of the solution when largely diluted gives an immediate golden-yellow colour with one drop of N/10 alkali; the colour is at once discharged by the slightest excess of acid. It behaves like phenol-phthalein towards carbonates, but may be used in the presence of ammonia.—*Annales de Chim. Analyt.*, **9**, 130.

Volumetric Determination of Ferric Chloride.

The process is based on the reaction—

$$Fe_2Cl_6 + 2Na_2S_2O_3 = Na_2S_4O_6 + 2NaCl + 2FeCl_2.$$

This reaction only takes place on warming; but in the presence of copper sulphate it proceeds in the cold. Taking advantage of this fact, Moreau employs the method for the titration of the official ('Codex' sp.g. 1·26) solution of ferric chloride. 5 Gm. of this solution is treated with 2 C.c. of pure hydrochloric acid and made up to 80 C.c. with water; 10 C.c. of this dilution is measured off and diluted with 20 to 30 C.c. of water; about 0·1 Gm. of sodium salicylate is then added, as an indicator, followed by 10 C.c. of 10 per cent. cupric sulphate solution. The mixture is then titrated with N/10 $Na_2S_2O_3$, added drop by drop; when the violet tint is nearly discharged, five seconds' interval is allowed between the addition of each drop of the reagent. The reaction is complete when the liquid is colourless or shows only the blue tint of copper. Each 0·1 C.c. of solution used gives the percentage of ferric chloride present.—*Bull. des Sciences Pharm.*, through *Répertoire* [3], **16**, 170.

Kino of Dipteryx Odorata.

The kino obtained by incision into the trunk of the tree of the Tonka bean, *Dipteryx odorata* (see p. 548, *ante*), occurs, according to E. Heckel, H. J. de Cordemoy, and F. Schagdenhauffen, as a brownish-red transparent moderately soft mass, furnishing a ruby-red powder. It is strongly astringent, but is not entirely soluble in cold water, giving a solution with a voluminous flocculence, which only disappears on prolonged boiling. It is very slowly soluble in alcohol, 90 per cent., at ordinary temperatures, but is more readily dissolved on warming. The aqueous solution is not affected by a drop of ferrous sulphate solution, but on adding a trace of ammonia to the mixture an intense violet colour is produced. With the same reagent in concentrated solution, the liquid becomes blue, and turns violet-blue on boiling. Both aqueous and alkaline solutions are blackened by contact with iron. With reduced iron it gives a violet colour, both with hot and cold solutions, which is discharged by acids and reproduced by alkalies. It reduces ferric salts to the ferrous state. With boiling copper sulphate reduction also takes place, but the precipitate is not wholly copper suboxide, being partially soluble in water. It reduces mercuric chloride when boiled, but does not apparently reduce stannous chloride or bismuth subnitrate. In general reaction it agrees with other kinos.—*Répertoire* [3], **16**, 151.

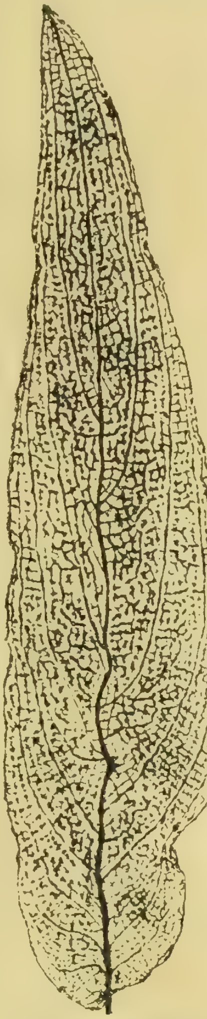
Yomugi Oil.

There seems to be some doubt about the source of this Japanese oil. The word "yomugi," according to J. J. Rein, is Japanese for mugwort (*Artemisia vulgaris*); but it is also stated to be distilled from *Chrysanthemum indicum* and *C. sinense*. According to Messrs. Schimmel it bears much more resemblance to the oil of German mugwort, and the name of kiku, not yomugi, is generally applied to *Chrysanthemum sinense*, Sab.—*Schimmel's Bericht, April*, 1904.

LEAF IMPRESSIONS, SKELETONS, AND CASTS (2).

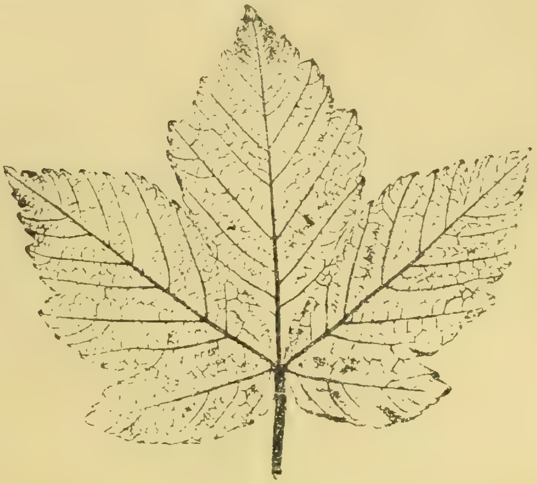
BY GRAHAM BOTT, F.L.S.

Before describing the process referred to in the *Pharmaceutical Journal*, May 7, p. 619, it may be mentioned that the original impression of *Liriodendron tulipifera* showed considerably more detail than is observed in the reproduction, the loss of critical exactness probably being unavoidably due partly to the method employed for obtaining the impression and partly to the process of reproduction. Those restrictions, however, are entirely eliminated by the following process, as it is one eminently suited for reproduction. The materials required are a pad of suitable size made with cotton wool covered with very fine linen, or the softest chamois leather, a sheet of Whatman's hot-pressed nott drawing paper, or that which is usually employed for pen and ink sketches, cut up into convenient pieces, and a cake of Indian ink. Pulverise the Indian ink until an impalpable powder results, adding water sufficient to produce a semi-thick liquid about half the consistence of cream; now apply the ink evenly to that surface of the leaf on which the veins are more prominent, by means of the pad, using gentle pressure rather than a rubbing motion, in order to avoid injury to the leaf. It will be noticed that the ink quickly commences to dry, but that may be neglected. Now take the sheet of paper on which it is intended to record the impression, and uniformly damp with absorbent cotton wool moistened with clean water, allowing, however, no free moisture to remain on the surface of the paper, otherwise there will be a lack of fine clear lines; after damping, very carefully superpose the leaf in desired position, cover with a clean sheet of paper, then press quickly and evenly in every direction, employing the fingers for that purpose; remove the leaf with equal care, and a splendid impression will remain, which the operator will rapidly improve upon after very little practice. Should the midrib or lateral veins project unduly, thus preventing the finer veinlets coming into contact with the paper, cut strips away until sufficiently thin before commencing operations. Fresh or dried leaves may be employed, although perhaps the former are rather more difficult to manipulate. The impressions herein illustrated were prepared from a fresh and dried leaf respectively; that of *Acer pseudoplatanus* was obtained from a fresh young specimen, that of *Piper angustifolium* from a dried one. Thus by means of the foregoing method the outline and structure of the vascular system can be reproduced with a fidelity and exactitude not excelled by any other method.



Piper angustifolium.

Another mode of nature printing for those interested, but one not giving the same results, yet of considerable interest, is that which was originated by Robert Hunt, a former Professor of Mechanical Science to the Government School of Mines, and whose "Researches on Light" and works on photography did much for that art.



Acer pseudoplatanus.

The method, which is a heliographic one, was termed by Mr. Hunt the chromatype process, and necessitates the following solutions:—

(1)

Potassium bichromate	60 grains
Copper sulphate	120 grains
Distilled water	6 ounces

Dissolve.

(2)

Silver nitrate	5 grains
Distilled water	1 ounce

Dissolve.

Prepare a sheet of good drawing-paper by washing it with the bichromate and copper solution in a dull light; when dry place the leaf, or other botanical specimen, on the washed pale yellow surface of the sensitised paper, using an ordinary printing frame with a plain sheet of glass over the object to be printed. Now expose to the action of brilliant sunshine until that portion of the paper which is not covered by the specimen fails to exhibit any yellowness, or at any rate, but little. The final operation is better performed in almost darkness, which consists in washing the paper with the silver nitrate solution, when an agreeable orange-red image is quickly developed that only requires well washing in clean water and drying in the usual manner. The process is closely allied to other heliographic methods, and possesses the advantage of yielding a direct positive, but with the disadvantage of great difficulty in obtaining detail. The paper, when prepared, will retain its quality almost indefinitely if preserved in a dark place.

M. Niepcé de St. Victor, a famous pioneer of photography, whose wisdom, like many a one before him, was not fully acknowledged until years had been numbered with the past and his words nearly forgotten, discovered various interesting methods for obtaining faithful copies of engravings and printed characters; but, since it is beyond the scope of the present article, reference to those processes must be omitted. Nevertheless, it is extremely interesting to recall that it was he who enunciated the great truth that no substance can be exposed to the sun's rays without undergoing a chemical change, and he demonstrated that bodies under solar influence were destructively acted upon, possessing, however, the marvellous property of recovering their former condition under the cover of darkness—an inherent power which effectually arrests the conversion of the world into chaos and the beginnings of nature.

THE STUDENTS' COLUMNS.

PRIZE COMPETITION (3).

Conditions.

The following examination paper is based on the articles which have been appearing each week in the Students' Columns since March 5, 1904. One or more prizes of books, according to the merits of the answers received, will be awarded, at the discretion of the Editor, to those student-associates of the Pharmaceutical Society whose replies to the questions shall be adjudged to be the best. Prizes will not be awarded to any of the competitors who were successful in a previous competition, though they may enter for the present one. Student-associates of the Society, and registered apprentices who apply before June 27 to be elected as such, will alone be eligible to compete. As the competition is intended primarily for apprentices, those who have sat for the Minor Examination will be deemed ineligible. Any books may be used in answering the questions, but each competitor will be required to write and sign a declaration that no assistance has been given him by any person whatever, either by way of answering the questions or of recommending books to be consulted, and that the competitor has never sat for the Minor Examination. Replies must be addressed to the Editor of the *Pharmaceutical Journal*, 17, Bloomsbury Square, London, and will be received up to Monday, June 20. Candidates should answer questions as concisely as possible, confining themselves to the information asked for. Answers should be written in books or on separate sheets of paper fastened together at the left hand top corner. It is preferable to write on one side of the paper only. The essay in answer to question 6 should be separate from the other answers. Competitors should remember to put their name or pseudonym on the first page of their answers. Pseudonyms or initials may be adopted, but the full name and address of the competitor must in every case be sent, together with the signed declaration already referred to. The names of competitors who succeed in gaining prizes will be published in the *Pharmaceutical Journal*, but the names of unsuccessful candidates will not appear.

EXAMINATION PAPER.

1. Dissolve about 1 Gm. of chloral hydrate in a little water, and add sodium hydroxide solution; allow to stand for a few minutes; then neutralise with hydrochloric acid, add a little solution of mercuric chloride, and warm. Describe carefully what occurs.

2. Heat separately crystals of sodium sulphate, ferrous sulphate, and copper sulphate, until there is no more change. Treat the residues with water; if necessary, use a little hydrochloric acid to dissolve, to the solutions add solution of ammonia drop by drop. Describe the changes that take place, and give equations where possible.

3. What weight of the B.P. hydrochloric acid will be required to decompose 5 Gm. of sodium bicarbonate? What volume will the liberated carbon dioxide occupy at 760 Mm. and 0° C. (1 C.c. of hydrogen weighs 0·0000896 Gm.)? What volume of the official solution of potash will this amount of gas completely convert into a solution of potassium carbonate?

4. Give the quantities, in the metric system, for preparing one litre of the following preparations:—

1.

℞	Pepsini	ʒi.
	Bismuthi subnit.	ʒii.
	Acid. hydrochlor. dil.	ʒii.
	Tinct. nuc. vom.	ʒiss.
	Glycerini	ʒiv.
	Inf. calumb. ad	℥vi.

2.

℞	Sodium chloride	200 grains
	Sodium sulphate	2½ oz.
	Syrup of ginger	5 fl. oz.
	Water to make	1 pint.

5. Translate the following into unabbreviated Latin:—

Take of—

Compound colocynth pill	2 grains
Green extract of belladonna	½ grain
Reduced iron	2½ grains
Oil of peppermint	¼ minim

Glycerin of tragacanth, a sufficient quantity to make a suitable pill. Send twelve such.

Label.—Let the patient take one pill twice a day for three days, and then once a day for six days.

6. Write an essay of about twelve hundred words on one of the following subjects:—

(i.) The industrial uses of chlorine compounds.
(ii.) The preparation of crude drugs for the market.
(iii.) The utility of a concurrent curriculum.

7. Describe in detail a leaf of three of the following plants:—Poplar (*Populus nigra*), Plane (*Platanus orientalis*), Rose (*Rosa* sp.), Violet (*Viola* sp.), Spanish Chestnut (*Castanea vesca* .

8. Discuss shortly respiration in plants.

9. Give an account of the results of three different methods of mixing each of the following formulæ:—

℞	Adeps lanæ	ʒiv.	℞	Tinct. ferri perchlor.	ʒiss.
	Ol. olivæ	ʒii.		Acid. phosph. dil.	ʒiss.
	Liq. plumbi subacet. fort.	ʒi.		Inf. digitalis	℥vi.
	Aq. rosæ ad	℥iss.			

℞	Ext. cinch. liq.	ʒi.
	Glycerini	ʒi.
	Aq. chlorof. ad	℥i.

10. How would you dispense the following mixtures:—

℞	Tinct. quin. amm.	ʒi.	℞	Pot. brom.	gr. 30
	Tinct. card. co.	ʒss.		Sp. chlorof.	ʒi.
	Aq. ad	℥i.		Aq. ad	℥ss.

℞	Syr. ferri phosph.	ʒi.
	Mag. carb.	ʒss.
	Aq. ad	℥ss.

State what might happen if other methods were used.

SUBSTANCES LIABLE TO DECOMPOSITION BY LIGHT.*

BY F. A. UPSHER SMITH, PH.C.

Acidum Carbolicum and its preparations (glyc. ac. carbol., etc.).—The purest grades of Calvert's acid are usually put up in amber-tinted bottles. The B.P. states that "exposed to moist air it may acquire a pinkish tinge." It would be interesting to know whether the reddening of carbolic acid on keeping is due alone to exposure to moist air. Certain it is that chemical change is liable to occur in carbolic acid, with formation of rosolic acid, and it is therefore included in this list as a member of the class of compounds liable to chemical change in darkness, and therefore more liable to change when exposed to white light.

Acidum Hydrobromicum Dilutum.—See Acidum Hydriodicum.

Acidum Hydriodicum.—Though not official this preparation may be mentioned as stating a case for the more careful preservation of hydrobromic acid. Hydriodic acid exposed to sunlight for one month at ordinary temperatures is decomposed to the extent of 80 per cent.

Acidum Hydrochloricum.—Though not coming under the subject of decomposition by light it is worth mentioning that for storing this acid dark blue bottles are found to be the best, and white and green bottles the worst, owing to the danger of arsenical contamination from white and green bottles. Amber glass is also suitable, being free from lead.

Acidum Hydrocyanicum Dilutum.—The Pharmacopœia directs this preparation to be "stored in a dark place, in small stoppered bottles of amber-coloured glass; the bottles being tied over with impervious tissue, and the bottles inverted." These admirable directions might with advantage be applied to the preservation of all liquid medicinal preparations liable to chemical change. The tendency of an aqueous solution of hydrocyanic acid to change into ammonium formate is here checked in every possible way. The bottles are to be small, so that when once opened the contents shall soon be used up; when not in use the bottles are kept in darkness, the amber tint protecting them when brought into the light for use. The inversion of the bottles prevents escape of hydrocyanic and vapour. It is important to shake before use in this case, as with all liquids giving off volatile vapours.

Acidum Nitricum is less prone to decomposition when kept in amber bottles, well filled.

Adeps and ointments and pomades containing it do not become rancid so quickly as usual when preserved from white light.

Æther and its Preparations.—The tendency of æther to produce hydrogen peroxide would no doubt be retarded by inhibiting white light. This has not been verified. It has been suggested that a globule of metallic mercury placed in a bottle of ether would keep it free from hydrogen peroxide. In addition the precautions as to preservation given in the B.P. under Acidum Hydrocyanicum Dilutum are also applicable here.

Amygdalæ and their Preparations are included in the list partly owing to the presence of fat liable to become rancid, and partly owing to the rapid decomposition of powdered almonds if at all damp. They should, however, be freshly powdered and not stored for any length of time.

Amyl Nitris.—The official directions for preserving prussic acid are quite as necessary in this case. It is to be hoped that the next Pharmacopœia will in other important cases, such as this, give particular directions to ensure the preservation of potent drugs.

Aniline, as is well known, acquires a dark colour when exposed to the action of white light.

Argenti Nitras and its Preparations, as well as all gold and silver salts, should be preserved in amber bottles.

Arsenii Iodidum is an unstable compound. It is very important to prevent decomposition as far as possible.

Carbonis Bisulphidum acquires a yellowish colour by keeping.

Chloroformum "should be kept cool and in a dark place," according to official directions. Not only sunlight and ordinary diffused white light, but gaslight and other artificial lights prejudicially affect chloroform, carbonyl chloride and hydrochloric acid resulting. David Brown (*Pharmaceutical Journal* [4], **11**, 669) recommended the use of lime as a preservative, and I submit the desirability of applying the official directions for preserving prussic acid in this case also. The ill-effects of administering decomposed chloroform are so liable to a fatal termination that no well proved precautions should be omitted. Not long ago a valuable paper was published on the preservations of medicaments by Madsen, wherein he stated that white glass protected chloroform less than red and yellow glass.

Coccus.—Cochineal is included merely as an example of a coloured vegetable substance that is liable to be more or less decolorised by the action of white light.

Creosotum acquires a yellowish to reddish colour on keeping.

Ergota, as containing a fixed oil, is included in the list, though it should not be kept longer than a year. The Pharmacopœia states "it is liable to deteriorate by keeping and by exposure to damp." The hollow stopper of the containing vessel should be filled with quicklime and the constricted neck plugged with cotton wool, to prevent access of moisture. A method largely employed by cigar dealers for keeping cigars dry is to sprinkle ordinary tea among the cigars. I have tried this method and found it successful, even when the box was kept on a high shelf, exposed to damp air in an unheated room with the door generally open. It would doubtless answer in the case of ergot, but the odour of the tea would be a disadvantage.

Filix-Mas and Extractum Filicis Liquidum.—Male fern is another drug that should not be kept more than a year, owing to the conversion of the active filicic acid into amorphous inactive filicin, which is the anhydride of the acid. When the internal bases of the petioles are no longer green the drug is unfit for use. The liquid extract, on keeping, is also prone to a similar change. It is not known whether this change was due to the action of light or other causes, but it is desirable to take care that these and similar medicaments prone to chemical change are protected from the action of white light.

Fœniculi Fructus.—See Oils, Volatile.

Hydrargyri Perchloridum.—Müller, experimenting with an aqueous solution containing mercuric chloride and oxalic acid, found that black, red, orange, and dark yellowish-brown bottles were most efficient in preventing reduction; that brownish-yellow, pure dark green, and dark brownish-green protected well; but that bluish-green, blue, or white afforded little or no protection.

Injectio Morphinæ Hypodermica and other Preparations of Morphine.—It is usual to wrap vessels containing morphine salts in solution in ruby or yellow paper, to exclude the actinic rays of solar light.

Iodoformum, in alcoholic solution, is decomposed under the influence of light, iodine and methylene iodide being produced. Oxalic acid accelerates this decomposition, and, generally speaking, iodoform was very prone to decompose with formation of free iodine. I make a practice of excluding iodine preparations as far as possible from light.

Iodum and its Preparations.—A well-known method of producing decolorised iodine consists in adding solution of ammonia and exposing to a bright light. This forms an excellent illustration of the potency of solar light in promoting or accelerating chemical change.

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* Extracted from a paper read before the Sheffield Pharmaceutical and Chemical Society, on Wednesday, April 20, 1904.

Liquor Ammonii Citratis, Liquor Ammonii Acetatis, and other solutions that dissolve lead should be stored in amber glass.

Liquor Calcis Chlorinatæ is an unstable solution of available chlorine, and requires protection from solar light.

Liquor Ethyl Nitritis.—The loss of strength on keeping this preparation has been referred to by Barclay (*Pharm. Journ.* [4], **9**, 615), and Harvey (*C. and D.*, 1901, **1**, 833). It is most important to store this preparation in small, full amber bottles, in a cool place.

Liquor Hydrogenii Peroxidi.—Many methods have been devised and practised for preserving this unstable solution. Madsen has shown that orange glass preserves it best, then red glass, white glass being very much worse. If orange or amber glass would preserve this solution without the addition of an acid, it would be far preferable.

Liquor Pancreatis, being an animal extract, is prone to decompose. Doubtless all such preparations are best kept in amber bottles.

Liquor Sodæ Chlorinatæ.—See Liquor Calcis Chlorinatæ.

Liquor Thyroidei.—See Liquor Pancreatis.

Mucilago Acaciæ, as a fermentable liquor, is included in this list.

Oils, Fixed, and Fats.—These, as a rule, are liable to become rancid. The usual method of storage in jars or a cellar naturally preserves from light, but it is not uncommon to see bottles of olive and almond oils exposed to bright light in shop rounds. Again, pomades containing fixed oils and fats are usually put in clear glass bottles. In such cases amber bottles not only help to preserve, but in addition have a nice appearance. It is only to be expected that the beautiful natural green tint of olive oil should become brown on exposure to light.

Oils, Volatile.—The tendency of volatile oils to resinify and become dark in colour is well known. Such action should be checked as far as possible by storing in amber glass. Madsen has shown that in the case of Fœniculi Fructus orange glass preserves the odour better than red or white glass. This, I think, states a good case for storage of all volatile oils in amber glass. The following oils suggest themselves to me as specially liable to change, but I should go further and store all solutions containing volatile oils, *e.g.*, tinctures and perfumes, and all crude drugs containing volatile oils in amber glass.

Oleum Anthemidis becomes yellowish brown on keeping.

Oleum Caryophylli becomes reddish on keeping.

Oleum Crotonis darkens with age.

Oleum Limonis loses its delicacy on keeping. I have frequently known absolute alcohol to be added, 1 oz. to the pint, but in practice I have never seen this oil preserved in amber bottles.

Oleum Menthæ Piperitæ becomes darker by age.

Oleum Menthæ Viridis.—The same.

Oleum Morrhuæ requires the most careful preservation from heat and light.

Oleum Phosphoratum.—See Phosphorus.

Paraldehydum, as an ethereal preparation, is included in this list.

Phosphorus and its preparations require preservation, not only from air but from light, which produces the amorphous variety.

Physostigmatis Semina and the salts of physostigmine. Eserine sulphate, as is commonly known, becomes red by exposure to air and light.

Pilula Phosphori.—See Phosphorus.

Potassii Iodidum, after standing for a time in a bottle frequently not only smells strongly of iodine, but frequently shows visibly the presence of free iodine.

Pulvis Glycyrrhizæ Compositus, as an example of an aromatic powder, is here included. The damaging effect of light may often be seen in a bottle of compound liquorice powder that has been exposed. The portion facing the light is distinctly bleached.

Pulvis Rhei Compositus.—See Pulvis Glycyrrhizæ Compositus.

Santoninum, as everybody knows, turns yellow on exposure to light, probably owing to the formation of photo-santonic acid, which is a yellow substance. Amber glass should be used to prevent this change.

Spiritus Ætheris Nitrosi is officially directed to be preserved in well closed vessels, preferably in a cool dark place and in small bottles. There is no preparation with which we have to deal that requires amber glass more than this. It is to be regretted that so many shop-rounds used for this purpose are of white glass, and also are too large. The aim should be always to keep a full bottle of sweet nitre, whatever the size may be, and to let the size be as small as compatible with convenience. A valuable paper dealing with the preservation of this galenical by David Gilmour will be found in the *Pharmaceutical Journal* [4], **12**, 54, and by Farr and Wright in the 'Year-Book of Pharmacy,' 1901, 447. They confirmed Harvey's recommendation to use amber glass, recognising in it a perfect protection. Permit me to recall the conclusive experiments carried out by Farr and Wright. The bottles were placed in a window facing east and south:—

	June 15.		July 9.
(1) Stoppered amber glass, 3 fl. oz., full....	36·4	....	36·2
(2) Ditto, half full	36·4	....	31·4
(3) White stoppered, 2 oz. full	36·4	....	14·2

The figures denote yield of gas from 5 C.c.

Sulphuris Iodidum.—This loose combination of sulphur and iodine requires better protection from solar light than white glass affords.

Syrupus Ferri Phosphatis cum Quinina et Strychnina deposits ferric phosphate on standing. It is interesting to recall the fact that one of the ingredients, quinine, exhibits the phenomenon of fluorescence when dissolved in hydroxy-acids. Fluorescence is due, as you are aware, to the fact that quinine and other fluorescent bodies have the power of absorbing certain rays of the invisible spectrum (ultra-violet rays), converting them into rays of longer wave length, which are emitted and rendered visible, their colour being sky-blue. It is natural to anticipate that the use of amber glass for preparations of quinine would be beneficial.

Tinctura Ferri Perchloridi.—An alcoholic solution of ferric chloride exposed for a few minutes to sunlight is partially reduced to the ferrous state, a fact which has been made use of in photography, since those portions of the ferric chloride paper which have been altered by light give a blue colour on treatment with ferricyanide of potassium. It should be noted that an aqueous solution of ferric chloride does not suffer this change. From this it follows that the Liquor Ferri Perchloridi differs materially in its constitution from the Tinctura Ferri Perchloridi, and it is important for therapeutists to determine in which form they wish to administer iron as tincture, whether in the ferric or ferroso-ferric state. If the former be required, then the pharmacist requires to preserve the tincture in amber glass.

THE ROYAL ARMY MEDICAL CORPS—A SKETCH.

BY C. H. FENTIMAN, M.P.S.

The Royal Army Medical Corps, to which I was attached for four years as dispenser, is a branch of the military services devoted exclusively to the medical and surgical requirements of soldiers. The head of the corps is the Director-General, or D.G., and the headquarters are in Victoria Street, Westminster. The administration is divided into districts, each of which is under the authority of a Principal Medical Officer, or P.M.O., as he is usually termed. The districts comprise several stations, and each station is under a senior medical officer or a medical officer, who are designated S.M.O. or M.O. Under the M.O. come the subordinate staff, ranging from a sergeant-major down to a private, who in turn are held responsible for the general work of the hospital, according to the duty apportioned to each. It must be understood that all have to enlist in order to belong to the R.A.M.C., and therefore must be soldiers.

A soldier differs from a civilian in so far that he is subject to discipline or military law, which means that when once a man takes the oath, and becomes what is termed an attested soldier, he begins to live in a different sphere altogether—his rights and privileges as a civilian have disappeared. The difference between the soldier and civilian may be described thus: Suppose, in an establishment where two or more are employed, one being the senior, a disagreement occurs: the junior resents what he thinks is the tyrannical conduct of his superior, and refuses to obey him. The worst that can happen is dismissal. In military life, however, if a private resents the domineering of a non-commissioned officer, and shows it in any way, he will probably find himself under arrest and spend the night in the guard-room, the next morning being marched off with the other prisoners to make his appearance at the orderly room before the C.O.—*i.e.*, the commanding officer. It is perfectly useless for him to argue; the word of the N.C.O. is taken in preference to his, and he is awarded some kind of punishment—probably so many days C.B. (confined to barracks), which means that he cannot get leave to go out. Again, suppose a soldier, having leave, goes out for a few hours, and returns to barracks late. In civil life this would probably be met by a growl or grumble, or in a large establishment by a fine; but the soldier by so doing has committed a crime.

To put the matter briefly, in a variety of ways too numerous to mention, a soldier is frequently rendered liable to be punished for so-called crimes which in civil life would hardly be considered worthy of notice. All soldiers come under the same system, no matter what arm of the service they belong to. Some explanation is given by stating the fact that, whereas in civil life a man may leave his employment, either by giving or receiving notice, in the Army neither can be done. The soldier is bound to the Army and the Army to him. Hence, for misdemeanours of any kind a system of punishment has been instituted; but it is carried too far.

No one, as I have already said, can join the R.A.M.C. without becoming a soldier. He then chooses the branch of the service he wishes to join; but he can, if he likes, transfer to another branch later on. Of course, a soldier in the R.A.M.C. has to undergo a course of training which embraces a good deal of drudgery; not merely going through his course of rifle drill, stretcher and ambulance drill, bandaging, etc., but he must also do his share of scrubbing out the wards and cleaning the utensils, any neglect being punishable as a crime. It has been said that a man may be a good civilian but a bad soldier, or *vice versâ*. I thoroughly endorse that statement. A man even with the Minor certificate would have to go through his training in the ordinary way, and it might happen that a discontented chemist, upon joining the R.A.M.C., might find the N.C.O. over him a former errand-boy, who, having joined some time previously, had risen to non-commissioned rank.

The drill in the R.A.M.C. is something similar to the St. John's Ambulance classes, including a good deal of first-aid methods; but, of course, more associated with accidents that occur in the field. The order of advancement is from private to third, second, and first-class orderly, and it depends on conduct in these promotions for further advancement. After a time he becomes lance-corporal, and then full corporal; and upon obtaining his first-class certificate of education and passing the compounders' examination, is probably made a lance-sergeant, then full sergeant. The pay of a full sergeant is fairly good, one way and another.

The examinations for compounder are conducted by medical officers, and would be child's play to a chemist, provided he understood the military course as well; but as many of the questions relate to this part, and not merely to dispensing, it shows that he must be trained in the Army way. When he has attained the position of compounder, he may be appointed to a small station hospital, and he is then, next to the M.O., the most responsible party, being not only a compounder, but also ward master. In addition to the dispensing he has to attend to the wards and their equipment, also the supplies, as well as office work—getting ready most of the documents and returns which will require the M.O.'s signature. He can also acquire a very fair knowledge of minor surgery, if so inclined.

The chief work of a small station hospital is in the early morning, seldom later than 8 o'clock. The routine is as follows: About 7.30, the sergeant has to see that the orderlies get the surgery or inspection room in proper order; and that the work of the wards has been attended to. He then attends to the papers connected with a batch of prisoners and those who intend going sick. The latter are paraded in answer to a bugle call for the sick. In addition to the prisoners and sick, there may be some who require to be examined for extension of service or for discharge. Having got papers and everything else in order, the arrival of the M.O. is waited, upon whose appearance the order "'tention" is given, and he is saluted. On entering the surgery, the M.O. takes his seat and is ready for the business of the day. The first thing is an examination of the prisoners to see if they are fit for punishment. This does not occupy very long; their papers are signed and they are dispatched. Then commences attendance on the sick. The cases are generally of a slight nature.

The first is, say, Private Mullins, whose name is called out. He enters, commences a rambling statement, almost inaudible—so much so that the M.O. hasn't heard a word of what he has been saying. "Speak up, man!" he says. "Don't stand there mumbling in that manner." On looking at him more closely he perceives that the man has been imbibing rather freely overnight. "You've been drinking, Mullins." "No, sir; only a glass or two, sir." "H'm! My opinion is you've been soaking." The M.O. tells the compounder to give the man a No. 9 pill and a full dose of white mixture. Private Mullins is about to leave, but the M.O. calls out, "Here! not so quick. Let me see him take his medicine before he leaves the surgery." Poor Private Mullins, who hoped to get excused duty, hasn't played his part well, and suffers for it. He retires disgusted, and if you could hear him outside, his opinion of the M.O. is very poor—very poor indeed. Then follow two or three men with sore feet, the result of route marching—probably many readers of the *P.J.* have seen a large body of soldiers marching rather early in the morning, probably on a march of ten or fifteen miles.

The next is Private Flaherty, who is hoping for his discharge. He has apparently a very bad cough. The M.O. examines him with a stethoscope, the sergeant having previously taken his temperature. The M.O. remarks that he doesn't find much the matter. Private Flaherty replies, "Indade, I am bad, sir, that I am. God knows I am! Coughing all night." He then coughs a good deal to show that he is bad, and mutters, "Sure, I am very bad!" The M.O. detains him for observation. This suits Flaherty, as he escapes all duty and gets a day's rest.

It may happen that there is now an interruption; a soldier is brought down on a stretcher, having fainted on guard. He has to be attended to at once, and is also detained, as he exhibits a high temperature. The next is a surgical case. A gathering has to be cut, and then fomented and dressed; or perhaps a soldier employed in the butchers' department has cut his finger nearly off A few other cases are then attended to, some being detained. Others, more serious, are sent away to a larger hospital. When just about finishing, the M.O. is informed that one of the married women wants him to attend at her quarters. This so riles the M.O. that he exclaims, "That woman Jones again! Why, she or some of her family are always ill. Well, I will call after breakfast, tell her."

This concludes the early morning work, those who are not detained being marched off to parade, to return for medicine or treatment afterwards. It may be that after this the sergeant has to get ready a batch of recruits to be measured, weighed, and examined by the M.O., or probably several have to be re-vaccinated, or certain men and their families are to be examined before going abroad to some foreign station where they have been ordered. The M.O. may then inspect the wards, etc., and order certain things to be done. This brings the time up to about twelve o'clock, when it may be said the work of the day is practically over. But the men have to be in their places, except those who, after two o'clock, are allowed out. At night there are sometimes accidents, which occur at all hours, but principally after the closing of the canteen.

Great precautions are taken in infectious cases, and the M.O., assisted by the sergeant and orderly, has to see that the building where they occur is thoroughly disinfected, as well as all clothes and bedding. The non-commissioned officer in charge of a small station hospital has more danger to face, in so far that more is expected of him. It is not an unusual thing for a refractory or tiresome patient to watch his opportunity and get out of the ward, and is found near the canteen. He is then made a prisoner, and the sergeant of the medical corps is accused of neglect, and gets into trouble.

Some of the men belonging to other regiments affect to look down on those of the R.A.M.C. as not being soldiers in the proper sense—that is, fighters—and facetiously call them "The Poultice Walloper Brigade," in reference to their work as male nurses in the wards. In the same way, some of the officers of the different regiments do not view with favour the military titles of the medical officers, looking at them much in the same way as some do the titles of officers in the Salvation Army.

In conclusion, I may repeat that no one can become an Army compounder without first being a soldier and going through the necessary training—except in times of war, when civilians are employed to fill their places. It is particularly necessary that men acting in this capacity must be soldiers, in order that each compounder may be ordered, whenever the War Office requires him to go, either abroad or wherever he may be wanted, whereas a civilian could refuse, which would cause great confusion.

One point of military law I wish to mention, and that is, all Volunteers, when employed by the War Office in military duties, become liable, whilst so employed, to military law, the same as an ordinary soldier. The life itself has many good traits, and if a well-educated man could make up his mind to subordinate his feelings whilst going through the drudgery and humiliating part of the life, and bide his time for advancement, he may, with almost a certainty, rise to high non-commissioned rank—perhaps become a quartermaster with the rank of lieutenant, and retire afterwards on a substantial pension, with the rank of captain. 'The Manual for the R.A.M.C.,' 'The Standing Orders,' 'The King's Regulations,' 'The Army Pay Warrant,' and 'The Manual of Military Law,' are the books required to learn the details of life in the R.A.M.C. and that of a soldier.

THE USE OF THE METRIC SYSTEM IN PRESCRIBING.*

In response to requests from correspondents we give below a few notes which we hope may be of use to those desirous of familiarising themselves with the metric system of weights and measures as applied to the writing of prescriptions.

In prescribing by the metric system the unit of weight is the gramme, which is equal to about 15 gr., and that of volume the cubic centimetre, equal to about 17 minims.

The relation of the two systems stated more accurately is:—

1 gramme (Gm.)	= 15·432 grains.
1 decigramme (Dg.)	= 1·5432 grains.
1 centigramme (Cg)	= 0·15432 grains.
1 milligramme (Mg.)	= 0·015432 grains.
1 cubic centimetre (C.cm.)	= 16·9 minims.

The fluid drachm is roughly equivalent to 4 C.cm., and the fluid ounce to 30 C.cm., and the drachm and ounce to 4 Gm. and 30 Gm. respectively.

Gramme and cubic centimetre signs will alone be necessary in prescriptions, the smaller weights and measures being expressed as decimal fractions; thus 0·1 Gm. = 1 decigramme, 0·01 Gm. = 1 centigramme, 0·001 Gm. = 1 milligramme, etc.

If we take an ordinary prescription and write the two systems side by side in exactly equivalent quantities, the difficulties involved in the adoption of the metric system are greatly magnified; for example:—

℞	Ferri sulph. gr. ij.	= 0·1296 Gm.
	Quin. sulph. gr. j.	= 0·0648 Gm.
	Ac. sulph. dil. mij.	= 0·118 C.cm.
	Glycerini ʒj.	= 3·552 C.cm.
	Aquam ad ℥j.	= 28·417 C.cm.

This is the manner in which the opponents of the change frequently support their arguments. Such difficulties would not arise, however, were the new system actually adopted. The doses of pharmacopœial and other remedies would then be given in grammes and cubic centimetres; and instead of having, say, "ferri sulph., dose, 1-5 gr.," we should have "ferri sulph., dose, 0·05-0·25 Gm." In the same way the dosage of mixtures would be altered somewhat. Thus simplified the prescription becomes:—

℞	Ferri sulph. gr. ij.	= 0·1 Gm.
	Quin. sulph. gr. j.	= 0·05 Gm.
	Ac. sulph. dil. mij	= 0·1 C.cm.
	Glycerini ʒj	= 4 C.cm.
	Aquam ad ℥j	= ad 20 C.cm.

The most convenient dose for mixtures would probably be 20 C.cm. It is somewhat less than a fluid ounce, but has the advantage of being divisible by 4 to give a whole number, which would not be the case with 30 Cm. (more nearly equivalent to the fluid ounce).

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* Reprinted from the *British Medical Journal*, March 26, 1904.

Too great concentration in mixtures is a fruitful source of incompatibility, and 20 C.cm. would most generally be ordered; when necessary, doses of 10 C.cm. or 5 C.cm. could be prescribed. Such doses do not accord with the spoons in common use, but the introduction of the new system would be a fitting opportunity to break with this inaccurate method of measuring. The most convenient bottles to use would be those with a capacity of 200 C.cm., 100 C.cm., or 50 C.cm., and during the transition stages 8 oz., 4 oz., and 2 oz. bottles could be used to contain these quantities. In dispensing ten doses all the calculation necessary would be a shifting of each decimal point one place to the right. Bearing in mind what has already been said, the following prescriptions, with approximate equivalents in the metric system, may be written :—

℞ Tinct. nuc. vom. ♏iv.......... = 0·25 C.cm.
Ac. hydrochlor. dil. ♏x. ...... = 0·5 C.cm.
Aquam. ad. ʒj. .... = ad 20 C.cm.
Mitte ℥viij. Mitte 200 C.cm.

℞ Magnes. sulph. ʒj. .... = 4 Gm.
Magnes. carb. gr. x............. = 0·6 Gm.
Aq. menth. pip. ad ℥ss. .... = ad 10 C.cm.
Mitte ℥iv. Mitte 100 C.cm.

℞ Oxymel. scillæ ♏xxiv. .... = 1·5 C.cm.
Tinct. camph. co. ♏xij.... .... = 0·75 C.cm.
Vin. ipecac. ♏vj. .... = 0·4 C.cm.
Syrupum, ad ʒj.................. = ad 5 C.cm.
Mitte ℥ij. Mitte 50 C.cm.

Lotions, liniments, and all liquid preparations would be dealt with in a similar manner. In the same way pills 1 to 5 gr. would become 0·06 to 0·3 Gm. (6 to 30 Cg.) in size. The dose of potent extracts, instead of ¼ to 1 gr., would become, say, 0·015 to 0·06 Gm. (15 to 60 Mg.), thus :—

℞ Podoph. res. gr. $\frac{1}{12}$ .... = 0·005 Gm.
Quin. sulph. gr. j................ = 0·06 Gm.
Ext. belladon. gr. ¼ .... = 0·015 Gm.
Ext. aloes gr. j. .... = 0·06 Gm.
Mitte xii., vel. xxiv. Mitte x., vel. xx.

It will be gathered from what has been said that it is hopeless to endeavour to write equivalent formulæ in the two systems, and the coming change must be a radical one. No doubt pharmacopœial formulæ will be modified still further in the direction of simplicity of dosage. Those who really wish to gain some practical idea of the new system would be well advised to purchase a set of metric weights and measures (which can be obtained at a trifling cost), and by weighing and measuring a few substances they will soon become accustomed to thinking in metric quantities.

NEW REMEDIES.

The Notes in this column embody recent suggestions in therapeutics, for the information of dispensers; they deal with novel applications of drugs and preparations in common use, in addition to new remedies strictly so-called.

Dionine as an Ocular Analgesic.—Dr. J. Hinshelwood directs attention to the value of dionine as an analgesic for optical application. Although the drug has been long known, its value for this particular does not seem to be generally recognised. It is applied as a 5 per cent. solution, or, better still, as a 5 per cent. ointment with a vaseline basis, which is more readily diffused over the eye and not so soon washed out by tears where there is much lachrymation. Even a 2 per cent. solution may be used where pain is not very severe and lachrymation not acute. The analgesic action of the drug does not modify the sense of touch, and it is of no use as an anæsthetic, but it is most valuable in lessening pain due to various eye affections. The application sometimes occasions an intense chemosis of the conjunctiva which swells up and overlaps the cornea, so that it may occasion alarm to the patient; but it rapidly subsides, and is even an appearance to be welcomed, since it indicates that the relief afforded by the dionine will be marked. It only appears after the first or second instillation of the drug.—*Brit. Med. Journ.*, 1904, **1**, 1,009.

Crude Petroleum as an Internal Remedy.—From experiments conducted on his own person, A. D. Binkerd speaks in the highest terms of the value of crude petroleum as an antiseptic stimulant of the digestive organs. Commencing with daily small doses, he found that the appetite and weight rapidly increased, and digestion was improved under the petroleum treatment, while no nausea or other ill effects were observed. The good results thus personally obtained induced him to prescribe petroleum for patients. It has been found most efficient in checking diarrhœa, in cases of mal-assimilation and constipation; also as a substitute for cod-liver oil, and in the treatment of typhoid fever. The average dose is a teaspoonful. It is claimed that it is absolutely harmless: the writer speaks after having taken the remedy for two years without intermission. The petroleum employed was the light variety of the crude oil, not the dark heavy kind with an offensive odour.—*Therap. Gaz.* [3], **19**, 799.

Mercury Anilinide in Syphilis.—Fedtschenko treats syphilis with an injection or inunction of mercury anilinide. The injection is composed of mercury anilinide, 4; liquid paraffin, 30; cocaine nitrate, 0·25. The ointment consists of mercury anilinide, 2 to 2·25; resorbin, 3; peppermint oil, 0·3.—*Pharm. Centralh.*, **45**, 361, after *Wratsch.*

Isopral.—According to Impens, isopral, trichloro-isopropyl alcohol, is twice as active, physiologically, as chloral. It occurs in fine prismatic crystals, which melt at 49° C., but it sublimes at normal temperatures. Its solubility in water—3·39 : 100—is markedly less than that of chloral. It has a camphoraceous odour; its taste is aromatic and somewhat irritant, producing a burning sensation, followed by insensibility. It does not yield chloroform on treatment with alkalies, but parts with the whole of its chlorine, so that it may be determined quantitatively, after saponification under a reflux condenser, from the amount of chlorine liberated. Although its physiological action is greater than that of chloral, its toxicity is less.—*Bull. Comm.*, **32**, 82, after *Nouv. Rem.*

Vanadic Acid Solution (Oxydasin) as an Antiseptic.—Le Blond and C. David find that solutions of vanadic acid act as excellent antiseptic dressings for simple wounds, anthrax pustules, tuberculous lesions, syphilitic sores, eczema, and soft chancres. For skin affections the strength of the solution employed was 0·05 in 1,000; for gynæcological use, and where a stronger stimulant reaction was required 0·17 in 1,000 was used. Urethritis has been cured with the weaker solution in three weeks; endometritis was generally cured in the same time—where this was not the case the stronger solution was used. In addition to its antiseptic action, vanadic acid has a powerful healing influence, which renders it specially valuable in treating skin affections. It is most valuable in gynæcology, being superior to the antiseptics generally used, and having the great advantage of being odourless. For this purpose 1 volume of the 0·5 per mille solution is mixed with 2 volumes of glycerin. The commercial name oxydasin is applied to the 0·5 : 1,000 solution. Intolerance of the remedy was only observed in one case, in which an erythematous eruption followed the use of the stronger solution.—*Bull. Gén. de Thérap.*, **145**, 851.

PRACTICAL NOTES AND FORMULÆ.

SACHET POWDERS.

Bouquet de Caroline Sachet.

Powdered orris root, 2 lb.; grain musk, 10 grains; bergamot oil, ½ oz.; lemon oil, ½ oz.; otto of rose, 30 minims.

Chypre Sachet.

Powdered orris root, 2 lb.; rasped cedar wood, 1 lb.; rasped sandal wood, 1 lb.; vanilla (coarse ground), 4 oz.; ground Tonka beans, 2 oz.; essence of musk, 1 oz.; rose geranium oil, 30 minims; otto of rose, 25 minims; bergamot oil, 16 minims.

Bouquet Sachet.

Powdered orris root, 2 lb.; yellow sandal wood sawdust, 2 lb.; powdered sweet orange peel, 2 lb.; musk Bauer, 1 grain; coumarin, 2 grains; vanillin, 2 grains; otto of rose, 90 minims; bergamot oil, 2 drachms; ylang-ylang oil, 20 minims; neroli oil, 20 minims; rose-geranium oil, 50 minims; cinnamon oil, 15 minims; essential oil of almonds, 5 minims; extract of jasmin, 2 oz.

Jockey Club Sachet.

Dried ground sweet orange peel, 2½ lb.; powdered orris root, 1½ lb.; ground rose petals, 1½ lb.; Siam benzoin, 4 oz.; sandal wood sawdust, 2 oz.; cloves, 1 oz.; coumarin, 10 grains; musk, 1 grain; civet, 1 grain; otto of rose, 1 drachm; oil of bergamot, 1½ drachm; oil of rose geranium, 30 minims; neroli oil, 30 minims; cinnamon oil, 10 minims; bitter almond oil, 10 minims; ylang-ylang oil, 10 minims; extract of jasmin, 4 fl. oz.

Lavender Sachet.

Lavender flowers, 16 oz.; dried thyme, 1 oz.; dried spearmint, 1 oz.; powdered cloves, ½ oz.; powdered caraway, ½ oz.; lavender oil, 2 drachms.

Lignaloe Sachet.

Powdered orris root, 3½ lb.; ground rose leaves, 1 lb.; yellow sandal wood raspings, 8 oz.; ground vanilla, 4 oz.; lignaloe oil, 1 oz.; essence of civet, 1 oz.; essence of musk, ½ oz.; oil of rose-geranium, 40 minims; otto of rose, 20 minims.

Marechal Sachet.

Powdered orris root, 1 lb.; yellow sandal wood raspings, 8 oz.; ground rose petals, 4 oz.; ground cloves, 4 oz.; essence of musk, 1 oz.; bergamot oil, 1 drachm; rose-geranium oil, 1 drachm; vetivert oil, 1 drachm.

Millefleurs Sachet.

Powdered orris root, 2 lb.; ground lavender flowers, 1 lb.; ground cassie flowers, 1 lb.; ground rose petals, 1 lb.; ground sandalwood, 8 oz.; ground Tonka beans, 4 oz.; ground benzoin, 4 oz.; ground vanilla, 3 oz.; ground cinnamon, 2 oz.; ground cloves, 2 oz.; essence of musk, ½ oz.; essence of civet, ½ oz.; bergamot oil, ½ oz.; rose geranium oil, ½ drachm; patchouli oil, 10 minims.

White Rose Sachet.

Powdered orris root, 16 oz.; rice flour, 8 oz.; otto of rose, 2 drachms; patchouli oil, 15 minims.

⁂ In all the above recipes the solid ingredients should be ground to coarse powder immediately before mixing.—Reprinted from the *Spatula.*

New Mown Hay Sachet.

Powdered orris root, 2 lb.; ground Tonka beans, 4 oz.; ground vanilla, 2 oz.; essence of musk, 6 drachms; oil of rose geranium, 1 drachm; oil of bergamot, ½ drachm; otto of rose, 15 minims; essential oil of almonds, 5 minims.

Opoponax Sachet.

Powdered orris root, 3 lb.; ground rose petals, 1 lb.; ground cassie flowers, 1 lb.; ground Tonka beans, 4 oz.; ground musk pod skins (or essence of musk), 1 oz.; essence of civet, ½ oz.; bergamot oil, 2 drachms; rose-geranium oil, 1 drachm; citron oil, ½ drachm; patchouli oil, ½ drachm; citronella oil, 15 minims; otto of rose, 5 minims.

Rondeletia Sachet.

Powdered orris root, 3 lb.; ground lavender flowers, 1½ lb. ground cloves, ½ oz.; essence of musk, 1 fl. oz.; essence o ambergris, 1 oz.; oil of bergamot, 2 drachms; English oil of lavender, 2 drachms; clove oil, 2 drachms; geranium-rose oil, ½ drachm; otto of rose, 20 minims.

Ylang-Ylang Sachet.

Powdered orris root, 3 lb.; ground cassie flowers, 1 lb.; rose petals, 1 lb.; pimentos, 4 oz.; ground Tonka beans, 2 oz.; ground vanilla, 2 oz.; ground benzoin, 1 oz.; essence of musk 1 oz.; essence of civet, ½ oz.; oil of bergamot, 2 drachms; oil of ylang-ylang, 2 drachms; oil of pimento, 1 drachm; oil of rose geranium, 1 drachm; otto of rose, 20 minims.

NEW SYNTHETIC BOUQUETS.

Violette Royal.

Iriolette, 12; synthetic jasmin oil, 1; solution of synthetic rose oil, 1 : 100, 15; solution of coumarin, 2·5 : 100, 5; solution of vanillin, 25 : 100, 5; tincture of benzoin, 10; moschinol, 0·5; synthetic ylang-ylang oil, 1; alcohol (90 per cent.), 900.

Rose of Shirah.

Synthetic rose oil, 200; moschinol, 5; tincture of tolu, 100; synthetic neroli oil, 5; solution of oil of ambrette, 1 : 100, 125; vanillin, 2; alcohol (90 per cent. 9,000.

Persian Lilac.

Moschinol, 5; oil of ambrette, 1; synthetic jasmin oil, 20; simple tincture of benzoin, 200; vanillin, 10; synthetic ylang ylang oil, 10; muguet, 150; aubepine, 3; terpineol, 80; alcohol (90 per cent.), 9,000.

White Heliotrope.

Concrete oil of heliotrope, 250; vanillin, 40; moschinol, 10; synthetic yang-ylang oil, 25; simple tincture of benzoin, 200; synthetic rose oil, 60; synthetic cassie oil, 20; oil of ambrette 5; alcohol (90 per cent.), 9,000.

Kadsura.

Synthetic jasmin oil, 20; simple tincture of benzoin, 100; moschinol, 5; bergamot oil, 150; citral, 5; synthetic nerol oil, 10; coumarin, 15; heliotropin, 30; alcohol (90 per cent.) 9,000.—*Seifensieder Zeit.*, **30**, 952.

CHELTENHAM AND DISTRICT CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Wednesday, May 18, 1904, at Gloucester, Mr. Freshfield Reynolds, the Vice-President, in the chair.

Radium.

Dr. Hodges gave a most interesting and instructive lecture to the members on "Radium and its Therapeutic Application." For an hour and a-half the lecturer was listened to with wrapt attention, his experiments and illustrations being thoroughly appreciated.

Hospitality.

The Cheltenham and district members were most cordially received and hospitably entertained by the Gloucester chemists, who had made all the arrangements and secured the services of Dr. Hodges, who has devoted much time and energy to the study of radium and its compounds.

A hearty vote of thanks was accorded to the lecturer on the proposition of the President and seconded by the Vice-President.

ROYAL INSTITUTION.

PROFESSOR RUTHERFORD ON RADIUM.

Friday, May 20, 1904, at the Royal Institution, Albemarle Street, London, W., the Duke of Northumberland in the chair.

Professor E. Rutherford delivered a lecture on the

Radiation and Emanation of Radium.

The lecturer showed how radium excited phosphorescence and discharged a charged electroscope, and described the properties of the three kinds of rays which it had been found to give off. In addition it gave off an emanation which behaved like a gas and could be condensed by cold; it could also be secluded in the radium itself, and was liberated when the salt was dissolved in water. This emanation, though exceedingly minute in quantity, possessed three-quarters of the characteristic powers of radium and all its properties. If a cubic inch of the emanation were collected, the tube that contained it would probably melt, while a few pounds would supply enough energy to drive a ship across the Atlantic, though each of those pounds would require no less than seventy tons of radium to supply it. In regard to the process going on in the emission of the emanation, he advanced the theory that radium was continuously producing it, but that when produced, instead of remaining constant, it was continuously being changed into something else. He supposed that some atoms of the radium in some conditions became unstable; then there was an explosion, and particles of matter were shot off at great velocities. There was a series of such explosions, due to atomic, not molecular, changes, and resulting in the formation of a series of transition elements. A mass of radium left to itself must therefore throw itself away; probably in about 2,000 years its radio-activity would fall to half-value, and after 50,000 years it would cease to exist. It was therefore to be supposed, since radium was produced from minerals more than 50,000 years old, that it was being itself produced from something else, and was itself a transition element. In the self-destruction of radium two things must be produced that were not radio-active—the a-rays and the final product. Now helium was always found associated with radium-minerals, and the suggestion that that gas was one of the products had been confirmed by Sir William Ramsay, who had shown that the emanation was able to produce helium from itself. The evidence pointed to the view that the a particle was the helium. Here there was apparently a definite case of transmutation, though not precisely of the kind sought after by the alchemists, but there was no evidence as yet that matter in general, apart from the radio-active bodies, was undergoing changes of this nature. Radium was distributed very widely over the earth; in fact, was present everywhere, though in exceedingly minute quantities. The question was thus suggested, How much heat were these minute quantities of radium able to provide, and could one account for the gradual increase of temperature found as one went deeper into the earth? The lecturer himself believed that the amount of radium now existing, uniformly distributed, would be sufficient to account for all the heat lost from the earth, and would explain the temperature-gradient as measured to-day.

BRIGHTON ASSOCIATION OF PHARMACY.

CLOSE OF THE SESSION.

This Association finished its 1903-4 session on Thursday, May 19, with a meeting held at the residence of the President, Mr. W. H. Gibson, F.C.S. It was an auspicious occasion, news having come to hand during the day that Mr. Gibson had been successful in his candidature for a seat on the Pharmaceutical Council. A large number of members from Brighton and neighbourhood assembled, and a particularly enjoyable evening was experienced by all.

Proposed Dinner to Mr. Gibson.

At a previous meeting it was suggested that the members of the Association should invite Mr. Gibson to dinner, in recognition of his many kindnesses and as a kind of extra wind-up to the session, and this having met with unanimous approval, it was further considered, Mr. Gibson vacating the chair in favour of Mr. W. R. Cook the while. It was decided to invite Mr. Gibson to dinner on Thursday, June 9, and a sub-committee, consisting of Messrs. C. E. Robinson, A. J. Franklin and C. A. Blamey, was formed to carry the matter through, and it was hoped that the support of all chemists in Brighton and district would be forthcoming.

The Council Election.

Mr. Gibson resumed the chair, and Mr. Cook proposed a vote of congratulation to Mr. Gibson on his election to the Council.—Mr. Gwatkin seconded, supported by Mr. Councillor C. G. Yates.

Mr. Gibson, in responding, said he was glad to have the opportunity of thanking the officers and members of the Association for the splendid way in which they had worked to secure his election. It was due to the Association that he had been elected, and he felt it to be the greatest honour ever conferred upon him; the honour was not to him only, but to all his fellow workers in Brighton and district. He should always remember that it was due to their energetic efforts that his candidature had been successful, and would do his utmost to forward the interests of pharmacy in the district. He hoped that all members of the Association who had not joined the Pharmaceutical Society would do so. All chemists derived benefit from the work of the Society, and he thought it only right that it should receive the support of all eligible men.

Thanks and a Petition.

Mr. Gwatkin proposed a hearty vote of thanks to Mr. Gibson for his kindness not only in inviting them to the meeting at his residence, but in all matters concerning the Association. He considered that meeting a sort of "record" night.

Mr. Smithson seconded, and the vote was very heartily accorded with musical honours.

A petition on behalf of Mrs. Louise A. H. Casely, of Brighton (widow with two children), for a grant from the Benevolent Fund, was presented by Mr. Padwick, and signed by Mr. Gibson, on behalf of the Brighton Association, and by others.

HARTLEPOOLS AND DISTRICT CHEMISTS' ASSOCIATION.

ANNUAL MEETING.

Thursday, May 19, 1904, at the Grand Hotel, West Hartlepool, Alderman Thomas Clarkson, President, in the chair, being the first annual meeting of the members of this Association.

The minutes of the previous meeting were read and confirmed.

The Shops Bill.

A short discussion afterwards took place on the Government Shops Bill, at the conclusion of which the following resolution was unanimously carried:—

> That it is desirable that chemists should be included in the provisions of the Shops Bills.

The Federation.

The question of appointing delegates for the annual conference of the Federation of Local Pharmaceutical Associations was brought forward, but no selections were made.

Annual Reports.

The Hon. Secretary (Mr. A. Timmins) next read his annual report, which was considered of a very satisfactory nature; and on the motion of Mr. Leithead, seconded by Mr. Gamlen, it was unanimously decided that the same should be entered upon the minutes. The balance-sheet for the year was next presented by Mr. Timmins as Hon. Secretary and Treasurer, which showed a balance of £2 11s. 2d. in hand on the year's working. This was also ordered to be entered on the minutes, on the motion of Alderman Thomas Clarkson, seconded by Mr. Buckle.

Election of Officers.

Election of officers for the ensuing year then took place, and the following were elected:—President, Ald. Thomas Clarkson, J.P., re-elected; Vice-Presidents, Ald. J. Horsley (Hartlepool), Mr. G. A. Watt and Mr. J. Hill (West Hartlepool); Honorary Vice-Presidents, Mr. Edward Evans, junr. (Liverpool), Dr. A. E. Morison, Dr. S. Biggart, Dr. A. V. MacGregor (West Hartlepool), Dr. Scott Gibb (Hartlepool), Mr. P. R. Gibson, L.D.S., Mr. J. A. Turnbull, L.D.S., and Mr. Somerville-Woodiwis, L.D.S. (West Hartlepool). Executive Committee: Messrs. Buckle and Denton (Hartlepool), Messrs. Gibson, Leithead, Troupe, and Timmins (West Hartlepool). Hon. Secretary and Treasurer, Mr. J. B. Barker, York Road, West Hartlepool; Hon. Solicitor, Mr. M. Harrison (West Hartlepool).

Some slight alterations having been made in the rules, this concluded the formal business of the meeting.

Votes of Thanks.

Mr. R. Leithead moved that a vote of thanks be passed to the retiring Hon. Secretary and Treasurer (Mr. A. Timmins), who for various reasons had expressed his desire to be relieved of the office, for his services to the Association in having organised and carried on the business in such a satisfactory manner during the past year.

Mr. H. Buckle (Hartlepool) seconded, and it was unanimously carried.

Mr. A. Timmins thanked the members for the vote, which he much appreciated, and assured those present that although he had given up the position of Secretary his interest in the welfare of the Association would be as keen as ever.

The Annual Picnic.

It was decided that the second annual picnic of the Association should take place on July 13 or 20, all further arrangements to be left in the hands of the Committee.

WESTERN CHEMISTS' ASSOCIATION.

ORDINARY MEETING.

Wednesday, May 25, 1904, at the Norfolk Square Hotel, Paddington, London, W., Mr. J. W. Bowen in the chair.

Annual Dinner.

It was decided to hold the annual dinner at the Café Royal on November 16. The following were appointed members of the Dinner Committee:—The President, Vice-President, Honorary Secretary, and Mr. J. F. Harrington.

The Compendium.

Mr. R. H. Parker opened a conversation on the question of "Dispensing by Doctors," which, after short speeches by Messrs. Knight, Philp, and White, developed, at the instigation of Mr. Harrington, into a discussion on 'The Compendium of Medicines."

Mr. Harrington said that medical men had frequently represented to him that a volume on the lines of the proposed Compendium would be invaluable to them. Doctors wanted a reliable guide to prescribing, and they looked to pharmacy—and, indeed, it seemed to him that it was the duty of pharmacists—to provide such a guide. His (Mr. Harrington's) idea of the Compendium was that it should show doctors the easiest and best way of prescribing drugs. He thought that in the compilation of such a work the British Pharmaceutical Conference was in a position to render the greatest possible assistance to the Pharmaceutical Society. Moreover, he thought that the two bodies would be able to come to some arrangement between themselves with reference to the matter. He hoped the question would be discussed by local associations, and in such case there was no doubt that useful suggestions would be the outcome of such discussions.

Mr. Parker, in the course of further conversation, suggested that a typical prescription should be appended to each drug. He also thought that a half-yearly addendum should be published in the *Pharmaceutical Journal* in connection with the work. A suggestion which met with approval was that the Compendium should be on the lines of the 'St. Thomas's Hospital Pharmacopœia,' a very compact and useful little volume.

Other Business.

The President intimated to those present that he had accepted an invitation to become a member of the General Committee appointed to take steps in reference to the proposed testimonial to Mr. Glyn-Jones. The following were appointed to act as the representatives of the Association at the coming Conference at Sheffield:—Messrs. J. W. Bowen, J. F. Harrington, R. A. Robinson, and S. J. Weston.

The next meeting will be held on the third Wednesday in October.

IMPRESSIONS OF THE WORLD'S FAIR.

A CHAT WITH MR. CHARLES T. TYRER.

"YOU will get some idea of the vastness of the undertaking when I tell you that the fair takes up about three times as much ground as did the last Paris Exhibition." This was how Mr. Chas. T. Tyrer described, in a conversation with a Journal representative, the size of the St. Louis Exhibition, from which he has just returned. Mr. Tyrer, as readers are probably aware, was the representative appointed by the British Committee to supervise the arrangement of the British chemical and pharmaceutical exhibits at the World's Fair, which was officially opened on April 30. When he arrived at St. Louis about nine weeks ago the exhibition grounds were in a state of hopeless chaos. Unfinished lath and plaster buildings and a confusion of packing cases characterised the huge area, and what was worse than the confusion was the absence of packing cases which ought to have been there. The grounds are between six and seven miles from the town of St. Louis, and one can imagine how perfect the transport arrangements must have been if everything had been delivered as expeditiously as one could have desired. By the tact and energy of Colonel C. M. Watson, C.B., C.M.G., the Commissioner-General for Great Britain, of whom Mr. Tyrer speaks in the very highest terms, Great Britain was more fortunate as regards the delivery of goods than were most of the other countries. Mr. Edmund H. Lloyd, the secretary of the Liberal Arts Committee, also gave proof of his capabilities as an organiser. The result of this was that the British exhibits were the first to be in order. Another delay was caused by the Customs House. If the goods tallied exactly with the invoice there was little trouble, but if an extra article was enclosed in the package, then the invoice was void, and each article had to be disfigured by a Customs label. Another way of avoiding delay at the Customs House was to make a gift of the exhibit to a public institution. Owing to the omnipotence of trades unions, the workmen strike on the slightest possible pretext, and this was another matter which handicapped those who were anxious to get everything ready for the opening day.

Asked as to his general impressions of the show made by this country Mr. Tyrer replied:—"The British exhibits were a credit to Great Britain. Not only were they the first to be ready, but they are, to speak modestly, equal to the exhibits of any other country. I am not speaking exclusively of the chemical section," continued Mr. Tyrer, "but in every quarter it was evident that England had tried to do its best, and a very good best it was."

Such a statement as this ought to make Britishers feel proud, especially when one takes into consideration the fact that, speaking from a commercial point of view, exhibitors cannot expect to get much return for their trouble. The tariffs are such that it is very unlikely that much business will result, and hence it is only a feeling of patriotism which has induced Britishers to exhibit. As Mr. Tyrer put it, "We only want to show them what we can do on this side of the Atlantic." To give some idea of the scale on which they do things in America, Mr. Tyrer mentioned that two days before the opening of the exhibition the grounds were knee deep in sludge, but with the aid of 40,000 mules this was all cleared away within thirty-six hours.

GENERAL VIEW OF THE ST. LOUIS EXHIBITION.

Pharmaceutical Antiquities.

As Mr. Tyrer pointed out, the vast majority of visitors are not interested in the slightest degree in chemicals and pharmaceutical preparations. The collection of antiquities relating to pharmacy and chemistry which have been sent from all parts of England, however, is a great centre of attraction. It will be interesting to mention some of these curios. A collection of eight ancient druggists' jars (date 1750-1800) has been sent by Mr. John Austen, of Sheffield, who has also forwarded a number of glazed jars (date 1650-1700). Messrs. Corbyn, Stacey and Co., Limited, have lent thirty-six old spode ointment and syrup jars, as well as an old Dutch mortar and a foreign letter-book, the first entry in which is dated 1741. A unique collection consisting of thirty-seven antique pharmacy mortars and three pestles has been sent by Mr. Daniel Davison, of Cromer. These mortars are of various countries, and one of them dates as far back as the thirteenth century. Mr. W. H. Francis, of Lambeth, makes the addition to the antiquities section of eleven bronze or bell-metal mortars and three pestles, as well as an old picture entitled "The Application of the Actual Cautery." Mr. Chattaway, of the Society of Apothecaries, has contributed some old chemical glassware of considerable historic interest. Portions of this apparatus were used in researches on the fulminates, iodides of nitrogen, acetic acid and some compounds of phosphorus. A very noticeable exhibit is that sent by Mr. William Warren (W. Hooper and Co.). It includes, among other antiquities, the stock-list of the firm, with an entry on the first page dated January 1, 1761. Mr. Newlands, St. Dunstan's Hill, London, makes the valuable addition of eleven ancient mortars.

Contributions from Professors.

Professors of chemistry, universities and technical colleges have contributed largely to the success of the British chemical exhibits. Without making invidious comparisons, perhaps one of the most noticeable features in this class is the completely equipped plant similar to that employed by Professor Dewar in low temperature research and in the production of solid and liquid hydrogen. Public demonstrations are given with this apparatus, and, as was to be expected, these are much appreciated. Professor J. Norman Collie is among the exhibitors, specimens of dimethylpyrone and oxonium compounds being amongst his contributions. The Glasgow and West of Scotland Technical College has submitted specimens of research work by chemical students. Professor Hartley, of Dublin, has sent an interesting collection of photographs and substances recently prepared for research work. Diagrams illustrating Dr. Allen Macfadyen's researches in the application of low temperatures to the study of biological problems have been contributed by the Lister Institute of Preventive Medicine. The Owens College, Manchester, has sent a valuable collection consisting, amongst other preparations, of vanadium compounds prepared by Sir Henry Roscoe and the original tube used by the late Sir Edward Frankland in the preparation of fine ethyl.

MR. CHARLES T. TYRER.

Vacuum tubes filled with the following gases of the atmosphere:—Helium, neon, argon, krypton and xenon—have been supplied by Sir William Ramsay. From Trinity College, Dublin, come specimens of research work sent by Professor J. Emerson Reynolds. The Royal College of Science, London, is also represented by specimens of research work. Dr. Morris Travers, in addition to being associated with Professor Ramsay in his exhibit, has also contributed a diagram of hydrogen liquefier.

Commercial Exhibits.

Messrs. Allen and Hanburys, Limited, have an exhibit of "Allenbury's" foods, as well as of malted preparations and jujubes and pastilles. Messrs. Stafford Allen and Sons, Limited, have a very attractively arranged display of the various products with which their name is associated all over the world. The stand is draped with scarlet plush, which forms a striking background for the handsome cut-glass bottles and show vases containing expressed and essential oils. In jars and cases are also shown a series of cultivated leaves, roots, etc.; while there is also a large selection of green extracts. Arranged around the stand are photographic views of the firm's herb farms. Messrs. Baird and Tatlock, Limited, show, in addition to all kinds of chemical apparatus, scientific instruments in large variety. This exhibit seems to be attracting considerable attention. Messrs. Battley and Watts are exhibiting a number of standard pharmaceutical liquors. Boake, Roberts and Co., Limited, have a stand at which are displayed, among other articles, specialties for the treatment of fermented and unfermented beverages. The Bone Phosphate and Chemical Co., Limited, are giving prominence to "Mykrol" disinfectants of all descriptions. Brooke, Simpson and Spiller, Limited, make a special display of coal-tar products, consisting principally of dyes. Brunner, Mond and Co., Limited, show a unique assortment of ammonia-soda products and general chemicals for technical purposes. Cerebos, Limited, have an interesting display of the materials used in the manufacture of "Cerebos" salt. Corbyn, Stacey and Co., Limited, in addition to the antiquities mentioned elsewhere, have a very varied assortment of elegant pharmaceutical preparations. Joseph Crosfield and Sons, Limited, in addition to showing samples of their various manufactures, illustrate at their exhibit Loewig's process for the production of caustic soda, showing the raw material and finished products at various stages of manufacture. Evans, Sons, Lescher and Webb, Limited, have a very fine exhibit of chemical and pharmaceutical preparations. Interesting and instructive illustrations of the manner in which "Montserrat" lime fruit juice is prepared are to be seen at this stand. Hopkin and Williams, Limited, show a large selection of pure chemicals for laboratory and industrial use. Howards and Sons, Limited, have a comprehensive exhibit of cinchona alkaloids, as well as of pure pharmaceutical and fine chemicals. Jeyes' Sanitary Compounds Co., Limited, are showing disinfectants. Dr. W. Harrison Martindale has a similar exhibit to that recently shown at the Chemists' Exhibition. May and Baker, Limited, have an interesting display of chemical salts and pharmaceutical preparations. T. Morson and Son have a most attractive exhibit of chemical and pharmaceutical products. Price's Patent Candle Co., Limited, give prominence to milled and desiccated toilet soaps. Townson and Mercer display chemical and scientific apparatus for all purposes. Thomas Tyrer and Co., Limited, have a very comprehensive exhibit of pure, fine chemicals, pharmaceutical preparations, chemical reagents and preparations (organic and inorganic) for laboratory and industrial use. Among the exhibits are to be seen cerium, didymium, erbium, lanthanum, thorium, yttrium and zirconium salts. The above are brief particulars of only a few of the items mentioned in the list of the commercial exhibits in this section.

Mr. Tyrer left St. Louis on May 3, and returned viâ Philadelphia and New York, arriving in London on May 14, feeling even prouder of his own country than when he left it.

POISONING CASES AND INQUESTS.

The deaths from poisoning recorded during the seven days ended Wednesday, May 25, 1904, numbered eleven, thus:—

Poison.	Accident.	Suicide.
Carbolic Acid	—	2
Carbon Monoxide	1	—
Chloral Hydrate	—	1
Chloroform	1	—
Hydrochloric Acid	—	1
Laudanum	1	—
Nitric Acid	—	1
Oxalic Acid	—	1
Potassium Cyanide	—	1
Veronal	1	—
Total	4	7

Carbolic Acid. — A young woman at Mansfield and a domestic servant at Runcorn committed suicide by drinking carbolic acid.

Carbon Monoxide.—A little girl, aged ten years, died at Birmingham from the effects of carbon monoxide gas, produced by "geyser" in the bath-room. An older girl and a servant were also overcome by the fumes.

Chloral Hydrate.—A language master at Dulwich College took his life with chloral hydrate.

Chloroform.—A patient at Guy's Hospital died while under chloroform.

Hydrochloric Acid.—A carpenter's labourer at Westbourne Park drank some spirit of salt because he was out of work.

Laudanum.—A man at Ballymena died from the effects of an overdose of laudanum.

Nitric Acid.—A Clerkenwell woman, who was worried about the rent, committed suicide by taking nitric acid.

Oxalic Acid.—A man at Whitechapel took some oxalic acid in a cup of tea, which he sweetened with "half a basin of sugar."

Potassium Cyanide.—A house steward at the Devonshire Hospital, Buxton, poisoned himself with potassium cyanide while insane.

Veronal.—Excessive use of veronal tablets caused the death of Mr. Thomas Wood, surgeon, of Painswick.

Inquest.—Mr. S. Brighouse, county coroner, resumed an inquiry at Ince, near Wigan, on May 17, concerning the death of a collier named Jas. Clark (26), of 291, Warrington Road, Lower Ince. The deceased injured his elbow by a fall of roof in the mine, and was subsequently admitted to the infirmary. After leaving the infirmary he was treated for blood poisoning, and died on May 6. A post-mortem examination was made, and a rumour became current that the deceased had taken a sleeping draught and never woke again. The stomach was thereupon submitted to the County Analyst, who stated that he received a sample of medicine which contained a much larger quantity of morphine than the prescription indicated, and in these circumstances he thought it would be well to take possession of the stock bottle from which the prescription was made up and have its contents examined. Accordingly, the Coroner added, the police called upon Dr. C. A. Craston, of Ince. The doctor at first stated that he had sent the bottle away to be analysed, but afterwards said that he had sent to a Blackburn firm of wholesale druggists for a fresh supply. The police made inquiries at Blackburn, and were informed that Dr. Craston had personally called for a supply of morphine, but that he did not bring with him the stock bottle, neither was one sent. The Coroner then read the County Analyst's report, which stated that the quantity of morphine found was double the ordinary fatal dose, and said that if those facts were proved Dr. Craston was in a very serious position.—The inquiry was adjourned.

PERSONALITIES, BUSINESS CHANGES, &c.

Mr. Albert Pellew, M.P.S., was installed W.M. of the Duke of Albany Lodge, 1963, held at the Surrey Masonic Hall, Camberwell, S.E., on May 19, 1904.

Mr. H. R. Dax, M.P.S., has taken over the business of the late Mr. T. H. Bostock, chemist and druggist, Eastwood, Notts, of which he was for some time the manager.

Mr. Castellani, a bacteriologist of Colombo, the *Times* states, has discovered the bacillus of dysentery, and will shortly read a paper before the Medical Association.

Professor Svante Arrhenius will deliver the Friday evening discourse at the Royal Institution on June 3, the subject being "The Development of the Theory of Electrolytic Dissociation."

Mr. Wm. John Thompson Jackson, M.P.S., of Lytham, has purchased from the executors the business of the late Mr. Geo. Sharples, pharmaceutical chemist, of 7, Fisher Gate, Preston.

Mr. Lionel Wm. Stansell, F.I.C., assistant to Mr. M. A. Adams, county analyst, has been appointed by the Kent County Council as additional analyst for a year, on account of the illness of Mr. Adams.

Sir William Huggins, President of the Royal Society, on Tuesday evening presided over a banquet at the Hôtel Métropole, at which the Society entertained the delegates to the triennial conference of the International Association of Academies.

Mr. F. G. Donnan, Ph.D., M.A., now Lecturer in Chemistry in the Royal College of Science, Dublin, has been elected by the Council of the University of Liverpool to the chair of Physical Chemistry recently founded by Sir John T. Brunner, M.P.

Mr. B. Havard, pharmaceutical chemist, Narberth, has been appointed a Justice of the Peace for the County of Pembroke. Mr. Havard, who is also chairman of the Narberth Urban District Council, took his seat on the Narberth Bench on Thursday last for the first time.

Mr. Alexander Pedler, F.R.S., C.I.E., Chief of the Education Department of India, and formerly Professor of Chemistry at the University of Calcutta, has been appointed Vice-Chancellor of the University of Calcutta by the Viceroy of India. Mr. Pedler, who is a son of the late Mr. G. S. Pedler, of Fleet Street, London, was a Jacob Bell Scholar in 1866, and obtained a certificate at the School of Pharmacy in the following year

Mr. W. H. Gibson, F.C.S., has been the subject of very interesting notes in the local Press, which congratulates him on his success at the Council election. Mr. Gibson has taken an active interest in local affairs in Brighton, where he is chairman of the West Pier Company. He has also been a Guardian of the Poor, an overseer, and people's churchwarden. He is a Past Provincial Grand Warden of Sussex Freemasons, a Life Governor of all the Masonic institutions, and at one time was the Master of two lodges by special representation of H.R.H. the Grand Master of England, an honour which is very rarely bestowed.

MISCELLANEOUS NEWS.

DIVISIONAL SECRETARIES and other Members of the Pharmaceutical Society are requested to assist the Editor by sending local newspapers containing items of interest to chemists and druggists.

Fire.—A fire occurred on May 18 at the premises of Messrs. Spencer, Chapman, Messel and Co., chemical manufacturers, of North Woolwich. Considerable damage was done.

Chemist-Motorist Fined.—Mr. Edwin T. Byron, chemist and druggist, of Warrington, was fined 10s. and costs at Bradford on May 20 for not having a rear light on his motor-car.

Notts Chemists' C.C.—On Thursday, May 19, the Notts chemists paid a visit to the pretty village of Hoveringham, and suffered defeat at the hands of the local club by fifty-nine runs. Although the team was unsuccessful, the outing was thoroughly enjoyed.

Drugs in Kent.—Mr. M. A. Adams, public analyst for Kent, reports that last quarter fifty-three samples of drugs were analysed, and of these two alone were found in any way wrong. These were two samples of cream of tartar, which were to a trifling degree only below the B.P. standard.

An Incorrect Report.—Messrs. Evans Sons Lescher and Webb, Limited, write to say that an unfortunate paragraph, which appeared in the *Daily Mail* and a number of provincial papers on May 25, to the effect that Mr. Edward Evans, sen., died the previous day, is not correct, though Mr. Evans is in a critical state, which causes considerable anxiety.

Royal Photographic Society.—At a technical meeting of the Society, to be held at 66, Russell Square, London, on Tuesday, May 31, 1904, at 8 p.m., Messrs. A. J. Newton and A. J. Bull will demonstrate the practical performance of tricolour filters, being some experiments to determine the best form of spectrum record for three-colour filters. A paper will also be read on "Photography in Relief" by Carlo Baese.

Chemists Thinking About Holidays, and in doubt where to spend them, should send two penny stamps to Mr. Fred W. Hutchinson, Railway Manager, Stranraer, who will send in return the 1904 edition of "Tours in Galloway." This booklet contains about 140 pictures of Galloway scenery, and all the miscellaneous information a tourist is likely to require concerning lodgings, fares, etc., in the Galloway district.

A Novel Way of Committing Suicide.—The Geneva correspondent of the *Advertiser* reports that an apothecary named Julliod, residing in Ferney, became melancholy, and ended his life by pouring nitro-glycerin into a mortar. This he placed between his legs and began to pound with a pestle. Soon a frightful explosion occurred. The roof of the shop fell, and of the apothecary only a few fragments were found.

Edinburgh Chemists' Golf Club.—The second competition this season for the "Gibson Handicap Medal" was played over the Braids on Wednesday, May 18, in boisterous weather, consequently scoring was high all round. Seventeen members turned out:—1, J. G. Robb, 114—30, 84; 2, A. McCutcheon, 121—30, 91; 3, W. M. Manson, 99—6, 93. D. S. Philp, 95, scratch; H. D. Alexander, 98—3, 95, and Jas. Finlay, 100—5, 95, tied for fourth place.

Cancer Research at Liverpool.—A first report of the application of the Liverpool Cancer Research Fund, given by Mr. Sutton Timmis, as a memorial of his wife, has recently been published. The fund consists of a sum of £10,000, of which an amount not exceeding £1,500 may be spent annually under the direction of a committee, the proceedings of which have been brought into close relation with the Liverpool Royal Infirmary and with the Liverpool University.

Glasgow and Edinburgh Chemists' Joint Excursion.—The officers of the Glasgow and West of Scotland Pharmaceutical Association are evidently familiar with the maxim, "If a thing is worth doing, it is worth doing well," for the official excursion time-table and guide to be used on the occasion of the joint excursion of the Glasgow and Edinburgh Chemists on June 7 is not only nicely printed and illustrated, but will undoubtedly add to the interest taken in the places to be visited at Lanark and the Falls of Clyde.

Chemical Society.—At an ordinary meeting, to be held on Thursday, June 2, 1904, at Burlington House, London, W., the following papers will be communicated:—"Iso-Nitrosocamphor," by M. O. Forster; "Imino-ethers and Allied Compounds Corresponding with the Substituted Oxamic Esters," by G. D. Lander; "The Action of Heat on α-hydroxycarboxylic Acids. Part I.—α-Hydroxystearic Acid," by H. R. Le Sueur; "The basic properties of oxygen. Additive derivatives of the halogen acids and organic compounds and the higher valencies of oxygen. Asymmetric oxygen," by E. H. Archibald and D. McIntosh.

The Medical, Surgical, and Hygienic Exhibition was opened at Queen's Hall, Langham Place, London, W., on May 24, and remained open until May 27. Among the exhibitors were Arabella, Limited; Billon's Ovo Lecithin Depôt; Bovril, Limited; Burgoyne, Burbidges, and Co.; Cadbury Bros., Limited; Camwal, Limited; Cerebos (1903), Limited; Cooper and Co.; Idris and Co., Limited; Jeyes' Sanitary Compounds Co., Limited; Liebig's Extract of Meat Co., Limited; the Maltico Food Co.; Maltova, Limited; F. Newbery and Sons; C. Oppel and Co.; Pearson's Antiseptic Co., Limited; Petol, Limited; and C. de Trey and Co.

Poison in the Cell.—At the South-Western Police Court a female prisoner, charged with being incapably drunk, alleged that a police officer had thrown carbolic acid over her in the cell. A doctor's certificate was handed to the magistrate, stating that the woman had a large red patch on the back and another on the right side of her neck.—Replying to the magistrate, the station-sergeant said the woman was very intoxicated, and a bottle containing carbolic acid was found in her cell.—Magistrate (with surprise): I suppose she was searched?—Witness: Yes, in the cell.—Can you account for the bottle being there?—No, unless she had it herself.—The woman said she did not know who threw the acid, but she would know his voice.—The magistrate directed the police to inquire into the matter.

Lady Takes Poison.—At Marylebone Police Court on Wednesday, May 25, Elizabeth Straight (59), of St. John's Road, Richmond, was charged with attempting to commit suicide.—A police-constable said he saw the lady near Baker Street, leaning against a lamp-post. He asked her what was the matter, and she said she had poisoned herself, at the same time handing to him a phial which contained some dark looking liquid. He conveyed her to a dispensary, and afterwards to St. Mary's Hospital.—It was stated that defendant was the widow of a member of the Stock Exchange, that she had three imbecile children, and that this was the second time she had attempted suicide.—The magistrate further remanded the accused in custody for a week.

"Fallen Churches" is the heading to an article which recently appeared in the *Pictorial Magazine*, from which the following paragraph is extracted:—"Out of the many churches to be found in London there was at one time none more famous than the Caledonian Church in Hatton Garden. In its day it held exactly the same position as the City Temple does now. Some of the most famous preachers in history discoursed regularly from its pulpit, and crowds came from all the environs of the metropolis to this place of worship. Enter Hatton Garden to-day, and you will see the same church, but now it has become a chemist's warehouse. In bygone days such famous men as Bunyan, Edward Irving, and Carlyle preached there; but now, unaltered as far as outward appearances are concerned, that same building is a hotbed of trade." The building referred to is that comprising the City warehouse and offices of Messrs. Hopkin and Williams, manufacturing chemists.

Edinburgh Pharmacy Athletic Club.—The preliminary ties of the five a-side football competition were played off at Powderhall on Friday last, with the following result:—First round: Duncan and Flockhart beat T. and A. Smith by one goal to nil, after a draw in which each scored one goal, and a draw in which there was no scoring. Macfarlane and Co. beat Raimes, Clark, and Co. by one point to nil. Second round: Duncan and Flockhart beat Baildons by one goal (two points) to nil. Macfarlane and Co. beat the Central Pharmacy School by one goal to nil. The final tie, which promises to be a keenly contested one, will be played at the annual sports at Powderhall on Wednesday, June 1. The club has provided a splendid programme for its patrons, there being, in addition to the football, foot-racing, cycle-racing, tug-of-war, and high jump. The pharmacists have entered in large numbers for the various competitions, and an excellent evening's sport should result. The prizes this year are better than ever, both in value and appearance, and, providing the weather is favourable, a most successful evening is ensured.

A House Surgeon Fined.—At Marlborough Street Police Court, on Friday, May 20, before Mr. Kennedy, Mr. C. H. Russell Grant, a house surgeon at the Dental Hospital, Great Portland Street, W., was summoned for assaulting Matilda Nelson, a married woman, living in King's Cross Road. The complainant stated that on May 12 she went to the hospital in question to have two teeth extracted under gas. She paid 2s. 6d. to have the gas. She saw a dentist there who marked a piece of paper to the effect that she was to have three teeth extracted. She went into the extraction room, and told the operator they had put down on the paper that three teeth were to be extracted, and asked him to be careful, as she only wanted two teeth out. When she came to after having had the gas she found that a tooth had been extracted, that the one she complained of most had not been extracted, and that a third tooth—a sound one—had been broken, a portion of it being left in her jaw. She mentioned the matter to the nurse. The defendant eventually came upon the scene, and she told him that she had had the wrong tooth taken out. He said, "I will see that you have it pulled out," grasped her by the arm and attempted to pull her into one of the rooms. She told him not to pull her about and that he was hurting her. She added that she could not have the tooth taken out in the ordinary way, but that she must have gas, which she had paid for. He then told her that if she would not have the tooth out she would have to go, and, catching hold of her arm, turned her out of the hospital. Mr. Kennedy, after hearing the solicitor for the defence, said he was perfectly satisfied that there was an assault, and imposed a fine of 40s., and allowed complainant 10s. costs.

"Milk Specialist and Analyst."—In a Halifax prosecution for milk adulteration on May 20, in which Saml. Robinson, a Norland farmer, was charged with selling milk "containing 15 per cent. of added water," the certificate of analysis of Mr. Wm. Ackroyd, the borough analyst, was put in to prove this. For the defence Robt. Cornthwaite, described as a "milk specialist and analyst," local secretary to the West Riding District Farmers' Association, was called, and he asserted that, "taking the Borough Analyst's own figures, they showed an excess of water of 1·60 per cent. only, and not 16 per cent." The Mayor (Alderman J. Wade): I should like to know something of your credentials; are you a chemist? Witness: I am not a professional chemist; no. The Mayor: Then what are you? Mr. Rhodes (the defendant's solicitor): He is a milk specialist; the best of all credentials, I submit, in a case like this. The Mayor: This witness is controverting the certificate of analysis of a professional analyst, and the magistrates would like to know what his professional status is; he says he is not a chemist. Mr. Scarborough (a magistrate): Are you, Mr. Cornthwaite, a synthetical chemist?—I am not a chemist by profession; no. Mr. Scarborough: Then by what right, sir, do you question the results of a professional man's analysis? Remember, it is a serious thing to do. The Bench convicted, and imposed a penalty of 40s. and costs.

TRADE NOTES.

Garden Chemicals.—A very useful little pamphlet bearing the above title is issued by Mr. A. C. Wootton, Barrymore, North Finchley, London, N. It contains information which the chemist who is consulted by agriculturists and gardeners will find useful.

Evans, Gadd, and Co., Limited, Fore Street, Exeter, will be happy to forward samples of "Linctus Codeinæ" (Gadd) (each fluid drachm contains 1/8th grain of phosphate codeine) and "Glycerol Heroin Hydrochloride Co." (Gadd) (each fluid drachm contains 1/16th grain of heroin hydrochloride, together with the active ingredients of senna, wild cherry bark, and tolu balsam in a soluble form) to any chemists who would like to have them on receipt of a postcard applying for same.

Photographic Packed Goods.—Messrs. Wright, Layman and Umney, Limited, 48-50, Southwark Street, S.E., are well known to the trade in connection with the supply of packed pharmaceuticals, but the fact that the firm also prepare packed photographic goods is, perhaps, not so well known, as this branch of their business is of quite recent development. The firm put up compressed photographic tablets and solutions in lines to retail at from 6d. upwards, each batch before being sent out undergoing a severe practical test. The resulting negative, or print, is numbered and kept, the number being affixed to all packages containing the preparation. The goods bear a good profit, and the retailer may have his name and address printed free on the labels on all orders of three dozen assorted and upwards. Messrs. Wright, Lyman and Umney are open to prepare and pack for customers any quantity of photographic preparations according to their own formulæ. The firm will be pleased to forward a complete list of photographic and other packed goods to any reader of the Journal on application.

PATENTS AND TRADE MARKS.[*]

New Patent Applications.

PROCESS FOR PRODUCING SOLID ZINC HYDROSULPHITE (No. 9,360 of 1903).—C. Bollé, 57, Barton Arcade, Manchester. (Communicated by the Chemische Fabrik Grünau, Landshoff, and Meyer Actiengesellschaft, Grünau, near Berlin, Germany.) 100 kg. of zinc dust is mixed with 150 kg. of water, and while stirring the mixture gaseous sulphurous acid is introduced into it in a strong current until all the zinc is dissolved, during which operation the temperature must not rise above 45° C. Into the solution of zinc hydrosulphite thus obtained 100 kg. of finely powdered solid sodium bisulphite is gradually introduced while stirring well. Solid zinc hydrosulphite difficultly soluble in water is precipitated, and is separated by filtering from the sodium bisulphite liquor. The sulphurous acid may also be introduced into the mixture of zinc and water as liquid anhydrous acid.

TOOTH POWDER (No. 12,797 of 1903).—A. Wohlfarth, 44, Langestrasse, Leipzig, Germany. Relates to the production of a tooth powder consisting of quartzite, silicic acid, or substances containing quartz or silica, and of a cleaning body such as chalk or the like. Said quartzite or silicic acid is so finely powdered that it does not adhere to the mouth, but passes to the stomach and thence into the intestines, where it is assimilated, and serves as material for renewing and building up the teeth or the outer case or layer thereof. Any suitable chalk is employed, and is also pulverised and is then mixed with the silicate powder in the proportion, for example, of 20 per cent.

MANUFACTURE AND PRODUCTION OF A NEW SERUM FOR CURATIVE PURPOSES (No. 15,401 of 1903).—G. W. Johnson, 47, Lincoln's Inn Fields, London. (Communicated by Kalle and Co., Biebrich-on-the-Rhine, Germany.) Relates to the production of a serum which increases the action of sodium cinnamate and the hetol treatment of human tuberculosis, the said serum being prepared by treating tuberculous animals with sodium cinnamate (hetol) until an important increase of weight has taken place and the animals do not show reaction by increase of temperature when subjected to a subcutaneous injection of tuberculine, or show but slight reaction, the serum being then taken from the animals so treated in the usual manner.

GAS BAG FOR ANAESTHETIC PURPOSES (No. 16,686 of 1903).—The Dental Manufacturing Company, Limited, 6-10, Lexington Street, W., and V. Knowles, Kendrick View, Reading. It is already known that a convenient way of administering nitrous oxide or oxygen or other gas is by means of a flexible rubber bag, into which the patient breathes through a specially constructed mouthpiece, and that said bag should be easily capable of being turned inside out for purposes of cleansing or otherwise. According to this invention, the bag is so arranged that it is no longer necessary to turn it back again after reversing it, as it can be used in either position alternately without alteration. The lower end of the bag is provided with a double nozzle for the passage of the gas, having one end projecting inwards into the bag and the other end outwards, both ends being alike and adapted to be screwed on to the same tap; and in those bags which are used for somnefome, ether, chloride of ethyl, or like anæsthetics, this bottom is arranged without an inlet and is provided with loops, studs, or depressions, internally and externally. Special means for making an air-tight connection between the mouth of the bag and the elbow tube of a face-piece consists in stepping the said elbow tube about half-an-inch from its end so that its diameter is increased to the diameter of the outside of the mouth of the rubber bag. A thick ring of rubber is then slipped over the said step, and when the neck of the bag is applied to said elbow tube the ring is pushed down over it.

Note.—Opposition to the grant of any of the above Patents must be filed at the Patent Office on or before July 4, 1904.

New Trade Mark Applications.

Label, containing device of man suffering from gout, for pills, by F. W. Truman, 71, Old Kent Road, Bermondsey, S.E. 261,374.

"**PELLANTHUM**," for chemical substances prepared for use in treatment of skin affections, by Handford and Dawson, 1, Station Bridge, Harrogate. 261,943.

"**VICHY**" (ornamental label) (name disclaimed), for medicinal salts extracted from Vichy waters, by La Compagnie fermière de la Etablissement Thermal de Vichy, 24, Boulevard des Capucines, Paris. 262,044.

"**METRAMINE**," for medicine for human use, by Oppenheimer, Son, and Co., Limited, 179, Queen Victoria Street, E.C. 262,384.

"**KALLOFUGE**," for cure for corns, by J. Hutton, 8, High Street, Brechin. 262,601.

Note.—Opposition to the registration of above-mentioned trade-marks must be filed at the Patent Office on or before June 18, 1904.

"**SANALENE**" ("Sana" disclaimed), for chemical substances used in manufactures, photography, and philosophical research and anti-corrosives, but not including enamel, by Aspinall's Enamel, Limited, North Road, New Cross, S.E. 262,516.

"**NOMIS**," for chemical substances for veterinary purposes, by M. Simon, 89, Park Road, Regent's Park, N.W. 263,044.

"**TUBERCULOZYNE**" ("Tuberculose" disclaimed), for a medicine for human use, by Derk. P. Yonkerman Co., Limited, Shakespeare Building, Kalamazoo, Michigan, U.S.A. 257,336.

"**LAXOPHEN**" ("Laxo" disclaimed) and "**AUROIDS**" ("Aur" disclaimed), for a substance used in the medical treatment of human beings, by Willows, Francis, Butler and Thompson, Limited, 40, Aldersgate Street, E.C. 262,736-7.

"**NOVIO**," for medicated paper, by the Paper Cutting and Toilet Requisite Co., Limited, 90, Goswell Road, E.C. 262,945.

"**BULL'S EYE**" and device, for instruments, apparatus, and contrivances, not medicated, for surgical or curative purposes, or in relation to the health of men or animals, by H. V. Roe, trading as F. W. Everard and Co., 102, Gt. Ancoats Street, Manchester. 262,341.

"**ESSENT-GLUT**," for a food for infants and invalids, by C. A. Heudebert, Rue de Chemin de Fer, 3, Nanterre, France. 263,095.

"**LALO**," for perfumery, etc., but excluding soap, by W. Wigglesworth, 13, Regency Square, Brighton. 260,050.

"**SUBMARINE**," for perfumed soap, by E. Cook and Co., Limited, East London Soap Works, Bow, E. 261,833.

"**ALBOZONE**," for a toilet preparation for the bath, by the City Chemical Co., 86, Leadenhall Street, E.C. 262,043.

"**CHUBBY**," for perfumed soap, by Kay Bros., Limited, St. Petersgate Mills, Stockport. 262,693.

Note.—Opposition to the registration of above trade-marks must be filed at the Patent Office on or before June 25, 1904.

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[*] These abridgments of new patent applications and particulars of new applications for trade marks have been specially compiled from official sources, for the *Pharmaceutical Journal*, by Mr. Reginald W. Barker, agent for procuring patents and registering trade marks and designs, 56, Ludgate Hill, London, E.C., from whom any information on the subjects may be obtained. Mr. Barker will also send copies of his 'Trade Mark Notes' and Patent Notes for Inventors' free on application.

MARKET REPORT.

The quotations given below are the lowest prompt cash prices for bulk quantities, to which other charges have to be added. It is important that this should be borne in mind in making any comparison between the prices quoted and those of the wholesale drug trade.

General Markets.

London, Thursday, May 26, 1904.

Extreme dulness has characterised the Drug and Chemical markets during the week. Indeed, the markets have hardly fully reopened since the Whitsuntide holidays. Everything remains in an exceedingly quiet condition, the reply everywhere being that there is nothing doing. The usual Spice sales were not held yesterday, and the Drug auctions did not take place. The only change of importance that has occurred since our last report is the reduction in the price of Quinine. Both Messrs. Howard and Sons, Limited, and the German manufacturers have reduced the price by 1d. per oz. The reduction may be accounted for to some extent by the rather heavy Bark shipments and the decline at the Amsterdam auctions. The second-hand market is very flat, and 11d. is asked for the German Sulphate. At the time of going to Press no reduction in the price of Quicksilver is reported. Citric Acid is a firm market. The prosecutions against grocers for selling Cream of Tartar does not appear to have checked the demand for this article, as some seemed to expect, and therefore the slightly lower quotations can hardly be put down to this cause. It is impossible to forecast the future of the Otto of Rose market; the distillation will commence towards the end of next week, and a lot will depend on the weather which prevails during the distillation period. Latest reports from Bulgaria state that the plants look very healthy. Ipecacuanha is again firmer. Camphor exhibits a hardening tendency as far as Japanese refined is concerned. Cod-liver Oil is flat.

BLEACHING POWDER.—English, £4 15s.

BORACIC ACID.—Crystals, £1 2s. 6d.; powder, £1 4s. 6d.

CAMPHOR.—English refined is very quiet and nominally unchanged. Japanese refined shows rather a hardening tendency; the price for ¼, ½, and 1 oz. tablets is 2s. 9d.

CARBOLIC ACID.—Crystals, 39-40°, 6¾d.

CINCHONA BARK.—At auctions held in Amsterdam last week, 7,903 packages were offered, and the bulk found buyers at a decline on the April sale of about 8 per cent., the average unit being 6·90 cents.

CITRIC ACID—Is a firm market, the price quoted is 1s. to 1s. 0¼d.

CLOVES—Are again firmer. For June-August delivery 8⅜d. has been paid for Zanzibar.

CODEINE.—8s. 4d. per oz.

CREAM OF TARTAR—Is rather lower, the price of 98 per cent. foreign powder being 86s.

ERGOT.—A few small sales have been made at 1s. 6d. for Spanish.

GLYCERIN.—1·260 chemically pure, in tins and cases, is quoted 67s. to 69s. 6d. per cwt., according to quantity, the lower figure being for five-ton lots.

IODIDES.—Sodium Iodide, 11s. 10d. to 12s. 1d.; Potassium Iodide, 10s. 3d. to 10s. 9d.

INSECT POWDER—Is quoted at 5d. to 7d. for foreign.

IPECACUANHA—Is firm. Sales of Cartagena have been made at 4s. 7d., but there is now none to be had below 4s. 8d. For Rio, 5s. is the price asked.

JUNIPER BERRIES—Are firm. Sales have been made at 12s. to 14s., according to quality and quantity.

MENTHOL—Is an extremely quiet market. What few sales have been made are on a very small scale. Kobayashi is quoted 16s. 6d.

MERCURIALS.—Calomel, 2s. 8d.; Corrosive Sublimate, 2s. 4d.; Red Precipitate, 2s. 11d.; White Precipitate, 2s. 11½d.; Mercuric Sulphate, 2s. 4d.

MORPHINE.—4s. 5d. per oz. for the Hydrochloride.

OLIVE OIL.—Spanish, £31 10s.

OPIUM.—Native holders in Turkey are less inclined to sell at the low rates which have been prevailing of late. The spot market remains quiet, but there is no inclination, on the part of holders of stock here, to induce business by taking less money.

OTTO OF ROSES.—The distillation is expected to commence in about a week's time. So far, the plants look very healthy; the yield of oil, however, will entirely depend on the weather prevailing during the distillation period.

QUICKSILVER—Is a very quiet market. At the time of going to Press the quotation remains the same as last week's —£8 2s. 6d.

QUININE.—Messrs. Howards and Sons, Limited, have reduced the price of the Sulphate in 100 oz. tins to 1s. 2d. per oz. The firm's price for 1 oz. vials is 1s. 4d. (for not less than 100 oz.). The German makers have also reduced the price of the Sulphate 1d. per oz. For Salts of Quinine other than Sulphate Messrs. Howards' price is the same as that of other makers. The second-hand market is extremely quiet, the nominal quotation for B&S and/or Brunswick on the spot being a fraction over 11d.

PEPPERMINT OIL—Is very dull. Nominally H.G.H. is 14s. 9d. American Oil in tins is quoted at 13s. 6d. to 14s., and Japanese dementholised at 6s. 3d. There is, however, little or no business passing.

SHELLAC.—Small sales have been made at 220s. for TN orange.

TARTARIC ACID.—As might be expected at this time of the year, a little business is passing in this article. Foreign is quoted 1s. to 1s. 0¼d., and English 1s. 1d.

TURPENTINE.—American Spot is quoted 42s. 6d.

WHITE HELLEBORE POWDER.—The price asked for this article is 24s. spot.

OPIUM A GOVERNMENT MONOPOLY IN FRENCH INDO-CHINA.—According to Mr. Consul Little, in his report on the trade of French Indo-China (1903-4), Yunnan opium is likely to displace to a great extent the Indian article. According to the Customs returns, the total import in 1902 was 515,790 lb. Opium is a Government monopoly, and all opium is bought, prepared, and sold directly by the Excise or through properly accredited agents. The Government possess the right to grant to private individuals a monopoly for any given region, in which case the price of purchase from the Excise and that of sale to the public are fixed by special contract with the parties, who must make a deposit as a guarantee for the observance of the conditions agreed upon.

GENERAL MEDICAL COUNCIL.

SUMMER SESSION.

Wednesday, May 25, 1904, the President, Sir William Turner, in the chair. In his address to the Council the President referred to the Bills which have been introduced during the present Session of Parliament to facilitate the adoption of metric weights and measures in this country. He mentioned that it was not unlikely that the Pharmacopœia Committee would refer to those Bills in its report on the British Pharmacopœia; also that Mr. Jackson has given notice of motion calling the attention of the Council to the matter. The report of the Executive Committee on Dental Business stated that a communication had been received from the Irish Branch of the British Dental Association, calling attention to recent High Court cases in Ireland in regard to medical or dental joint stock companies. In the case of O'Duffy *v.* Jaffe the Court decided that the Dentists Act, as worded, is directed against a natural person only, and not against a company, and that, therefore, a company practising dentistry could not be prosecuted under the Dentists Act. Since the judgment in that case, another case relating to the practice of dentistry by companies has been before the High Court of Justice in Ireland. This case arose on an application for the issue of a mandamus to compel the Irish Registrar of Joint Stock Companies to register under the Companies Act, 1862, the memorandum of a company to be styled "S. G. Rowell, Dentist, Limited." Judgment was given to the effect that the aid of the Court could not be granted for the purpose of effecting a false representation, which would be made by allowing the company to register, and by thus implying that a business of dentist was carried on by registered persons. The questions involved in these cases will be brought before the Council by Sir Charles Ball, who will move that the Council take action in the terms of his motion.

LETTERS TO THE EDITOR.

All Communications for the *Pharmaceutical Journal* must be addressed to the Editor, 17, Bloomsbury Square, London, W.C., and, if intended for publication in the current week's issue, should reach the Office not later than Wednesday, unless specially arranged for in advance. The matter should be written clearly and concisely on one side of the paper only and must be authenticated by the names and addresses of the writers, as no notice can be taken of anonymous letters. Articles submitted for the Editor's approval should be accompanied by stamped addressed envelopes, otherwise no guarantee can be given that they will be returned if not found suitable. Reprints of articles cannot be supplied unless the authors communicate with the Editor before publication. The right to reproduce all original matter and illustrations published in the Journal is strictly reserved.

The Council Election.

Will you allow me space to thank the 745 electors who recorded their votes in my favour. The distinct improvement in the number on the last occasion (555), in spite of the fact that I did nothing further than issue an address and write to a few associations, leads me to believe that members will again nominate me next year, and on that occasion return me as their representative. Meanwhile, I trust that the programme mentioned in my address will receive some attention by the Council.

C. E. Pickering.

12, James Street, Paddington, May 21, 1904.

Permit me to thank the gentlemen who recorded their votes in favour of Welsh representation, and especially those gentlemen who so kindly canvassed their fellow chemists, and you, Mr. Editor, for your courtesy in opening the columns of the Journal to correspondence on election matters.

Llandrindod, May 23, 1904. Albert Hagon.

Would you kindly allow me to thank the 1,574 members of the Pharmaceutical Society who recorded their votes for me in the recent election of Council? Especially do I feel indebted to those who worked so whole-heartedly on my behalf in various parts of the country. I can assure them that their sympathetic reception of my candidature has been highly appreciated by myself and by the members of the Association which I had the honour to represent.

F. Pilkington Sargeant.

Springfield Place, Leeds, May 21, 1904.

I wish to thank, through your columns, those members who so kindly favoured me with their votes, and especially those gentlemen who gave their valuable time and assistance in furthering my candidature at the late Council election. I am more than gratified with the splendid result, and can only assure them that I will do my very best to further their interests. W. H. Gibson.

122, King's Road, Brighton, May 21, 1904.

Permit me to thank the members of the Society for the striking mark of confidence shown by their vote in the recent Council election. I will endeavour, as far as I am able, to justify it.

Blackburn, May 24, 1904. R. Lord Gifford.

I desire to acknowledge, through the columns of your Journal, my great indebtedness to those members of the Society who so cordially supported my candidature as to secure me such a good position on the list of successful candidates.

Glasgow, May 24, 1904. William L. Currie.

I am pleased to know that the voting for the recent Council election is a record in numbers of voting papers returned, which is evidence that greater interest in the Society is being displayed by members. I feel sure this is some tribute to the local associations, and I hope to see realised still greater effects. I regret the candidate supported by the Thames Valley Association was not successful, particularly as London members on the Council have been reduced of late years. When I was apprenticed in 1877 London members numbered eleven, whereas now there are only six. A great deal of the work of the Society is of necessity done by committees. On analysing the constitution of committees appointed last year I find in five committees, totalling thirty-nine names, London members number twenty-two, which would mean an average of over 56 per cent., and yet the Council only contained 33 per cent. London members. That the London members should constitute a good proportion and do the greater portion of the work is compatible with the fact (and expense) that the fares of members of the Council fall upon the Pharmaceutical Society. I hope that Mr. Higgs, as a London member, will accept nomination on another occasion, as I am confident that with his experience and knowledge he would be a great acquisition and an acceptable colleague to the members and of benefit and utility to the craft generally.

Surbiton, May 24, 1904. Fredk. Harvey.

A Lesson and a Moral.

The election of Messrs. Gibson and Hagon to the Council at their first attempt may be regarded as a lesson in tactics, as well as pointing a moral. It demonstrates the effectiveness of the present system of election, if suitable men are run and proper means taken to bring their claims before the electors. At the same time it appears to indicate a triumph for the territorial representers in so far as both candidates ran partly on the territorial ticket. I very much doubt, however, whether it indicates that territorial representation would be acceptable to the members of the Pharmaceutical Society on the narrow basis of one member one vote for one candidate only, but rather on the broader basis of territorial representation as it now obtains on the Council. Moral: Broaden the basis of representation and run suitable men.

"A Territorial Representer" (7/51).

May 21, 1904.

The Pharmacy Bill.

It has recently been asserted that Clause 7 is to the Pharmacy Bill as 19s. 11¾d. is to a sovereign. It may be; but somehow I cannot help recalling the fact that those who now so strenuously advocate the principle of a qualified directorate were not long ago the strongest advocates of the principle of qualified managership, as laid down in Section 16 of the Pharmacy Act, 1868. Why this inconsistency?

Brixton, May 20, 1904. W. Thomas.

Territorial Representation.

"A Country Chemist," in this week's issue, puts clearly a point which has frequently occurred to me when reading the reports of meetings where Mr. Tocher's scheme has been discussed. I have always felt that the personal element, which is one of the essential features of the scheme, is its weakest point. If the members of the Pharmaceutical Society were already divided into two distinct camps—say, Moderates and Progressives—and each party ran its own candidates at the Council elections, then Mr. Tocher's scheme would be a practical one. That condition of things does not at present exist, except in a very modified degree, and I do not think it would be in the best interests of the Society to create party strife among its members. But until there are two distinct parties formed the councillor who, under Mr. Tocher's scheme, was first selected to represent any constituency would probably have a safe seat there for the remainder of his life. Because if each councillor during his three years of office satisfactorily represented the wishes of his constituents, as in most cases he undoubtedly would, it is reasonable to suppose that he would be re-elected without opposition. Thus interest in the Council election would gradually die out. The view I take of the matter is that the present system is not only capable of embracing all the advantages of territorial representation—as it already does, practically—but is capable of a good deal more than Mr. Tocher's somewhat restricted scheme.

Stroud Green, May 21, 1904. W. Williams.

Camphor Water in Eye Lotions.

I have very frequently dispensed similar prescriptions to that mentioned in this week's Journal—boric acid, 2 drachms; camphor water, ½ oz.; water, 8 fl. oz.—and also with considerably more camphor water, without any such result as recorded by Mr. Brown. The above remains bright after filtration through ophthalmic filter paper. From a purely dispensing point of view camphor water in eye lotions has caused no trouble at all to me.

Middlesbrough, May 20, 1904. J. W. Hornsby.

British Pharmaceutical Conference.

I have no wish to prolong controversy, but the report of proceedings at the recent so-called "general meeting" of Conference calls for some comment. It was never stated by me that the North British Branch or Executive had discussed, intended to discuss, or ought to discuss the question of the proposed 'Compendium' or anything connected with that production. I gave my opinion as an individual member of the Conference, and am still perfectly clear that the constitution and rules of the Conference do not admit of any general meeting being called other than the annual stated meeting. It should also be noted that the Executive Committee is nowhere empowered to dispose of any of the property of the Conference. Of course, the law may be altered, but meantime all proceedings must be in accordance with the law as it exists. Objection must also be taken to the expression "stealing" as applied to the incorporation of formulæ in the British Pharmacopœia. It was the intention and expectation of those who instituted the Formulary Committee that the B.P.C. formulæ would gradually to a great extent be absorbed in the national Pharmacopœia. Some formality may have been omitted, but it is quite out of place to talk of "stealing."

Edinburgh, May 23, 1904. D. B. Dott.

William Allen and New Lanark.

With Mr. J. R. Hill's permission, I transcribe a passage from a letter which I have received from him regarding the forthcoming excursion to Lanark and the Falls of Clyde of the Glasgow and West of Scotland Pharmaceutical Association, in the assurance that the information it conveys is of more than local concern. It is perhaps necessary to explain that the road to the upper falls passes through New Lanark:—"I am much interested in noting the reference to Robert Owen in your pamphlet. He stayed at Braxfield. But the interest is that he had as partner in the cotton mills (at New Lanark), and as one of the most deeply interested and energetic of the partners, William Allen, of Allen and Hanburys, the first President of the Pharmaceutical Society, and the man to whom we owe the granting of our Charter by Queen Victoria. Allen became a partner in 1813, and retained the position for twenty-two years, when the development of Owen's peculiar religious opinions caused Allen to clear out. In the third volume 'Life of William Allen,' in the library here, there are several references to Lanark, which he visited more than once. There is an address presented to him on one of his visits by the workpeople (of New Lanark), and his long speech in reply. One passage referring to his becoming a partner, in 1813, is particularly interesting:—

> The consideration of entering into the Lanark concern has occupied much of my attention this week. The mills are to be sold on the 31st, and we are very anxious that Owen should be one of the purchasers, in order that his noble plans for ameliorating the condition of the labouring and manufacturing poor may be maintained. They have now been in operation about thirteen years, and during that period none of the workmen have applied for relief from public charity, as they had raised a fund amongst themselves which is able to support them under sickness, and provides for them in old age. Neither has any one of them been called before a magistrate for any offence. December 27.—A most important meeting on second day with Robert Owen, Joseph Fox and John Walker. We settled the whole business about Lanark, but I had much conflict of mind on account of the responsibility involved in it. I trust, however, I had a degree of evidence that it was right.

This link with Wm. Allen gives a pharmaceutical interest to Lanark. In one of his diary notes he describes a visit he paid to the falls incidentally."

The "community of New Lanark" has a historic importance as the model of all subsequent socialistic communities, *e.g.*, those of Saint Simon, Fonnier and Cobet, and as the cradle of infant schools and the modern system of co-operation, which is, however, the merest travesty of Robert Owen's ideal.

Glasgow, May 24, 1904. J. P. Gilmour.

REPLIES TO CORRESPONDENTS.

Information required by readers will be published in this column as early as possible, but the Editor cannot undertake to reply by post, even though stamped addressed envelopes accompany the queries. Replies will, in all cases, be referred to the sender's initials, and the registered number added in each instance should be quoted in any subsequent communication on the same subject. When formulæ are given without definite weights and measures, it should be understood that the solids are to be weighed and liquids measured. Plants for recognition should be addressed to the "Curator, 17, Bloomsbury Square, London, W.C.," accompanied by a stamped, directed envelope for reply. No notice can be taken of anonymous communications.

Ginger Beer Powder (D. K. M.—112/17).—There is a formula for this at page 587 of the 'P. J. F.'

Formulary (J. S. W.—7/14).—We are obliged for your suggestion, which will be borne in mind. Can you furnish us with the formulæ?

Chloretone Water (E. P.—112/13).—This is formed by allowing a few crystals of chloretone to remain in water, the resulting solution containing about 0·8 per cent. of the salt. Chloretone is a proprietary preparation. See article by W. Lyon on "The Pharmacy of Chloretone" in the Journal for April 27, 1901, p. 521.

Colouring Mineral Waters (G. I. W.—112/2).—Coal-tar colours are used to some extent, but cochineal and vegetable colours, such as cudbear, saffron, turmeric, and alkanet, are probably safer. A book which contains useful information on the subject is Eberle's 'Soda Water Formulary' (Texas Druggist Publishing Company, 75 cents).

Selenium (A. D.—112/16).—Selenium conducts electricity, and exposure to light increases its conducting power. The change in electrical resistance of selenium is directly proportional to the square root of the intensity of the source of light. Light also produces in selenium an electric current, which flows from the less to the more illuminated part.

Stripping Film from Negative (F. W. H.—112/14).—Soak the cracked negative in a weak solution of hydrofluoric acid—about ½ oz. acid to 5 oz. water. The film will float away from the broken glass, and a new glass can then be placed under the film before removing it from the water. There will be a slight expansion of the film, for which allowance must be made.

Information Wanted.

Can any reader of the Journal give the name of a good firm from whom I could buy spray bellows for puffing hellebore over gooseberry trees?

Maidstone, May 24, 1904. A. F. Corfe.

NOTES IN PARLIAMENT.

Is Vivisection Necessary?

Mr. Weir has asked the Secretary of State for the Home Department whether he has yet received the report of the Committee appointed by the Royal College of Physicians to ascertain whether, in their judgment, experiments on living animals before classes are necessary for the education of medical students, and, if so, what was the nature of the opinion expressed. Mr. Secretary Akers-Douglas, in his reply, said he presumed the honourable member referred to the special consideration which the Royal College of Physicians, at his request, gave to the question whether experiments on living animals (under anæsthetics) were necessary for the proper teaching of pharmacology. He had received the opinion of the college on this question, which was to the effect that science could only be adequately taught with the aid of demonstrations which involved in the case of physiology and pharmacology experiments on living animals.

BIRTHS.

Matthews.—On May 25, at Clifton, the wife of Harold E. Matthews—a daughter.

Sharman.—On May 16, at 186, Mare Street, Hackney, N.E., the wife of W. Sharman, M.P.S., of a son.

DEATHS.

Hora.—On May 24, at his residence, Upmead, Cleve Hill, near Cheltenham, Henry Whinfield Hora, Chemist and Druggist, Minories, E.C. Aged 75. Mr. Hora was for many years a member of the Pharmaceutical Society, and for thirty years was a member of the Corporation of the City of London, being for long Deputy Alderman of the Ward of Portsoken and Chairman of the Tower Bridge Committee.

Row.—On May 18, suddenly, at Braintree, Mrs. Row, widow of the late Mr. Frederick Row, Chemist and Druggist. Aged 71.

Tomlinson.—On May 15, Alfred George Tomlinson, Chemist and Druggist, Hollinwood, Oldham. Aged 60.

Waddington.—On May 25, Alfred Henry Waddington, Chemist and Druggist, Bradford. Aged 43. Mr. Waddington, who had been a member of the Pharmaceutical Society for many years, and was a Divisional Secretary of the Society, died from pneumonia after three days' illness.

PUBLICATION RECEIVED.

Practical Prescribing and Dispensing for Medical Students. By William Kirkby. Pp. 169 + vii. Price 4s. 6d. net. Manchester: The University Press. London: Sherratt and Hughes, 65, Long Acre, W.C. 1904. From the Publishers.

Calendar for the Week (May 29—June 4, 1904).

Days of		Events of the Week.	Sun	
M	W		Rises	Sets
29	S	**Trinity Sunday.** ○Full Moon, 8.55 a.m.	3.53	8.1
30	M	Entries for Jacob Bell and Manchester Scholarships close on June 1.	3.52	8.2
31	Tu	Nottingham and Notts Chemists' Association, Calvert's Café, at 9 p.m.—Annual Meeting. Royal Photographic Society, 66, Russell Square, London, at 8 p.m.—Technical Meeting. Trinity Law Sittings begin.	3.51	8.3
1	W	Pharm. Soc. G.B., 17, Bloomsbury Square, London, at 11 a.m.—Meeting of Council. Pharm. Society of Ireland, 67, Lower Mount Street, Dublin, at 3 p.m.—Meeting of Council.	3.51	8.5
2	Th	Chemical Society, Burlington House, London, at 8 p.m.—Ordinary Meeting. Great Yarmouth Pharmaceutical Association, 156, King Street.—Final Meeting of Session. Linnean Society, Burlington House, London, at 8 p.m.—Ordinary Meeting.	3.50	8.6
3	F	Royal Institution, Albemarle Street, London, at 9 p.m.—"The Development of the Theory of Electrolytic Dissociation." By Professor Svante Arrhenius.	3.49	8.7
4	S	"Liquid Disinfectants" added to Poison Regulations, 1902.	3.48	8.8

LETTERS, NEWSPAPERS, QUERIES, and other COMMUNICATIONS have been received from Messrs. Andrews, Barron, Blamey, Corfe, Dott, Eberlin, Evans, Fentiman, Gadd, Gibson, Gifford, Gilkes, Gilmour, Hagon, Harvey, Hornby, Hornsby, Hyslop, James, Marshall, Morson, Napier, Palmer, Philp, Pickering, Presley, Sargeant, Stewart, Strange, Thomas, Wallwork, Whyte, Williams.

Telegrams: "Pharmaceutical Journal London"
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The Pharmaceutical Journal Office,

17, Bloomsbury Square, London, W.C.

Thursday, June 2, 1904.

Cream of Tartar prosecutions are reported from several parts of the country, the "adulterants" being lead in two instances and starch in another.

The Tuberculosis Commission has issued an interim report which dispels the idea that there is any specific difference between the bacilli which cause the disease in bovine animals and human beings respectively.

A Medical Man at Ince, near Wigan, has been censured by a coroner and jury for prescribing and dispensing a fatal overdose of solution of morphine. It was alleged that the doctor was intoxicated at the time, and it has not been made clear exactly how the mistake was made.

The Redwood Scholarship has again been awarded to a lady, Miss Nora Renouf. Miss Renouf is a pharmaceutical chemist, and studied for her examinations at the School of Pharmacy. Since passing the "Major," she has been working in the Research Laboratory at Bloomsbury Square.

Spirit Sold as Brandy must in future be distilled from wine or from the grape, if Mr. Fordham's decision of Monday last be accepted as the last word on the subject. Mixtures of grape spirit with grain spirit or "silent" spirit must not be described simply as brandy, but a "disclosure" must be made.

The Standards for Drugs, which the Local Government Board for Ireland adopted some two years ago, have been compared by the advising pharmacist to the Board with the analytical reports on drugs actually supplied. The results in most instances confirm the good opinions that have been formed of the standards.

The New President of the Pharmaceutical Society is Mr. R. A. Robinson, and the Vice-President is Mr. J. Rymer Young; Mr. Walter Hills has been reappointed Treasurer. No member of the Council will be Chairman of more than one of the chief Standing Committees this year. The Council has declined to adopt the suggestion of the North British Branch that the former practice of collecting subscriptions through Divisional Secretaries shall be reverted to, as it considers the present system to be quite satisfactory.

Students will be interested in the School of Pharmacy Prize Examination questions which are printed in this issue. As was the case last year, the prizes, medals and certificates will be presented towards the end of June, instead of at the opening of the next session in October. Student-associates may be reminded of the third prize competition in connection with the Students' Columns. There is still plenty of time to enter for the competition and answer the questions printed in the Journal last week.

The Parliamentary Reporters of the lay Press think it probable that many Government Bills will have to be dropped owing to the congestion of business in the House of Commons. This may prevent the Government from fulfilling the intention to introduce during the present session a Bill to amend the Pharmacy Acts. It is thought that Ministers will make an effort to secure the passage of Lord Belhaven's Weights and Measures (Metric System) Bill. Meanwhile, the Shop Hours Bill has been read a second time, and referred to the Standing Committee on Trade. A hope may be expressed that the Committee will alter the wording of the exemption for dealers in medicines.

The General Medical Council has passed two important resolutions which affect the interests of pharmacists. One embodies the Council's approval of the Metric System Bill, and its willingness to eliminate Imperial weights and measures from the British Pharmacopœia. By the second resolution, the attention of the Lord President of the Council is directed to the use of medical and dental titles by companies of unqualified persons, and a request is made that the Government will take steps to render such use illegal. That suggestion may be a further inducement to the Privy Council to include in its "Poisons Bill" Clause 11 of the Pharmacy Bill, which aims at protecting the title of "Chemist and Druggist."

Several Changes in the drug and chemical market are recorded this week. Morphine and its salts have been reduced 2d. per oz. Quicksilver is 2s. 6d. cheaper, and Mercurials have been reduced 1d. per lb. Santonin is 1s. per lb. dearer. Saffron is slightly easier. Citric Acid is a little firmer, and Cod-Liver Oil is rather better. Camphor and Menthol are also somewhat healthier.

◆

THE COUNCIL MEETING.

The first meeting of the new Council of the Pharmaceutical Society presented several features of interest, not the least marked being the expeditious manner in which the business was transacted. Two new members attended for the first time, and the newly-elected President—Mr. R. A. Robinson—referred to the fact that a considerable change in the composition of the Council had taken place during the past two years, no less than five members having been replaced in that time. Much of the business done was of the usual routine character at this time of year, the standing orders being agreed to, committees reconstituted, and officers reappointed. Subsequently, Mr. Carteighe made a statement (see page 774) with regard to the progress of the work being done in connection with the production of the 'Compendium of Medicines.' The resolution of the British Pharmaceutical Conference, asking that a definite offer should be made for the formulæ devised by that body, was referred to the Compendium Committee for consideration, and will be reported on in due course. Meanwhile, it is interesting to note that verification work is being conducted on behalf of the Compendium Committee, under the supervision of Professor Greenish, and that a working sub-committee of three pharmacists has been virtually decided upon.

Vol. 72. No. 3424. (4th Series, Vol. 18. No. 1771.)

THE NEW PRESIDENT AND VICE-PRESIDENT.

The Pharmaceutical Society now has a new President and Vice-President, the former of whom virtually occupies his position as the outcome of his persistent efforts in the direction of securing the consolidation of the Society. Ten years back—nay, even six years ago—it would have been impossible for Mr. R. A. Robinson, as a chemist and druggist, to become even an ordinary member of the Council, but now he is President. What changes a few years can bring about. Only a week or two ago reference was made to the fact that the retiring President's first speech at the Council dealt with the desirability of admitting ladies to membership of the Society, while, curiously enough, during his term of office as President three ladies were appointed scrutineers. But a period of nearly thirty years had elapsed between anticipation and realisation in this case, whereas only a third part of that time has intervened since Mr. Robinson first made his then unacceptable suggestion that all chemists and druggists should be eligible for membership.

It is hardly necessary to recall that to Mr. Robinson "Minor" men practically owe their rights to full membership of the Society. Originally, none were eligible as members except pharmaceutical chemists and chemists and druggists who were in business on their own account before the passing of the Pharmacy Act of 1868. But Mr. Robinson foresaw that the number of persons available as members was likely to diminish steadily unless the legal qualification to practise pharmacy was accepted as the basis of membership, and—largely as the result of his efforts—all chemists and druggists were made eligible as members in 1898. Another important outcome of the new President's connection with the Society was the adoption of the "Poison Regulations" in 1899; while he was an early advocate of the proposal that the Journal should be made more interesting to the members as a whole. There is not any need to recapitulate the various positions which Mr. Robinson has filled; suffice it to say that he is one of the best existing examples of "the pharmacist as a public man." Yorkshiremen should take it as a very high compliment that within such a short space of time two presidents have been taken from their county, while the chemists of Great Britain should feel proud that such a man as Mr. Robinson has been forthcoming at a time when the affairs of pharmacy require a strong and experienced man at the helm.

The new Vice-President, Mr. J. Rymer Young, J.P., is also a Yorkshireman, and has been a member of the Council since 1893. His election will meet with universal approval, and there is no doubt that he will be an ornament to the vice-chair. He has for many years been an active member of the Committee of the popular and prosperous People's College at Warrington, and was one of the originators of the local School of Science, remaining a member of its executive as long as the school existed. He was connected with the Warrington Literary and Philosophical Society for fifteen years as secretary, and for two years as president, while he is at the present time its vice-president. Much of the success of that Society is due to his untiring exertions. For many years he was the life and soul of the Society, and it is considered doubtful whether another secretary will ever be found willing to spend so much time or to throw so much energy into the work as he has done. Incidentally, it may be mentioned that Mr. Rymer Young is the possessor of a medal of the Royal Humane Society, which was awarded him for saving life in 1879. Like his senior in office, he is a man experienced in public affairs. Both of the newly-elected officers are actively engaged in retail pharmacy.

A DANGEROUS REMEDY.

Clause 7 of the Pharmacy Bill is not to have a monopoly of opposition and attention. The dark rumours which have for some time been current with regard to Clause 10 of the Bill have culminated in a petition to the Privy Council, signed by the principals of about a dozen pharmaceutical schools, and asking for certain amendments to that clause. Exception is taken to the provision that the Pharmaceutical Society shall have powers to authorise the Boards of Examiners to require from candidates evidence of training in some place for learning approved by the Council of the Society. The chief ground for the complaint seems to be that no provision is made that existing schools shall necessarily be recognised and approved, and it is suggested that the "recognition" of schools should be a matter for the Privy Council rather than the Council of the Pharmaceutical Society. Possibly there is a fear lest the Council of the Society should be disposed to act unfairly towards "outside" schools because of the official school of pharmacy. Assuming for the moment that such a notion is well-founded, let us consider briefly the whole position. In the first place, it is by no means certain that the Pharmaceutical Society and the Boards of Examiners have not at present the power to make Bye-laws and regulations respectively, insisting on the production by candidates of satisfactory evidence of training; in other words, of insisting upon a curriculum. By Section 6 of the Pharmacy Act of 1868 examiners are empowered to grant or refuse certificates of competent skill and knowledge and qualification, "and the examination aforesaid . . . may be varied from time to time by any Bye-law to be made in accordance with the Pharmacy Act." Again, in Bye-laws, Section 10, x., occurs the following:—"The Boards of Examiners shall conduct all examinations according to the Bye-laws in force in that behalf, and according to such regulations as shall be made or adopted by them from time to time, and as shall have been approved by the Council." Those sections are held by some to give the necessary powers, but as there is room for some little doubt as to the exact scope given by the sections quoted, it has been thought well to adopt the repeated recommendations of the Privy Council's Visitors, and make definite provision for requiring a curriculum—if the Society thinks fit—by a clause to that effect in the Pharmacy Bill. The parenthesis in the last sentence is not without importance.

How would the Clause affect the unofficial schools? First of all, it is well to remember that the School of Pharmacy can only accommodate some sixty of the hundreds who undergo a course of pharmaceutical study each session, and the Society could not, if it wished, educate the whole number. Secondly, while it may be taken as certain that powers to "recognise" schools would be fairly exercised, it would be manifestly unreasonable to enforce such recognition whether the schools are efficiently conducted or not. Thirdly, a compulsory curriculum would actually benefit every unofficial school, with the exception of those—if there be any—which fatten on the fees of students who fail repeatedly through insufficient training and take several "short courses" instead of one course of proper duration. Lastly, it may be asked: What reason is there to think that the Privy Council either has at its command more expert knowledge of what is necessary for a fitting training in pharmacy than has the Council of the Pharmaceutical Society, or would apply that knowledge with results less prejudicial to the interests of the principals of external schools? The amendments proposed by the Privy Council's petitioners seem, in fact, ill calculated to serve the purpose for which, in perfect good faith, doubtless, they have been suggested. In addition, they would, if carried into effect, derogate from such powers as the Pharmaceutical Society now has, without any compensating advantage, either to pharmacy in general or to the principal of any private school in the kingdom.

RATIONAL PRESCRIBING AND DISPENSING.

In the last edition of the 'Pharmacopœia of St. Thomas's Hospital' an attempt was made by Mr. Edmund White to assist medical students to learn how to prescribe medicines in a rational manner, by including in the work a series of concise practical notes on official and certain non-official medicaments. A further step in the same direction has now been taken by Mr. William Kirkby, who has produced an instructive and valuable work under the title of 'Practical Prescribing and Dispensing for Medical Students' (University Press, Manchester. 4s. 6d. net). In the preface to the book, the author rightly states that it is not unusual to hear a complaint that medical students receive an education which is defective, in so far as relates to the writing of prescriptions, and that there are some who even venture to attribute the extensive prescribing of factory-made medicines to this defect. As a remedy, he has produced a book which contains just the information required by the writers of prescriptions, when supplemented by a practical acquaintance with the various forms in which medicines are administered, and a knowledge of incompatibles. The work will also be found extremely useful to dispensers, and should prove indispensable to pharmaceutical students generally.

The preliminary matters dealt with by Mr. Kirkby are weights and measures and the construction of prescriptions. He then proceeds to explain the preparation of mixtures and draughts, the action of solvents, the limits of solubility, and incompatibility. Next come practical notes on the dispensing of emulsions, pills, powders, cachets, capsules, confections, gargles, douches, enemas, sprays, inhalations, hypodermic injections, percentage solutions, lotions, liniments, ointments, suppositories, pessaries, bougies, and plasters. Nearly sixty pages are then devoted to notes similar to those at present appearing weekly in the *P.J. Inset*, dealing with the forms of administration, doses, solubilities, and incompatibles of the chief official and extra-official drugs. The reactions of some of the chief pharmacopœial chemicals next receive attention; then follow dispensing exercises, lists of words and phrases used in prescriptions, and a clearly printed index. The whole of the matter bears the impress of that technical skill and thoroughness with which Mr. Kirkby's name must invariably be associated, and the book must be welcomed as one of the most useful recent additions to the working library of prescribers and dispensers.

A STANDARD FOR BRANDY.

The important decision of the Stipendiary at the North London Police Court on the "nature, substance and quality" of brandy (see page 784) bears directly on the old and vexed question of pharmacopœial authority and "commercial standards." Chemists and druggists, who dispense and sell brandy for medicinal purposes only, have for long recognised the obligation to use only a brandy which conforms to the "B.P." definition—"a spirituous liquor distilled from wine and matured by age." To the publican and the spirit merchant, on the other hand, the letters "B.P." have indicated nothing more than the British public, which includes a number of persons wishful to buy a cheap spirit for purposes which may be described as doubtfully medicinal. Consequently, much liquid has been sold as brandy, which has by no means exclusively consisted of spirit distilled from the grape or from wine, but has been largely composed of grain spirit, or of "silent spirit," that is, a spirit so highly rectified as to be practically destitute of the ethers which are considered the most valuable medicinal constituents of pure brandy. The origin of such silent spirit cannot be determined by analysis, but Mr. Fordham has decided that its origin is unimportant. Silent spirit may once have been brandy distilled from wine, but rectification has deprived it of the characteristics of brandy, and it can be described as such no longer. The magistrate's definition of spirit which may be sold as brandy would seem to be "a spirituous liquid prepared entirely by distillation from the grape or from wine, and not so rectified as to have lost the properties peculiar to spirit so obtained." Further, it would seem that Mr. Fordham inclines to the view of the *Lancet's* special commissioner, that a minimum standard for ethers—perhaps 80 parts in 100,000 of alcohol—is desirable. The main effect of the decision will probably be to kill the trade in cheap and inferior "brandy," an event which may fall hardly on the few but must be for the advantage of the many. The lesson for the trade is that considerations of public health demand that quality shall not be sacrificed to the craze for "cheapness." The case, again, may help an unwilling public to realise that medicine sold at a low price by persons who have no knowledge of chemistry or pharmacy is, in most instances, inferior to that for which a pharmacist may charge a higher price.

THE TUBERCULOSIS COMMISSION.

The Royal Commission appointed to inquire into human and animal tuberculosis has issued an important interim report. A view had been expressed that the bacillus which gives rise to tuberculosis in the bovine animal is specifically distinct from the bacillus which gives rise to tuberculosis in the human being. The Commission has carefully compared the disease set up in the bovine animal by material of human origin with that set up in the bovine animal by material of bovine origin, and, so far, has found the one, both in its broad general features and in its finer histological details, to be identical with the other. No character has been discovered by which it is possible to distinguish the one from the other; and the records of the Commission contain accounts of the *post-mortem* examinations of bovine animals infected with tuberculous material of human origin, which might be used as typical descriptions of ordinary bovine tuberculosis. The interim report has been presented now because the result at which the Commission has arrived—namely, that tubercle of human origin can give rise in the bovine animal to tuberculosis identical with ordinary bovine tuberculosis, seems to the Commission to show quite clearly that it would be most unwise to frame or modify legislative measures in accordance with the view that human and bovine tubercle bacilli are specifically different from each other, or that the disease caused by the one is a wholly different thing from the disease caused by the other. The fuller report of the Commission, dealing with the influence of dose, of individual and racial susceptibility of the specific virulence of the different strains of bacilli, and other points, will be awaited with the greatest interest.

PARLIAMENTARY.

The prospect of a Government Poisons Bill being introduced this session—much less passed into law—is becoming remote. Supply, the reorganisation of the Army, and the Licensing Bill will require for discussion about thirty-six of the fifty days remaining for Government business in the House of Commons. The remaining fourteen days will be fully occupied with a variety of Government Bills of a more or less contentious nature, including the Port of London Bill, two Bishoprics Bills, the Aliens Bill, and many others. It is thought, also, that Ministers will endeavour to give facilities for the passage of Lord Belhaven's Weights and Measures (Metric System) Bill, which has passed the Lords. It would, therefore, appear most improbable that the Premier will encourage any attempt that may be made to add to the congestion of business by the introduction of a Government measure to amend the Pharmacy Acts. Such a measure will necessarily arouse opposition from one quarter or another, even if it be found in some degree to satisfy registered chemists. If a Poisons Bill be introduced in the House of Lords this session, the fact will be due in all probability more to a desire to redeem a pledge than to any expectation or wish to pass the Bill through the Legislature. An autumn session is not considered probable by those who are in the best position to prophesy.

The Government Shop Hours Bill was read a second time in the House of Commons on Wednesday, June 1. Sir Charles Dilke proposed an amendment, and expressed regret that the measure failed to provide for the regulation of the hours of shop assistants. Mr. Asquith thought the Bill a very mild and homœopathic measure of reform, but, after a lengthy debate, the amendment was negatived and the Bill read a second time. Some alterations are sure to be made by the Standing Committee on Trade, to which the Bill has to be referred. One such alteration which may be hoped for is the specific exemption of qualified chemists for the sale of medicines for the sick in place of the exemption being open to any shopkeeper who may sell medicines. The Bill as a whole has already been commented on in the *Pharmaceutical Journal* (see page 616, *ante*), and further reference to its provisions is for the present unnecessary.

THE GENERAL MEDICAL COUNCIL.

The disciplinary and educational matters with which much of the time of the General Medical Council is invariably occupied when that body meets do not as a rule bear directly upon pharmacy. But the report of the Council's proceedings during the past week, which is printed at page 780 of this issue, contains two resolutions to which reference must be made. By one resolution, the Lord President of the Council is to be informed that the General Medical Council considers it desirable that the metric system of weights and measures should be the one legal standard for the dispensing of drugs and medicines, and that, if the Weights and Measures (Metric System) Bill becomes law, the Council will make the necessary modifications in the British Pharmacopœia. Pharmacists are for the most part well prepared for such a change. Probably every candidate who has passed the qualifying examination of the Pharmaceutical Society during the past decade, in addition to most chemists and druggists of an older generation, has a good working knowledge of the metric system. There will be some temporary inconvenience, and perhaps an occasional mistake. But the advantages of uniformity make the adoption of the system very desirable, not only from the point of view of the exporter of drugs and galenicals, but from that of the retail trade and the public generally.

The second resolution of the General Medical Council in which pharmacists are interested bears on the use of professional titles by limited companies of unqualified persons. That question has been brought to a head by the action of an unregistered dentist in Ireland, who sought to obtain from the High Court a mandamus compelling the Registrar of Joint Stock Companies to register "Rowell, Dentist, Limited," as the title of a limited company. The Lord Chief Baron refused the request, and in directing the Privy Council's attention to that refusal, the General Medical Council voices the hope that steps will be taken to "protect" medical and dental titles. The suggestion is that not only shall new companies be prevented from using "titles," but that existing companies shall be forced to discontinue such use. It is much to be desired that some such action will be initiated by the Government, and that, when the promised "Poisons Bill" is introduced, even if, as is suggested elsewhere, it does not make its appearance before next session, it will be found to contain a provision similarly protecting the title of "chemist and druggist" against the piratical ravages of joint-stock companies.

ABSTRACTS—SCIENTIFIC AND TECHNICAL

A REVIEW OF CURRENT WORK IN PHARMACOPEDICS AND ALLIED SCIENCES

Soft Soap.

Finding that the official (U.S.P.) process for the preparation of soft soap does not give good results on the working scale, the prescribed linseed oil not being readily saponified by the quantity of alkali ordered, G. M. Beringer has modified the formula thus. Linseed oil, 40, olive oil, 40, are mixed and warmed to 70° C. Caustic potash, 19, is dissolved in water, 60, also warmed to 70° C., and added to the warm oil with thorough stirring. Alcohol, 10 fluid parts, is then added, and when thoroughly incorporated agitation is stopped, the temperature being maintained until saponification is complete, which is evidenced by the mass becoming clear, and a portion dissolving in water without separation of oil. The product is about 140 parts. The soap thus produced is a transparent, smooth, greenish yellow mass; but if stirring be continued after adding the alcohol it is opaque from included air.—*Amer. Druggist*, **44**, 200.

Distinctive Reactions of Cocaine.

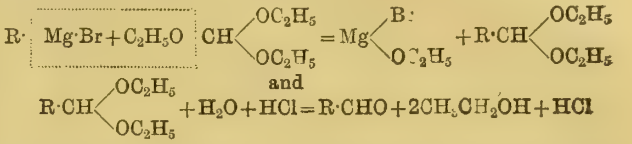
C. Reichardt finds that by the addition of a strong solution of sodium nitroprusside to a fairly strong cold solution of a cocaine salt, a precipitate is produced consisting of well-formed microscopic crystals of cocaine hydronitroprusside. On warming, these are dissolved and reappear again on cooling. If a strong cold solution of cocaine hydrochloride be treated in a similar manner with a cold saturated solution of uranium nitrate, a yellow crystalline precipitate of undetermined composition is obtained, which is probably a double salt. If a trace of cocaine hydrochloride be added to a cold solution of titanic acid in strong sulphuric acid, and warmed, the liquid separates oily drops, and acquires a violet to blue colour, which is very permanent; on adding water, a blue precipitate is obtained. This reaction is characteristic. If a trace of cocaine hydrochloride be rubbed down with a little potassium ethyl sulphate, and a drop of strong sulphuric acid be added to the mixture, there is no reaction in the cold; but on warming it develops a distinct peppermint odour. If cocaine hydrochloride be rubbed down with a little urea, and treated with a few drops of sulphuric acid, it is not affected in the cold, but on heating a blue colour is developed. A similar reaction is obtained with ethylenediamine hydrochloride.—*Pharm. Zeit.*, **49**, 298, after *Chem. Zeit.*

Determination of Nicotine in Tobacco Solutions.

Waldbott gives the following simple method for determining the amount of nicotine in commercial tobacco extracts, or of solutions of nicotine salts which contain ammonia or its salts. Ten C.c. of the preparation is mixed in an open vessel with 15 to 20 Gm. of sodium bicarbonate by means of a glass spatula, so as to obtain a plastic, almost dry, mass. This is treated with 20 C.c. of chloroform, heated, and the clear chloroform transferred to a separator. The extraction is repeated until about 100 C.c. of chloroform extract has been obtained. The amount of nicotine is then titrated in the usual way with semi-normal acid and alkali, using copper sulphate solution as indicator. This gives a greenish precipitate with free nicotine. Excess of semi-normal acid is first run in, which is then titrated back until a faint cloud is produced, which indicates the end point of the reaction. The error due to the presence of ammonia liberated by the bicarbonate from extracts containing a great excess does not exceed 0·4 per cent., and in ordinary cases not more than 0·2 per cent.—*Pharm. Centralh.*, **45**, 192, after *Chem. Zeit.*

New Method for the Synthesis of Aldehydes.

F. Bodroux has found that magnesium haloid salts are capable of forming compounds with radicles of the aromatic series, and that when these magnesium compounds are treated with ethyl orthoformate they furnish the corresponding aldehyde, thus:—



$$\mathrm{R\cdot}\boxed{\mathrm{Mg\cdot Br+C_2H_5O}}\,\mathrm{CH}\Big\langle{}^{\mathrm{OC_2H_5}}_{\mathrm{OC_2H_5}}=\mathrm{Mg}\Big\langle{}^{\mathrm{Br}}_{\mathrm{OC_2H_5}}+\mathrm{R\cdot CH}\Big\langle{}^{\mathrm{OC_2H_5}}_{\mathrm{OC_2H_5}}$$

and

$$\mathrm{R\cdot CH}\Big\langle{}^{\mathrm{OC_2H_5}}_{\mathrm{OC_2H_5}}+\mathrm{H_2O+HCl=R\cdot CHO+2CH_3CH_2OH+HCl}$$

To each molecular weight of the magnesium compound in ethereal solution 150 Gm. of pure dry toluene is added, and the mixture distilled to eliminate the uncombined ether. To the residue two-thirds to three-fourths of a molecular weight of ethyl orthoformate is added, drop by drop. An energetic reaction ensues, the liquid boils, and ether distils off. The mass is agitated, set aside for half an hour, and then treated with dilute hydrochloric acid; an oily liquid separates, and is decanted, washed, and dried. It contains the aldehyde ether, alone or contaminated with its ethyl acetal. To destroy the latter, the toluene is eliminated, and the mixture boiled with dilute (1:4) sulphuric acid. The aldehyde formed is then combined with sodium bisulphite, from which it is liberated in the usual manner. If the aldehyde has a relatively low boiling-point the toluene mixture is shaken out at once with bisulphite solution, the toluene driven off, and the residue treated with dilute sulphuric acid, in a flask attached to a Lebel fractionating tube. The resulting distillate of ethyl alcohol and the aldehyde is thus easily separated. By this method 55 per cent. of phenylacetic aldehyde was obtained from benzyl chloride, 70 per cent. of α-naphthoic aldehyde from α-bromonaphthalin; 60 per cent. of para-bromobenzoic aldehyde from para-dibromobenzene; 64 per cent. of para-chlorobenzoic aldehyde from para-chlorobenzene; 75 per cent. of butylic aldehyde from propyl bromide, and 66 per cent. of isovalerianic aldehyde from isobutyl bromide. —*Comp. rend.*, **138**, 700.

Ambrosia Artemisiæfolia, L.

The young plant, not in flower, affords 0·15 per cent. of a greenish oil, having a pleasant aromatic odour, a specific gravity of 0·876, a rotation of −1°, and an ester number of 7·94. It gives a clear solution with an equal quantity of 90 per cent. alcohol, which becomes turbid on the further addition of alcohol.—*Schimmel's Bericht, April*, 1904.

Essence de Bruyere.

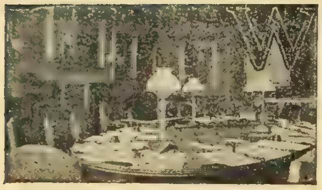
A pleasant smelling oil has been received under this name from Australia. It has a bluish-green colour, due, apparently, to traces of copper, and a specific gravity of 0·8587 at 15°, a rotation of +2° 44′, and is soluble in 4·5 volumes or more of 90 per cent. alcohol. Its source is unknown.—*Schimmel's Bericht, April*, 1904.

Oil of Erythroxylon Monogynum, Roxb.

The wood of this plant, known in India as bastard sandal or red cedar, affords 2·56 per cent. of an oil, forming, when cold, a glutinous crystalline mass, having a pleasant odour, resembling that of guaiacum wood oil. Its specific gravity is 1, its acid number 6·77, ester number 1·56, and melting-point 42° to 450°. It is soluble in one volume of 90 per cent. alcohol, with slight cloudiness, which disappears on the addition of more alcohol. After removal of the liquid portion and crystallisation from petroleum ether, the crystalline body was obtained in needles, melting at 117° to 118°, and having the formula $C_{20}H_{32}O$; it appears to be of the nature of an alcohol.—*Schimmel's Bericht, April*, 1904.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN.

MEETING OF COUNCIL.



WEDNESDAY, June 1, 1904, at 17, Bloomsbury Square, London, the President, Mr. S. R. Atkins, in the chair. Other members present were: Messrs. Campkin, Carteighe, Cooper, Cross, Currie, Gibson, Gifford, Glyn-Jones, Hagon, Harrington, Harrison, Hills, Newsholme, Park, Robinson, Southall, Storrar, Symes, Wootton, and Young.

The minutes of the May meeting of the Council were confirmed.

Election of President.

The President said the first business of the Council was the election of President for the ensuing year. To simplify matters he would say at once that he wished his colleagues to regard him as out of the running for the position.

Mr. Cooper: Are we to understand that you refuse to accept office if you are elected?

The President: I would rather not have it put that way; but I shall be most delighted to surrender the chair to my successor who will be appointed to-day.

Subsequently some conversation on the subject took place in committee, and Mr. Atkins explained that he was of opinion that the office of President should be rotated more rapidly among the members of the Council.

A ballot was then taken in the usual way, and Mr. R. A. Robinson was declared duly elected President for the ensuing year.

Mr. Atkins then vacated the chair, and invited Mr. Robinson to occupy it, at the same time expressing his pleasure on investing him with the chain.

The President (Mr. Robinson) said: Gentlemen of the Council, let me thank you most warmly for the kind vote and the great honour you have done me. I can assure you that I will try my best to carry out the work, and, with your help, I hope that I may have a successful year of office. I am well aware of my many shortcomings for this position, but at the same time I have an earnest desire to do the best I can in the interests of the members of the Society and pharmacy generally. I esteem it a very great honour you have done me in electing me to this most honourable office.

Election of Vice-President.

The ballot for the election of Vice-President was then taken.

The President: I have much pleasure in announcing that Mr. Rymer Young has been elected to the office of Vice-President of the Society. I have the pleasure of congratulating you, Mr. Vice-President, and invite you to take the vice-chair.

The Vice-President (Mr. Young), in acknowledging his election, thanked the Council sincerely for placing him in a position which had attached to it enormous responsibilities, as well as honour and distinction. He was perfectly well aware that the honours of the Society were not placed upon individuals as marks of honour merely. He fully recognised that fact, and he was compelled to the conclusion that in placing him in the office of Vice-President the Council was of opinion that he could be of some use to the Society. It would be his duty and endeavour to justify the confidence of the Council in him. He asked the Council for a continuance of that support and forbearance which had usually been accorded to the occupants of the chair and vice-chair, and without which those offices could not be pleasurable nor even tolerable.

Election of Treasurer.

A ballot having been taken, Mr. Walter Hills was unanimously re-elected Treasurer for the ensuing year.

The President, in announcing the result of the ballot, congratulated the Society on having secured the services of Mr. Hills for another year.

Mr. Hills: I have to thank you most heartily for the honour you have done me.

Welcome to New Councillors.

The President, on behalf of the Council, extended a very cordial welcome to Mr. Gibson and to Mr. Hagon. He thought it was interesting to note that no less than five members of the Council had come on the Council during the past two years—or a quarter of the whole number. That seemed to show that there was some movement in the composition of the Council.

Mr. Gibson thanked the President very sincerely for the kind words he had used in regard to himself and the Council for receiving them so unanimously. His best thanks were also due to the large number of members who gave him their votes and interest, which had enabled him to join the Council. They might rest assured that, so long as he occupied a seat on the Council, he should endeavour to act in harmony with his colleagues, and do his very best for the members of the Society throughout the country.

Mr. Hagon also thanked the President and his fellow councillors for their kind reception, and the members who voted for his election to the Council. The success his candidature had met with had been very gratifying to the members of the Society resident in Wales, and he thought the fact that there was a member of the Council residing in Wales would materially benefit the Society. For he felt sure that the more the Council was brought into touch with its constituents the better for the Society.

Vote of Thanks to Mr. Atkins.

The Vice-President said he was glad that one of his first duties was to propose a vote of thanks to the retiring President, Mr. Atkins. That Mr. Atkins should have gone through his year of office with credit to the position, that he should have done the work gracefully and elegantly, was to be expected, and after so many years of magnificent service to the Society he thought that no virtue Mr. Atkins could now display would come as a surprise. The Society owed Mr. Atkins a deep debt of gratitude, not only for his services during the past year, but for the calm judgment and the experience he had always brought to bear upon the work of the Council. It was exceedingly gratifying to know that Mr. Atkins retired from the presidency still in possession of excellent health and strength, and that the Society could well look forward to benefit, possibly for many years, by his wonderful experience and assistance. He moved:—

> That the best thanks of the Council are due and are hereby accorded to Mr. Atkins for his able services in the chair.

Mr. Newsholme seconded the motion. He said the members of the Council had all appreciated the admirable manner in which Mr. Atkins had fulfilled the public duties of the President—he referred not only to the routine work of the Society, but to the charming manner in which Mr. Atkins presided over the annual dinner and the annual meeting of the Society. As the Vice-President had said, they did not expect to be disappointed in what the late President would do in his year of office. Those who had been his colleagues for a great number of years knew that he had always performed his duties in a charming manner. Perhaps he might be allowed to refer to the enormous amount of influence and attention Mr. Atkins had bestowed upon the Benevolent Fund. He did not think there was any part of his work that Mr. Atkins was prouder of than the work of benevolence in connection with the Society. Mr. Newsholme then referred to certain remarks made by Mr. Atkins earlier in the proceedings, to the effect that the office of President should rotate more rapidly than in years gone by. He felt that he (Mr. Newsholme) was somewhat of a sinner in having held office for three years, but he was firmly of opinion that it was better to get as many members interested in the work of the Council as possible.

The President, in putting the motion to the vote, said he should like to add his quota to what had been said by the Vice-President and Mr. Newsholme concerning Mr. Atkins' services to the Society. He also wished to re-echo the remark made by the Vice-President that they were glad to know that Mr. Atkins was restored to health and hoped that they would have his presence among them for many years.

The vote of thanks was accorded unanimously.

Mr. Atkins, who was deeply moved, said he was extremely obliged to the Council for the very kind and courteous way in which the vote of thanks had been passed; also for the graceful terms in which the Vice-President had proposed it, and the hearty and sincere terms used by his predecessor in the chair in seconding the motion. He had been on the Council a long time—he believed, as a matter of continuity, he was the oldest member of the Council. His friend Mr. Carteighe preceded him, but was off the Council for a time, thus he (Mr. Atkins) held the position of father of the Council. He had had a long innings, and had some singular advantages, perhaps, in regard to being able to give to the work of the Society more leisure than fell to the lot of most men—what he meant was that he had not been actively engaged in business. He knew that in the matter of making money it was a mistake to devote too much time to public work, but he held that "man does not live by bread alone." He believed that every man should endeavour to serve his generation to the best of his ability, and especially should he try to serve the calling with which he was associated. His connection with the Pharmaceutical Society had been one of singular charm; he did not remember having one single word of friction with any of his colleagues during all the thirty years he had been on the Council. No credit was due to him for that, but the kindly forbearance of his colleagues. When he thought of the men—some of whose portraits were around that room—with whom he had been associated, he felt that he must be getting on in years. But the work he had done on the Council had been very pleasant. He had found friendships and new work and associations which had been distinctly pleasing. With regard to the year just passed, he should like to say that it had been a year of great interest and pleasure to him. He had had one or two rather interesting and striking events in the year, which would be for the benefit of those who came after him—he meant in his own family life. He would not labour that point, but would simply say that his year of office had been one of singular charm and great kindness on the part of members of the Council with whom he had been associated. He hardly knew what to say, except that from every member of the Council, and every member of the permanent staff of the Society, he had had nothing but the most uniform consideration and kindness and courtesy.

Vote of Thanks to Mr. Allen.

Mr. Atkins said the President had placed in his hands a resolution to propose, which read as follows:—

> That this Council desires to record its high appreciation of the services rendered to the Society by Mr. C. B. Allen, who for twenty years has been a valued member of the Council, and for the past four years an able Vice-President. His former colleagues express the unanimous hope that his retirement from the Council will be merely temporary, and that he will in the near future again find himself able to place at the service of the members of the Society the ability and zeal which characterised his long tenure of office.

It gave him considerable satisfaction to be asked to move that vote of thanks and expression of confidence. He had at meetings of the Council previously expressed his great appreciation of the most valuable services which the late Vice-President had given to the Society. Mr. Allen's singular grasp of the whole of the questions connected with the work of the Society, his deep interest in the educational side, and, in fact, every part of the Society's work, rendered him quite an authority, and his clear, definite expression of opinion on questions always carried great weight. Personally he (Mr. Atkins) felt very much the poorer in his association with the Council in losing Mr. Allen—he felt that he had lost a personal friend. He hoped Mr. Allen would at some time return to the Council, and give the Society many years of future service. The Society owed the late Vice-President a very deep debt of gratitude for twenty years of very valuable, disinterested, and devoted service, and he proposed the vote of thanks with the utmost satisfaction.

The Treasurer (Mr. Hills) seconded the vote of thanks. He said he considered himself happy in being asked to second the motion, because he was reminded that it was twenty years since he had the pleasure of moving that Mr. C. B. Allen be co-opted to the Council. He thought that Mr. Allen's subsequent career on the Council had shown that it was a wise thing on that occasion to ask Mr. Allen to become one of their colleagues. During the past four years Mr. Allen had acted as Vice-President, and in those years the Society had had provincial members as Presidents. Mr. Allen had shown intense loyalty to the Presidents under whom he served, and had effaced himself whenever the interests of the Society called for it. They all recognised his sturdy common sense and intense loyalty to the Society, and he hoped that after a short period of rest they would have an opportunity of again working with one who had shown himself in every way to be a valuable colleague, and one who had the interests of the Society thoroughly at heart.

The motion was then carried unanimously.

Vote of Thanks to the Treasurer.

The President said he noted that it had not been usual to thank the Treasurer on his being re-elected to office, but he thought it ought to be done. He therefore moved that the thanks of the Council be given to the Treasurer, Mr. Hills, for his valuable services during the past year.

The Vice-President, in seconding the vote of thanks, said that in Mr. Hills they had a Treasurer who was indefatigable, courageous, and plucky, and they could not afford to miss an opportunity of thanking him for his services.

The vote of thanks was accorded with enthusiasm.

The Treasurer thanked the Council for the vote of thanks, though it was quite an innovation.

The Late Mr. Waddington.

The President said there was one matter that he was sorry to have to mention, and that was that since the May meeting of the Council they had heard of the death of Mr. A. H. Waddington, of Bradford. He would ask Mr. Newsholme to move a resolution.

Mr. Newsholme said he had a motion to propose which was certainly not a pleasurable but an exceedingly painful one. It was that a letter of condolence be sent from the Council to Mrs. Waddington and family. Many of the members of the Council had the pleasure of knowing Mr. Waddington, and of seeing him in his home in the city of Bradford. They knew the active interest Mr. Waddington took in the Bradford Chemists' Association, and they knew, from the friends of Mr. Waddington, that he also took an active interest in most of the affairs which concerned the city. As a member of the Pharmaceutical Society, and as one connected with the local association, Mr. Waddington gave his services willingly and everyone who knew him knew that he was an exceedingly active Divisional Secretary of the Pharmaceutical Society. Then they had frequently read in the *Pharmaceutical Journal* and elsewhere letters written by Mr. Waddington on various subjects affecting pharmacy, and they had always fully realised that he was a live man. Unfortunately for the Pharmaceutical Society, Mr. Waddington had died in the prime of life, being only about forty years of age; but in his comparatively short life his services had been extremely valuable to the Society and to the craft. Mr. Newsholme then referred to the funeral, which he attended on Saturday last, and mentioned that he witnessed there evidence of the respect in which Mr. Waddington was held in Bradford. Several prominent members of the Chamber of Trades were present, as well as pharmacists from Leeds, Dewsbury, and other surrounding towns. Mr. Atkins had made the remark that it was the duty of every man to serve his generation to the best of his ability, and in his (Mr. Newsholme's) opinion there was no man who had performed that duty better than their late friend and local officer, Mr. Waddington.

Dr. Symes, in seconding the motion, said how much he personally regretted the death of Mr. Waddington, and how much his death would be regretted by all who knew him. Mr. Waddington was a thorough and earnest pharmacist—a man who had a consciousness of duty, and performed his duty to the best of his ability. Mr. Waddington was the centre of pharmaceutical life in Bradford, and had around him a number of loyal men. He might say that Bradford was very loyal to the Society, and they could always rely on Bradford to support the Council. Mr. Waddington was the centre of that loyalty, and was friendly with all his fellow-pharmacists, whom he brought together in a social way, and managed to keep them in touch with each other. Dr. Symes then referred to a visit he made to Bradford, when he stayed with Mr. Waddington, and said how delighted and charmed he was with the earnest manner in which he discussed the many problems of pharmacy, and suggested remedies for the various evils with which chemists are surrounded. The loss of Mr. Waddington would be felt not only by his family and the Pharmaceutical Society, but by the whole of the calling with which he had been connected.

The President said that he was the guest of Mr. Waddington about two months ago, and to learn now that he had been stricken down so suddenly was a matter most painful to contemplate.

The motion was carried by the members of Council rising.

Re-Appointment of Officers.

Mr. Richard Bremridge was re-appointed Secretary and Registrar for the ensuing year; Mr. John Humphrey was re-appointed Editor of the *Pharmaceutical Journal*; Mr. E. M. Holmes was re-appointed Curator of the Society's Museums, and Mr. J. Rutherford Hill was re-appointed Assistant-Secretary in Scotland.

Standing Orders.

It was agreed that the Standing Orders adopted last year (see *P.J.*, June 6, 1903, p. 790) be again adopted for the regulation of the proceedings of the Council, except that, on the suggestion of Mr. Glyn-Jones, Standing Order No. 5 be altered to read as follows, the words in italics being inserted:—

> (5) That at every meeting of the Council all motions, whether original motions or amendments, shall, *if required by the President*, be reduced into writing, signed by the mover, and delivered to the Secretary immediately upon being seconded.

Election of Members.

The following persons, having tendered their subscriptions for the current year, were elected members of the Pharmaceutical Society:—

Agar, Robert L.; Ramsgate
Beale, Harry Wilson; Norwood
Bratley, Arthur L.; Pontefract
Dax, Henry R.; Eastwood
Eaton, Henry; South Wigston
Hill, William F.; Rainhill
Lewis, Dan; Stamford Hill
Masterton, Wm. D.; Port Elizabeth
Oldham, John B.; Burslem
Peacock, William L.; Southery
Twigg, Paul O'Brien; Shanghai
Waslin, William C.; Hull
Weddle, William G.; Liverpool
Williams, W. R.; Cardiff.

Election of Student-Associates.

The following persons, having tendered their subscriptions for the current year, were elected student-associates:—

Bostock, Sydney M.; Leftwich
Fox, Frederick; York
Hay, John; Hull
Howell, Percival H.; King's Lynn
Mutyala, Dorasawmy N.; Edinburgh
Royston, Charles S.; Accrington
Woodman, William A. G.; Malvern.

Restorations to the Society and Register.

The following persons, having made the required declarations, and paid the restoration fee of one guinea, were restored to the Register of Chemists and Druggists:—

Clark, Alexander, Craiglea, Thicket Crescent, Sutton, Surrey.
Hay, William, 27, Market Place, Hull.
Weight, Samuel Thomas Ford, 699, Wandsworth Road, London, S.W.

Several persons were restored to their former position in the Society.

Finance Committee.

The report of this Committee was as follows:—

May 25, 1904.

Mr. Robinson in the chair.

Present—Messrs. Carteighe, Cooper, and Harrington.

1. The Secretary submitted the following statement of the accounts:—

General Fund:—	£	s.	d.	£	s.	d.
Balance (April 30)				3,000	7	5
Receipts:—						
Penalties and costs ..	101	7	11			
Restoration fees, etc. ..	197	8	0			
Subscriptions	197	18	6			
'P.J. Formulary' ..	36	4	6			
School fees	14	14	4			
Rent and ground rents.	26	4	10			
Pharmaceutical Journal	1,474	1	0	2,047	18	9
				5,048	6	2
Payments authorised by the Council				2,176	5	0
Balance..				£2,872	1	2

		£	s.	d.
General Fund :—				
Amounts recommended for payment :—				
On behalf of the Journal		657	17	10
School, etc.		45	11	10
House		35	8	11
Law charges..		16	0	0
Stationery, etc.		35	17	0
Salaries, etc.		666	5	0
Current expenses..		250	0	0
Museum and Library		14	11	5
Compendium		13	6	8
Annuities		200	0	0
		£1,934	18	8
Benevolent Fund (Current Account) :—				
Balance (April 30)		£1,125	13	3
Receipts :—				
Subscriptions	£86 3 0			
Ground rents	118 15 0			
		204	18	0
		1,330	11	3
Payments		67	0	0
Balance..		£1,263	11	3
Amount Recommended for Payment :—				
Receipt Books		£6	9	3
Benevolent Fund (Donation Account) :—				
Balance (April 30)		£245	18	6
Orphan Fund :—				
Balance (April 30)		£95	6	3

2. The Committee examined the accounts, and found them to be correct, and in accordance with the foregoing statement.

Recommended :—That the Treasurer be requested to pay the amounts indicated.

3. The Committee reports the following special contributions to the Benevolent Fund, and recommends that thanks be given to the contributors :—London Chemists' Association, £6 6s.; Collected by F. R. Sergeant (Nottingham), £3 12s. 6d.

R. A. Robinson, Chairman.

Mr. Harrington moved that the report and recommendations of the Finance Committee be received and adopted. He said there was nothing in the report that he need comment upon, but he should like to direct attention to the contributions from the London Chemists' Association and from Mr. Sergeant, of Nottingham. The Council was very much obliged for those contributions, and he hoped that others would follow the good example set by the contributors.

Mr. Glyn-Jones was about to make an inquiry concerning the amount of £13 6s. 8d. on account of the 'Compendium,' when

Mr. Carteighe said that as Chairman of the Compendium Committee he should have a statement to make later on, and Mr. Glyn-Jones thereupon refrained from pressing his question.

The report and recommendations of the Finance Committee were then adopted.

The National Telephone Company.

The Treasurer was authorised to pay the National Telephone Company the sum of £20, being the annual subscription for the ensuing year.

London Orphan Asylum.

The Treasurer was authorised to pay from the Orphan Fund the sum of £30 now due to the London Orphan Asylum for the maintenance and education of Master E. Bennett.

The Benevolent Fund Committee.

The report of this Committee included the recommendation of grants to the amount of £61 in the following cases :—

Registered chemist and druggist. 78. Surbiton. Has had previous grants.

Registered chemist and druggist. 70. Westminster. Has had previous grants.

Widow of a registered chemist and druggist, and subscriber to Benevolent Fund. 49. Sheffield.

Widow of a registered chemist and druggist. 68. Liverpool.

Widow of a registered chemist and druggist. 65. Southsea.

One case was deferred for further consideration.

The Vice-President, in moving that the report and recommendations of the Committee be received and adopted, directed attention to the case of Florence May Stevenson, aged ten years, the orphan daughter of a former Bayswater chemist, who is seeking election to the London Orphan Asylum. He said he was anxious to accentuate the appeal of Mr. Allen, made at the previous meeting of the Council, and he hoped that all who had influence or votes would do their best to secure the election of the girl. This was her first attempt, but it would be her last opportunity of offering herself for election.

The report and recommendations of the Committee were then adopted unanimously.

Library, Museum, School and House Committee.

The report of this Committee was as follows :—

May 11, 1904.

Mr. S. R. Atkins (President) in the chair.

Present—Messrs. Allen, Harrington, Hills, and Robinson.

1. The Committee received the usual monthly statements respecting the Society's Libraries and Museums in London, and particulars of these are published in the *Pharmaceutical Journal* for May 14, 1904.

2. School.—The staff reported, and it was agreed to recommend that the School prospectus for next session be sent to every subscriber to the Society together with a covering letter. The staff was requested to present at the next meeting of the Committee a list of the apparatus in charge of the respective professors. On the recommendation of the School staff certain re-adjustments of the fees for special supplementary courses of work were agreed to. The distribution of the School prizes gained during the present session was fixed for Wednesday, June 29, at 3 p.m. The School was ordered to be closed from Friday, May 20, at 5 p.m., until Tuesday, May 24, for the Whitsun vacation.

3. Messrs. Parkinson and Son's account for £4 9s. 8d., for work done during the past month, was approved and remitted to the Finance Committee.

4. The Committee considered applications for the Redwood Scholarship, and, on the recommendation of Professor Wynne, nominates for election Miss Nora Renouf, a pharmaceutical chemist at present working in the Research Laboratory.

5. The Committee ordered that the Library be closed on Thursday evenings after May until October.

6. The Vice-President and Mr. Hills reported that in view of the necessity for greater space in the Materia Medica Museum, they recommend that the articles in the Chemical Museum, which have no special physical characteristics, should be distributed under the supervision of Professor Wynne and the Curator, having due regard to the reservation of specimens of real historic interest.

The Committee accepted the recommendation, and ordered the necessary arrangements to be proceeded with.

7. Research.—Professor Greenish reported on the work now being done by Miss Hooper, the Burroughs Scholar, who was conducting experiments on the percolation of belladonna root.

S. R. Atkins (*President*), Chairman.

The report and recommendations of the Committee were agreed to.

General Purposes Committee.

The Secretary read the minutes of the meeting of the General Purposes Committee held the previous evening, as follows:—

> (1) The Committee, on the report of Mr. Carteighe and Mr. Hills, recommends that Arthur William Crossley, D.Sc., Ph.D., F.I.C., Lecturer in Chemistry at St. Thomas's Hospital, be appointed a member of the Board of Examiners in the place of Professor Smithells.
>
> (2) The Committee agreed that no member of the Council should be appointed to act as chairman of more than one of the following committees:—Finance, Library, etc., Benevolent Fund, Law, Journal, Parliamentary, Examinations and Education.
>
> (3) The following committees are recommended for appointment:—
>
> GENERAL PURPOSES COMMITTEE.
>
> To consist of the whole Council.
>
> FINANCE COMMITTEE.
>
> Messrs. Carteighe, Cooper, Harrington, and Hills.
>
> LIBRARY, MUSEUM, SCHOOL, AND HOUSE COMMITTEE.
>
> Messrs. Atkins, Carteighe, Harrington, Harrison, and Hills.
>
> BENEVOLENT FUND.
>
> Messrs. Atkins, Campkin, Cooper, Currie, Gibson, Hagon, Park, Southall, and Symes.
>
> LAW COMMITTEE.
>
> Messrs. Carteighe, Cross, Gifford, Glyn-Jones, Hills, Newsholme, Storrar, and Wootton.
>
> PARLIAMENTARY COMMITTEE.
>
> The same as the Law Committee.
>
> JOURNAL COMMITTEE.
>
> Messrs. Atkins, Carteighe, Glyn-Jones, Hills, and Newsholme.
>
> EXAMINATIONS AND EDUCATION.
>
> Messrs. Carteighe, Cross, Currie, Glyn-Jones, Hills, Newsholme, Symes, and Storrar.
>
> DISPENSING COMMITTEE.
>
> Messrs. Carteighe, Glyn-Jones, Hills, Park, Storrar, and Wootton.
>
> COMPENDIUM COMMITTEE.
>
> Messrs. Atkins, Carteighe, and Newsholme.
>
> RESEARCH COMMITTEE.
>
> Same as the Library, etc., Committee.
>
> (4) The Committee considered the remit from the Council in regard to the suggestion from the North British Branch that the former practice of collecting subscriptions through Local Secretaries should be restored. After discussion, the Committee felt that it was unable to recommend the acceptance of the suggestion of the North British Branch, having regard to the circumstance that the present system is working very satisfactorily.

APPOINTMENT OF AN EXAMINER.

The appointment of Dr. A. W. Crossley as a member of the Board of Examiners in place of Professor Smithells was agreed to.

THE CHAIRMEN OF COMMITTEES.

Mr. Hills asked if the second paragraph affected the current year only.

The President: It was the recommendation of the General Purposes Committee last night, for the time being.

The recommendation was then agreed to.

APPOINTMENT OF COMMITTEES.

General Purposes Committee.—The recommendation of the General Purposes Committee was agreed to.

Finance Committee.—On the suggestion of Mr. Glyn-Jones, the name of Mr. Gibson was added to the list recommended for this Committee.

Library, etc., Committee.—The recommendation of the General Purposes Committee was agreed to.

Benevolent Fund Committee.—It was pointed out that the present regulations restricted the number of members of this Committee to "not more than seven," and on the motion of Mr. Storrar, seconded by Mr. Wootton, it was decided—Mr. Hills only voting against the motion—to alter the regulation to read "not less than seven members." The recommendation was then agreed to.

Law Committee.—The regulations governing the appointment of this Committee also restricted it to seven members. As eight names had been recommended, Mr. Storrar suggested that the regulations be altered to read, "not less than seven members," but Mr. Hills and Mr. Glyn-Jones spoke against the suggestion, and eventually the Council decided not to alter the regulations. After some discussion Mr. Cross withdrew his name from the list of persons recommended for this Committee, and with that exception it was then agreed to.

Journal Committee.—The recommendation of the General Purposes Committee was agreed to.

Examinations and Education Committee.—The recommendation of the General Purposes Committee was agreed to.

Dispensers' Committee.—On the suggestion of Mr. Hills, Mr. Cross was added to this Committee. Mr. Cross inquired when the Committee met, and there were ironical cries of "Never!" whereupon Mr. Wootton said, "In that case I will ask that my name be withdrawn, as I object to serve on a committee that is not going to meet." The President, however, said the suggestion that the Committee would not meet had not reached his ears, and he hoped Mr. Wootton would consent to be on the Committee, which would meet. The recommendation of the General Purposes Committee, with the addition of Mr. Cross, was then agreed to.

Compendium Committee.—The recommendation as to this Committee was agreed to.

Research Committee.—The recommendation as to this Committee was agreed to.

Evening Meetings Committee.—It was decided to ask the staff of the School of Pharmacy, the Editor of the Journal, and the Curator of the Museums to assist the President and Vice-President to make arrangements for the evening meetings.

THE COLLECTION OF SUBSCRIPTIONS.

The decision of the General Purposes Committee in regard to the collection of subscriptions was approved.

The Inaugural Sessional Address.

The selection of a person to deliver the inaugural sessional address was remitted to the Library, Museum, School and House Committee.

The School Prizes.

The President stated that the report of the School staff on the recent examinations had not yet been received, but in view of the fact that the distribution of the prizes will take place before the next meeting of the Council, he moved that the Library, etc., Committee be authorised to make the awards.

This was agreed to.

The Compendium Committee and the B.P.C. Formulary.

The Secretary then read a resolution recently passed at a special meeting of the British Pharmaceutical Conference, which had been forwarded to the Council.

> That the Council of the Pharmaceutical Society be asked to make a definite offer to the British Pharmaceutical Conference for their formulæ already published, and those in course of preparation, the publication of which was delayed by the announcement of the Council in connection with their Compendium.

Mr. Carteighe, as Chairman of the Compendium Committee, reported that the Committee had authorised certain preliminary work to be proceeded with, and fair progress had been made with that work; but, having regard to the pending consideration by the Pharmacopœia Committee of the General Medical Council of the views embodied in Mr. Walter Hills' letter to the Chairman of the Pharmacopœia Conference, it was considered inadvisable at the present moment to hasten matters. The Compendium Committee proposed, subject to the approval of the Council, to invite the Editor and Professor Greenish to serve on a working sub-committee, which would be charged with carrying out the actual details in connection with the production of the 'Compendium,' and it was hoped that Mr. Edmund White might also consent to act as a member of the sub-committee. The three gentlemen named would be at liberty to invite and utilise the services of such persons as might be suitable and necessary. The Committee had had informal interviews with certain representatives of the British Pharmaceutical Conference, the Executive of which body had approached the Council in regard to the possible effect upon the Conference Formulary of the publication of the 'Compendium.' There was little doubt that a mutually satisfactory arrangement could be come to, whereby the legitimate interests of the Conference might be adequately recognised. The Compendium Committee had no desire to ignore, and never had ignored, the value of the work done by the Formulary Committee of the Conference, and there seemed no valid reason why the invitation forwarded to the Conference in January last to co-operate in the production of the 'Compendium' should not eventually find acceptance. The Committee had also engaged, for the time being, a pharmacist to do certain verification work under the supervision of Professor Greenish, which largely accounted for the item in the financial statement, the remainder being for printing.

The President said he thought the Council would desire that the resolution from the British Pharmaceutical Conference should be remitted to the Compendium Committee.

Mr. Cross proposed that the resolution referred to be remitted to the Compendium Committee for consideration and report.

Dr. Symes seconded the motion.

Mr. Glyn-Jones said the late President gave an undertaking that before anything was proceeded with in regard to the 'Compendium' some further plan or specimen pages of the work should be submitted to the Council. He wished to ask whether the Council could hope to have those specimen pages at an early date—such specimen pages as would show the Council the character and scope of the book it was purported to produce; because before the Council could make a definite offer for the Conference publication the members ought to have before them something which gave them an adequate idea of the character of the proposed 'Compendium'; also whether it was necessary to make terms with the British Pharmaceutical Conference, and how far the 'Compendium' would conflict, if conflict at all, with the work which had been done by the Conference workers?

Mr. Hills said he should like to support almost entirely the remarks made by Mr. Glyn-Jones. He did not wish to accentuate any difficulties of opinion on the question, but before the matter was remitted to the Compendium Committee he wished to know if the Council would have an opportunity of knowing in what direction the Compendium Committee was working. It might be that the work contemplated would be a work with which he would be in hearty sympathy, or it might be a kind of work with which he personally could not sympathise. He would like to have some more definite information than the Council at present had, and he hoped that if the matter was referred to the Compendium Committee the Committee would report on the question which had been raised by the British Pharmaceutical Conference.

Mr. Harrington also strongly supported the remarks of Mr. Glyn-Jones and Mr. Hills. He did not wish to be inquisitive or to interfere with the work of the Compendium Committee, and he did not know that he should even care to see specimen pages, but he would like to know before the Council advanced further money what sort of book it was intended to produce.

Mr. Carteighe said he thought the chief difficulty rested with the Formulary Committee of the Conference. He did not know that the Compendium Committee was bound to produce a scheme for the benefit of their friends who were asking the Council to buy something from them. He had been asked some time ago by a member of the Council if the 'Compendium' would interfere with the profits of the book the Formulary Committee of the Conference was getting together, and he said then that the Compendium Committee had no wish to do that. He said they could either offer the matter to the Compendium Committee or they could publish it themselves. The Compendium Committee did not exist to help the Formulary Committee. The position was that the members of the Formulary Committee could assist the Compendium Committee, or, if they wished, they could publish their book and take their chance. He did not think the Compendium Committee was likely to recommend that a sum of money be offered for the matter in the hands of the Formulary Committee of the Conference. But he thought that if the President of the Society and the President of the Conference could meet to discuss the matter it could be settled in five minutes.

The motion that the resolution of the Conference be remitted to the Compendium Committee was then agreed to.

Appointment of Delegates to the Conference.

The Secretary said a letter had been received from the Secretary of the British Pharmaceutical Conference, inviting the Council to appoint delegates to attend the forthcoming meeting of the Conference at Sheffield. It was decided to appoint the President, Vice-President, and Treasurer, Messrs. Atkins, Carteighe, Cross, Currie, Gibson, Gifford, Glyn-Jones, Harrington, Newsholme, and Symes. The Secretary was also instructed to attend the conference.

Correspondence.

Letters were acknowledged from the Honorary and Corresponding Members of the Society elected last month; also from Professor Smithells, thanking the Council for the resolution passed at the previous meeting.

A Candidate Excused.

An application from a candidate for the Minor who wished to be excused for absence from a portion of the recent examination was considered, and his request was granted.

The Repetition of Prescriptions.

The Secretary read a letter from the British Medical Association, enclosing a resolution recently passed by the Medico-Political Committee dealing with the dispensing and repetition of physicians' prescriptions, and suggesting that a committee of the Pharmaceutical Society should be appointed to confer with a committee of the British Medical Association on the matter.

The letter was remitted to the General Purposes Committee for consideration and report.

The Pharmacy Bill.

A letter was acknowledged from the Federation of West Riding Chemists' Associations pledging itself to support the Pharmaceutical Society in its endeavour to secure the passing of the Pharmacy Bill.

This concluded the public business, and the Council then went into committee to consider the recommendations of the Law Committee and other matters.

THE STUDENTS' COLUMNS.

PHYSICS.

Careful observers have from time to time recorded curious and striking phenomena, and have expressed their views as to the cause of such phenomena. In this way a large number of well-authenticated facts have been accumulated, and attempts have been made to find logical explanations, and to deduce from groups of allied manifestations of natural forces the general laws by which they are controlled. The word physics is derived from the Greek *physis*, meaning nature, and is the name given to that science which investigates the laws which govern all natural phenomena. A phenomenon is any occurrence, for the production of which two factors are in general necessary; the one is a material something, perceptible to the senses, upon which an effect may be produced; the other is a power to bring about the observed change. These two fundamental requirements are known as *matter* and *energy* respectively. A statement of what is understood by the term physics in its widest sense will take the following form:—Physics is the study of matter and the general properties of matter as affected by energy.

As thus defined, the phenomena embraced by a study of physics are of a very varied nature. All the observed facts of vegetable and animal life are studied under the title biology; chemistry deals with the ultimate structure of matter and the laws relating to the formation and decomposition of substances, and astronomy is concerned with the nature and movements of the heavenly bodies. These three sciences—chemistry, biology and astronomy, are all included in the definition that has been given for physics; but since each of them is in itself a subject of vast extent, they are, for convenience of study, separated from other manifestations of energy, and rank as distinct sciences, on an equality with physics, which embraces those natural phenomena not included under these heads. The science of physics in this more limited sense still comprises a large variety of phenomena, which are divided into sections, each embracing a group of facts dependent upon some particular form of energy. The five main sub-divisions of physics are:—General Physics, Sound, Light, Heat, and Electricity (including Magnetism).

Chemical and Physical Changes.

Chemistry is the science which most nearly approaches physics, and it is frequently difficult or impossible to decide whether certain discussions should be included in a chemical or a physical text-book. It is, therefore, impossible to trace a sharp line of demarcation between the two sciences; one may, however, readily distinguish between well-marked chemical and physical changes by noting that when a body experiences a physical change its character remains unaltered, while in chemical processes a body undergoes a more or less profound alteration in composition. A few samples will make this difference clear:—Take an iron ball of such a size that it will just pass through a metal ring; after heating the ball in a Bunsen flame for a short time it is found that while hot it will no longer pass through the ring, thus showing that it has expanded; on cooling, however, the ball returns to its original condition. If a piece of platinum foil is heated in the blow-pipe flame it changes in colour, becoming first red and finally a brilliant white; on cooling it regains its original silvery white appearance, and shows no fundamental change in character. One may similarly impart to a piece of steel magnetic properties, but the metal remains simply steel, it has neither gained nor lost anything during the process. Another kind of physical change is seen when a body such as sugar is dissolved in water; on evaporating and cooling the solution the sugar may be obtained in its original condition. All these changes are termed physical because in no case does the body under experiment experience a fundamental change in character.

On the other hand, when a piece of copper foil is heated, the metal blackens and remains permanently black. It has also changed from an extremely malleable metal insoluble in cold sulphuric acid to a brittle and easily powdered substance that is readily soluble in cold dilute sulphuric acid; it has at the same time gained considerably in weight. Similarly calcium carbonate is a neutral body insoluble in water, and giving a brisk effervescence with acids; after being heated, it loses weight, becomes strongly caustic, slightly soluble in water, alkaline to litmus, and does not effervesce with acids. When an electric current is passed through acidulated water, oxygen and hydrogen gases are produced. These are examples of chemical changes, since in each case the body experimented upon undergoes a marked change in composition.

Matter.

Although everyone has an idea of what is meant by matter, it is by no means easy to give a short definition of this term. Many definitions have been suggested; but none of them could convey an adequate idea of what is understood by matter to anyone who did not already possess the knowledge from everyday experience. Matter possesses certain general properties, and upon these are based the definitions of matter. General properties are those which are possessed by all kinds of matter in contradistinction to specific characters which are typical of certain kinds of matter only. The following properties are general:—Extension, impenetrability, divisibility, porosity, inertia, elasticity, weight. Other properties such as hardness, colour, fluidity, etc., are specific properties, because they are limited to some kinds of matter only.

The term *extension* is used to indicate that matter has dimensions in space; that is, that matter possesses length, breadth, and thickness, and occupies space.

Impenetrability is that quality of matter which causes it to occupy space to the exclusion of all other matter. In other words, two portions of matter cannot be in the same place at the same time; for example, if one fills a beaker with water and then drops a stone into it, a volume of water exactly equal to that of the stone will flow from the beaker. This property, strictly speaking, applies only to the molecules which even in the case of solids and liquids are never actually in contact. It is therefore reasonable to conclude that two bodies might be mixed, and the resulting volume be less than that of the sum of the two original volumes, for the molecules of the one may be packed in the interstices of the other. An example of this action is seen when alcohol and water are mixed; a contraction in volume is noted in apparent opposition to the property of impenetrability; but easily explained by the argument given above where the impenetrability of the molecules is rigorously maintained.

Divisibility.—All matter may be subdivided by various means. A body may be carefully powdered till the ultimate particles are microscopic in size, yet each particle is exactly similar to the whole mass. Similarly a substance may be dissolved in a solvent to form a dilute solution, yet if a small portion of the solution be evaporated, the substance will be obtained in its original state. There is, however, a limit to this property and the smallest indivisible portions of elements are called atoms, while the smallest portions capable of an independent existence are termed molecules. Upon this conception of the structure of matter the whole science of chemistry is built, and from chemistry we learn the principle of the conservation of matter which states that matter is indestructible, it can neither be created nor destroyed.

Porosity.—Under the heading impenetrability it has been pointed out that in no substance are the molecules packed in close contact with one another, but that there exist between them minute interstices. We are thus prepared for the statement that all bodies, even those which appear quite solid when examined microscopically, are porous. Two examples will confirm this statement:—On attempting to compress water into a sphere of lead, it is found that the water oozes through the pores of the lead and stands in beads upon the surface. Platinum also if heated to a high temperature becomes porous to gases, and hence cannot be used in the construction of the bulbs of gas thermometers intended to measure very high temperatures.

Inertia.—This property of matter is that by virtue of which a body tends to remain in a state of rest or of uniform motion unless some force acts upon it. For instance, if a dish containing water is suddenly moved, the water tends to remain in its state of rest, and some of it is left behind and is spilt, this is due to the inertia of rest. Again, if one is riding in a train which stops rather suddenly, one continues to move forward as before, and so is thrown from the seat of the carriage in the direction in which the train is moving. In jumping, also, a run is first taken and the impetus thus gained carries one over the obstacle after making a spring upwards. Both these cases are examples of inertia of motion.

Elasticity.—By elasticity is understood that property of matter which enables a body whose shape or volume has been altered by an external force to recover its original condition when the force is removed. The force producing the change in shape and volume is called a *strain*, while the restoring force brought into play by the strain is termed a *stress*. The elasticity is measured by the ratio of the stress produced to the strain producing the stress.

$$\text{Elasticity} = \frac{\text{stress}}{\text{strain}}$$

In the case of most solids, a strain produces an alteration in shape without change of volume; such bodies are called rigid bodies, and are said to possess *rigidity*. Liquids and gases when subjected to a strain undergo a change in volume, and are said to possess *volume elasticity*.

This property of matter gives rise to the definition: matter is that which can exert force or upon which force can be exerted.

Weight.—All matter is attracted by other matter with a force dependent on the distance. The force most readily observed is the attraction of the earth for matter; this attraction is called weight.

Definitions.

Matter is that which occupies space and possesses weight and inertia.

A substance is a particular kind of matter.

A body is a portion of matter limited in every direction or is a definite portion of matter.

A particle is an indefinitely small portion of matter.

Mass is a term for the quantity of matter in a body.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN.

SCHOOL OF PHARMACY PRIZE EXAMINATION QUESTIONS.

Elementary Course.

PHARMACY.

(Time allowed, three hours.)

1. Briefly describe and criticise the official processes for making Liquid Extract of Taraxacum, Liquid Extract of Cinchona, and Syrup of Senna.

2. Discuss the principles upon which the processes for Glycerin of Boric Acid, Juice of Conium, and Ointment of Zinc Oleate are based.

3. Describe the Chaser Mill and the Disintegrator.

4. State exactly how you would proceed to dry seven pounds of Henbane Leaves and make Tincture of Hyoscyamus from them. Give your reasons.

5. Suggest a process for making a Liquid Extract of Areca Nuts. Give your reason for each step in the process.

DISPENSING. (A Paper.)

(Time allowed, three hours.)

1. ℞ Aloin .... gr. $\frac{1}{6}$
Ext. nucis vom. .... gr. $\frac{1}{4}$
P. capsici .... gr. $\frac{1}{4}$
Ft. pil. Mitte xij.; silver. One half an hour after dinner daily.

2. ℞ Ol. terebinth .... ʒiij.
Lin. camph. .... ʒiij.
Acid. acetic. .... ʒij.
Aq. .... ad ℥iv.
Ft. linimentum. To be used as directed

3. ℞ Extract. bellad. alc. .... gr. $\frac{1}{2}$
Pulv. gallæ .... gr. ij.
Camphoræ .... gr. j.
Ol. theobromatis .... *q.s.*
Ft. supposit. Mitte vj. Use one every night at bedtime.

4. ℞ Menthol .... gr. v.
Acid. carb. .... gr. v.
Paraff. liquid .... ℥ss.
Misce. Sig.: "The Spray."

(B Paper.)

1. ℞ Extract. tarax. .... gr. ij.
Extract. coloc. co. .... gr. j.
Podophyllin .... gr. $\frac{1}{12}$
Ft. pil. Mitte xij. Pearl coated. One at bedtime when necessary.

2. ℞ Extract. hamamelid .... gr. ij.
Pulv. opii. .... gr. $\frac{1}{2}$
Ol. theobrom. .... *q.s.*
Ft. supposit. Mitte, vj. Use one twice a week.

3. ℞ Paraffin. liquid. .... ♏x.
Morph. hyd. .... gr. $\frac{1}{24}$
Antim. tart. .... gr. $\frac{1}{32}$
Aq. .... ad ʒij.
Ft. dosis. One three times a day. Mitte ℥iv.

4. ℞ Ol. ricini .... ℥ss.
Aq. .... ad ℥iss.
Ft. haustus. To be taken at once.

MATERIA MEDICA.

(Time allowed, three hours.)

1. Indicate on the blank map given you the geographical sources of the following drugs (by drawing a line around the area and inserting the

number):—(1) Jamaica Sarsaparilla, (2) Turkey Rhubarb, (3) Gum Arabic, (4) Santonica, (5) Senna Leaves, (6) Cusso, (7) Gambier, (8) Cola Seeds, (9) Strophanthus Seeds, (10) Chiretta, (11) Quillaja Bark, (12) Coto, (13) Galangal Rhizome, (14) Pellitory Root, (15) Rhatany Root, (16) Red Gum, (17) Caoutchouc, (18) Ipecacuanha Root, (19) Insect Flowers, (20) Beberu Bark.

Indicate also the routes by which the first four reach the English market.

2. Write a short account of any one of the first seven.

3. Give the botanical sources, natural orders, and chief constituents of Nos. 8 to 20 inclusive.

4. Describe in suitable language the drug given you.

5. Identify the drugs shown you.

PRACTICAL CHEMISTRY.

(Time allowed, six hours.)

1. By means of the given solution of N/10 iodine determine the amount of anhydrous sodium sulphite contained in one litre of the given solution.

2. The copper sulphate supplied is impure. Ascertain the nature of the impurity, and prepare a crystalline specimen of the purified salt from the impure material.

3. By means of the ferrous ammonium sulphate supplied, determine the amount of available oxygen contained in one litre of the given solution of potassium dichromate.

Check your results by means of the sodium thiosulphate solution previously prepared.

4. Identify the given simple salt.

CHEMISTRY.

(Time allowed, three hours.)

1. Give an account of the preparation of chlorine (*a*) for laboratory purposes and (*b*) on the large scale. What are the properties of chlorine, and for what purposes is it employed?

2. What do you understand by the term molecule? How would you establish the molecular formula of ammonia *or* carbon monoxide?

3. Describe the preparation and properties of hydrogen peroxide. What is the volume strength of a solution of the peroxide, 5 C.c. of which, on treatment with excess of acidified permanganate, gave 214 C.c. of oxygen measured at 15° C. and 750 Mm.?

4. By what general methods are metals obtained from their ores? Distinguish between a metal and a non-metal, and state, giving reasons, in which category you would place aluminium, arsenic, tin, and iodine.

5. Describe and explain the apparatus used in measuring the pressure of saturated water vapour at the ordinary temperature. What is the vapour pressure in millimetres of mercury produced by the presence of 12·7 milligrammes of water vapour per litre of air at 15° C.?

6. Classify and discuss the various methods used for the measurement of temperature.

DRUGS AND GALENICALS IN IRELAND.

An Analytical Report.

There has lately been issued by the Local Government Board for Ireland the report of their advising pharmacist, Mr. J. E. Brunker, M.A., on the analysis of drugs and the supply of medicines during the year ended March 31, 1903. 9,869 samples of drugs were examined, and of those 368, or 3·73 per cent., fell more or less below the "suggested standards" or those laid down by the Pharmacopœia. The percentage of deficient samples in the previous year, when the standards had not yet been authorised, was 3·95. Out of 2,697 samples of tinctures, 18 were deficient in alcohol, but 100 were certified as deficient in extractive and 19 in alkaloids or chemical constituents. The latter source of failure is entirely due, says Mr. Brunker, to want of care in accurately standardising, and contractors are warned that more attention must be given to this matter. Eighteen samples only of spirit of nitrous ether were defective, and the comment is made that "the condition of this drug was much improved by its being supplied in 1 lb. bottles only." Pepsin preparations were condemned early in the year, but later on were uniformly good. A very useful summary of analytical results is added to the report, and shows the average results obtained from the examination of tinctures, liquors and liquid extracts as compared with the suggested standards. Those standards, in the framing of which Mr. John C. Umney rendered assistance, were published in the *Pharmaceutical Journal* ([4], **15**, 381).

Tinctures.

Tinctures.	No. of Samples Examined.	Defective as to			Totals.	Minimum Scheduled Percentage.		Average Recorded Percentage.	
		Extractive.	Alkaloids and other Chemical Constituents.	Alcohol.		Extractive.	Alcohol.	Extractive.	Alcohol.
Aconiti	10	1	—	—	1	1·2	65	1·2	67·18
Arnicæ	2	—	—	—	—	0·45	65	0·79	69·35
Asafetidæ	1	1	—	—	1	10·0	65	6·13	67·28
Aurantii	63	1	—	—	1	1·8	72	1·93	75·6
Belladonnæ	55	2	2	1	5	0·5	57	0·93	59·46
Benzoini Comp.	36	4	—	—	4	16·5	73	16·7	75·8
Buchu	44	2	—	—	2	3·5	54	3·84	56·9
Calumbæ	116	2	—	—	2	0·8	53	0·96	56·9
Camphoræ Comp.	441	—	—	1	1	0·33	57	0·35	58·5
Cannabis Indicæ	5	—	—	—	—	3·5	87	3·96	87·8
Cantharidis	3	—	—	—	—	0·15	85·5	0·25	87
Capsici	24	3	—	1	4	0·8	66	1·08	69·6
Cardamomi Comp.	122	2	—	1	3	6	54	6·9	55·78
Catechu	41	6	—	2	8	15	50	16	52·6
Chloroform et Morphinæ Co.	41	1	—	—	1	32	44	31·4	44·9
Cinchonæ	174	2	12	—	14	4·5	63	6·07	65·4
Colchici Sem.	11	—	—	—	—	2·5	41	3·7	43·5
Digitalis	165	3	—	—	3	3	53	3·8	55·8
Ergotæ Ammon.	6	—	—	—	—	3·5	51	4·4	52·2
Ferri Perchloridi	165	9	—	4	13	—	22	—	23·6
Gelsemii	3	—	—	—	—	1	53	1·37	55
Gentianæ Compo.	217	30	—	2	32	0·5	41	5·13	44 5
Guaiaci Ammoniata	6	—	—	—	—	13	70	13·18	75
Hydrastis	10	—	—	—	—	2	55	2·16	58
Hyoscyami	84	2	—	1	3	2·3	42	2·8	43·64
Iodi	40	—	2	—	2	—	85	—	86·6
Jaborandi	9	2	—	—	2	3	41	3·05	45·8
Jalapæ	7	—	1	—	1	3·5	66	3·95	67·6
Kino	7	—	—	—	—	19	45	21·1	48
Lavandulæ Comp.	20	—	—	1	1	0·4	87	0·67	88
Lobeliæ Ætherea	10	—	—	—	—	1·0	62	1·84	69
Myrrhæ	12	3	—	—	3	4·5	83	4·48	85·2
Nucis Vomicæ	128	—	9	1	10	2	62	2·55	64
Opii	161	—	4	1	5	3	42	3·63	44
Podophylli	7	1	—	—	1	3·5	86	3·38	87
Quininæ	25	—	2	1	3	3·2	72	3·6	74
„ Ammoniata	29	—	—	—	—	1·8	52	1·88	53·8
Rhei Comp.	75	6	—	—	6	14·8	48	15·8	51
Scillæ	127	1	—	—	1	9	51	11·8	54
Senegæ	89	12	—	1	13	6	54	6·25	56·8
Sennæ Comp.	21	—	—	—	—	9·0	38	9·81	40·85
Stramonii	5	2	—	—	2	3·8	41	3·35	43
Strophanthi	15	—	—	—	—	0·45	66	0·55	67
Valerianæ Ammoniata	17	2	—	—	2	3·5	52	3·73	54
Zingiberis	48	—	—	—	—	0·4	87	0·54	88·5
Totals	2,697	100	32	18	150	—	—	—	—

Liquors.

Liquors.	No. of Samples Examined.	Deficient in			Minimum Schedule Percentage.		Average Recorded Percentage.	
		Extractive.	Alcohol.	Totals.	Extractive.	Alcohol.	Extractive.	Alcohol.
Calumbæ Conc.	75	4	—	4	3·3	18	3·9	20·2
Chiratæ Conc.	19	6	—	6	4	18	3·85	20·3
Hamamelidis	15	—*	—	—	0·03	16	0·05	15·16*
Iodi Fort.	31	6	—	6	—	70	—	73·1
Picis Carbonis	8	—	—	—	2·75	80	3·12	81·6
Quassiæ Conc.	52	—	—	—	0·25	18·5	0·4	20
Rhei Conc.	25	—	—	—	10	17	12·4	19·3
Sarsæ Comp. Conc.	13	1	—	1	8	19	11·08	20·2
Senegæ Conc.	87	7	2	9	10	21	12·6	23·7
Sennæ Conc.	4	—	—	—	11	18	13·9	20·1
Totals	329	24	2	26	—	—	—	—

* Three samples reported on before standards were issued were low in alcohol and not condemned.

Liquid Extracts.

Liquid Extracts.	No. of Samples Examined.	Deficient in			Minimum Schedule Percentage.		Average Recorded Percentage.	
		Extractive.	Alcohol.	Totals.	Extractive.	Alcohol.	Extractive.	Alcohol.
Cascaræ Sagradæ........	263	6	7	13	20	17	23·8	18·27
Ergotæ........	112	4	6	10	12	30	13·57	32·8
Glycyrrhizæ ..	14	1	—	1	40	17	44	18
Opii	10	—	—	—	—	17	3·2	17·64
Pareiræ	6	3	—	3	17	21	14·76	23·2
Totals	405	14	13	27	—	—	—	—

FURTHER NOTE ON CHLOROFORMED CALF VACCINE.*

BY ALAN B. GREEN, M.A., M.D.

Since April, 1903, the date of my preliminary note on this subject, the preparation of calf vaccine by the chloroform process has been carried on at these laboratories, and a large number of vaccines have now been treated by this method. These lymphs have been freed from their non-spore-bearing extraneous bacteria within a period ranging between one and eight hours after their collection from the calf, and have, subject to the usual tests, been issued for general vaccination purposes about two weeks after collection. Their use has resulted in high "case" and "insertion" success. The following points in connection with these vaccines have been investigated :—

The Effect of Temperature in the Elimination of Extraneous Micro-Organisms from Crude Calf Vaccine by the Chloroform Process.—It has been ascertained that the temperature at which vaccine emulsion is subjected to the chloroform process determines largely the rate at which the extraneous bacteria of that emulsion are eliminated. This has been shown in two ways. In the first set of experiments vaccine emulsion consisting of one part by weight of pulp and two parts by weight of water was divided into several equal portions. Each portion was then submitted to a pre-determined and separate temperature along with the set of apparatus to be used for its treatment with chloroform. These temperatures ranged from 10° to 37° C. In each case, after both emulsion and apparatus had reached the requisite temperature of the experiment, passage of chloroform vapour and air through the emulsion was effected. It was found, by means of plate cultivations, that elimination of extraneous micro-organisms was most rapidly effected in the case of the emulsions chloroformed at 37° C., and that elimination was most slowly effected in the case of the emulsions chloroformed at 10° C. Between these temperatures the gradation of germicidal action was very constant. The potency of these vaccines was subsequently tested by inoculations on calves, with the result that vaccines which had been subjected to the chloroform process at temperatures below 30° C. caused rather better vesiculation than the vaccines treated at temperatures above 30° C. In the second set of experiments vaccine emulsion, prepared as before, was divided into a number of equal portions, each of which was placed in a separate test-tube. In this case the emulsions were all subjected to the chloroform process at 15° C. After the passage of chloroform vapour and air through the emulsions for half an hour, the entrance and exit of each vaccine tube were clamped in order that none of the contained chloroform might escape, and the tubes were placed in temperatures ranging from 10° to 37° C. for twenty-four hours. In the case of these emulsions, where the amount of chloroform present in each case must have been approximately the same, a similar gradation of germicidal action was evidenced as in the former set of experiments, elimination occurring most rapidly in the case of emulsions submitted to a temperature of 37° C., and most slowly in the case of emulsions submitted to a temperature of 10° C. The potency of each of these vaccine emulsions was tested, as before, by inoculations on calves, with the result that vaccines which had been submitted to temperatures below 30° C. gave slightly better vesicles than vaccines which had been submitted to temperatures above 30° C. Both series of experiments indicate that the temperatures at which extraneous bacteria are killed most quickly in vaccine emulsion by the chloroform process, the specific germ being left meanwhile in state of full activity, lie probably between 18° and 23° C.

The Species of Micro-Organisms Killed by the Chloroform Process.—In addition to the extraneous micro-organisms mentioned in the preliminary note as commonly occurring in crude calf vaccine, and as being eliminated therefrom by means of chloroform, experiments have been made with further species of bacteria. These, with the exception of the bacillus proteus vulgaris and the bacillus coli communis, have never been found in vaccine lymph at these laboratories, but they have been subjected to the action of chloroform in order that knowledge of the germicidal value of that process might be extended. The bacteria thus experimented with are the bacillus proteus vulgaris, bacillus prodigiosus, bacillus pyocyaneus, bacillus fluorescens liquefaciens, bacillus coli communis, bacillus typhosus, bacillus diphtheriæ, bacillus mallei, bacillus pestis, bacillus tuberculosis, and spirillum choleræ Asiaticæ. Broth emulsions of these bacteria were first experimented with. As soon as an emulsion was established a suitable culture medium was inoculated with a small portion of it and duly incubated in order to ascertain whether the species of micro-organism in question could be easily recovered from the emulsion. The passage of chloroform vapour and air through the emulsion was then begun, and during the process at regular intervals further cultivations were made from it. In every instance the bacteria of experiment were found to have been killed at intervals ranging from one to eight hours from the commencement of the process. In a second set of experiments vaccine emulsions were prepared by mixing one part by weight of pulp with two parts by weight of water. To these emulsions the bacteria to be experimented with were added and cultivations were at once made therefrom in each instance to ascertain whether recovery of the bacteria was possible. Passage of chloroform vapour and air through the emulsions was then carried ont, and further cultivations were made from them from time to time. As in the case of the broth emulsions, after the passage of the chloroform vapour and air for a few hours the bacteria in the vaccine emulsions were killed. In the case of each experiment of the two foregoing series a "control" preparation was established in which the bacteria were found to be still alive after the bacteria of the corresponding experimental preparation had been killed. The vaccine used in these experiments was collected for experimental purposes only.

The Keeping Properties of Chloroformed Vaccines.—The keeping properties of chloroformed vaccines have been tested in the following ways. First, vaccine lymph freshly collected from the calf was divided into two portions. One portion, after emulsification with water, was subjected to the chloroform process, and, after elimination of its extraneous micro-organisms, the chloroform was partly removed by the passage through the emulsion of a stream of sterile air. The other portion was emulsified with 50 per cent. of glycerin and water solution. These chloroformed and glycerinated emulsions were, within twenty-four hours of their collection from the calf, each subdivided into five parts, one part of each being stored at 10°, 20°, 25°, 30°, and 37° C. The potency of these several parts was subsequently tested on calves at regular intervals of time. The result showed (*a*) that the highest potency was retained for the longest time, alike for the chloroformed and glycerinated portions, by the emulsions stored at 10° C., for the shortest time, alike again by both portions, by emulsions stored at 37° C.; and (*b*) that the potency as between the chloroformed and glycerinated vaccine kept at any one of the foregoing temperatures was practically the same, the only marked difference occurring in case of the vaccines kept at 37° C.—a temperature at which the chloroformed emulsions retained potency for a longer period than did the glycerinated emulsions.

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* Read before the Royal Society, on May 5, 1904, and reprinted from the *Lancet.*

Upon the completion of the foregoing experiments, a further number of vaccines collected from vesicles of good average quality were emulsified with water in the proportion of one part by weight of pulp to two parts by weight of water, and subjected as before to the chloroform process. When elimination of their extraneous bacteria had been effected part of the chloroform was removed from the emulsions, and these were placed in the ice-chest at 10° C. Immediately prior to the issue of these vaccines the remainder of the chloroform was removed and glycerin was added in the proportion of two parts by weight of glycerin to the original weight of vaccine pulp. These vaccines were later, after passing the requisite tests, issued for general vaccinating purposes, a similar interval being allowed to elapse between their collection from the calf and subsequent issue, as is usual at these laboratories in the case of glycerinated vaccine—namely, about six weeks. In the case of two of these chloroformed vaccines an interval of two months elapsed between collection and issue. The use of these chloroformed vaccines has been attended with results showing high "case" and "insertion" success.

Summary.—Experience of the further use of the chloroform process in the preparation of a large number of vaccines during the past year confirms the conclusions arrived at in the preliminary note. And meanwhile important additional knowledge has been gained—namely, that chloroformed calf vaccine, if originally of sufficiently high potency, will, when prepared and stored under suitable conditions, retain for a considerable time a high degree of potency, and this notwithstanding that the extraneous organisms had been rapidly eliminated from it in an early stage of its preparation.

CAMBRIDGE PHARMACEUTICAL ASSOCIATION.

PHYSIOLOGICAL DEMONSTRATIONS.

Thursday, May 26, 1904, in the new pharmacological laboratory, Cambridge, a practical demonstration upon the physiological action of drugs was given, the **President** of the Association, Mr. E. Saville Peck, M.A., presiding over a good attendance of members and friends. The demonstrators were Dr. W. E. Dixon, M.A., of Downing College, and Dr. O. Inchley, M.A., of St. John's College. The audience was shown in a variety of ways the action of different drugs upon the heart, muscles, and corpuscles of the blood. One experiment showed that alcohol retarded the action of the heart.

Drs. Dixon and Inchley were accorded a hearty vote of thanks.

GENERAL MEDICAL COUNCIL.

SUMMER SESSION.

On Thursday, May 26, 1904, the sittings of the General Medical Council were resumed, the **President**, Sir William Turner, in the chair.

Disciplinary cases having been considered, the Council considered an application for registration as a dentist in the United Kingdom, on the ground that the applicant was registered under the Dentists Act of New South Wales. The application was refused.

Committees were then appointed, the Pharmacopœia Committee consisting of Dr. Norman Moore, Dr. Payne, Dr. MacAlister, Sir George Phillipson, Sir John Batty Tuke, Dr. McVail, Sir John Moore and Mr. Tichborne.

Educational.

On Friday, May 27, the report of the Committee on Preliminary Scientific Education and Examination was received, and the following recommendations were adopted:—(1) That an examination in chemistry, in order to be sufficient, should comprise a written paper, a practical examination, and an oral examination. (2) That, in respect of chemistry, a synopsis of subjects should be issued by each licensing body; and that the scope of the examination in chemistry should not fall below that which has been indicated in the report of the visitors, and has been generally approved by the licensing bodies. (3) That the examination in practical chemistry should not be limited to simple qualitative analysis, but should include easy preparations, simple volumetric analysis, and simple experiments illustrating important principles. (4) That an examination in physics, in order to be sufficient, should comprise a written paper and an oral examination, the latter to include practical questions on the use of physical instruments and apparatus. (5) That, in respect of physics, a synopsis of subjects should be issued by each licensing body, and should include the elementary mechanics of solids and fluids, and the rudiments of heat, light, and electricity. (6) That elementary biology should be retained in the curriculum. (7) That an examination in elementary biology, in order to be sufficient, should comprise a written paper and an oral examination, the latter to include practical questions on specimens and dissections and on methods of microscopical investigation. (8) That, in respect of elementary biology, a synopsis of subjects should be issued by each licensing body.

On Saturday, May 28, further educational business was dealt with, particularly with reference to the resolutions and synopsis adopted by the Royal College of Physicians and Surgeons on the subject of the first year of the curriculum of professional study and the first examination. A motion by Sir Victor Horsley, declaring the course of study laid down in the new regulations to be unsatisfactory, was, after discussion, rejected by 22 to 6 votes. The Education Committee was requested to collect information and report on the question of the possibility of including certain subjects in the curriculum without requiring examination in them.

Registration Charges.

On Monday, May 30, 1904, Sir **John Batty Tuke**, M.P., moved a resolution requesting the President of the Privy Council to introduce into Parliament a Bill to confer upon the General Medical Council statutory power to establish and maintain registers of medical and dental students, and to impose a fee not exceeding £1 for registration therein. He said the matter had to be regarded both from a monetary and administrative point of view. If matters went on as at present they would soon be within measurable distance of bankruptcy. The scheme would provide them with official assurance that the chief requirement of the Council as to five years' professional study was complied with; secondly, that each student had passed a satisfactory examination in arts; and, thirdly, it would ensure their power to approve or disapprove the institutions recommended by the various licensing bodies at which medical study could be begun. In other words, there would be compulsory registration under the Council's conditions.

Sir Victor Horsley seconded the motion, and said that the registration of students was essential to the perfecting of the curriculum, and that essential had been wanting hitherto.

Dr. Norman Moore expressed the opinion that the Council's appetite for power ought to be controlled. He did not think that power ought to be taken from the universities of this country and given to the Council. He opposed the proposal, first, because it gave the Council a power which it had already shown by its acts ought not to be given to it; and, secondly, because if it did not give it that compulsory power it proposed to impose a fee upon students without giving them or the public anything in return.

After further debate, the motion was carried by twenty-two votes to six.

The Council received and entered on the minutes a report from the Education Committee submitting a table showing the result of a preliminary inquiry into the ages of students at the date of registration. The table showed that only twenty-four out of a total of 1,422 students in Great Britain and Ireland registered in 1903 began professional study before the age of sixteen and a-half, or at the rate of 1·7 per cent., and only seventy-five before the age of seventeen, or at the rate of 5·2 per cent. In these circumstances the Committee did not think it necessary at present to advise the Council to raise the age at which registration was allowed.

On Tuesday, May 31, the sittings were concluded.

The Pharmacopœia and the Metric System.

The Council received and adopted reports from several of its committees, including the Pharmacopœia Committee, in which it was stated that from November 25, 1903, to May 24, 1904, the sales of the British Pharmacopœia 1898 were 606 copies, and of the Addendum 1900, 130 copies. Thus up to May 24, 1904, 35,197 copies of the Pharmacopœia 1898 and 4,294 copies of the 'Indian and Colonial Addendum' 1900 (including the Government of India edition) had been sold. The stock remaining in hand of the Pharmacopœia was 1,834 copies, and of the Addendum 2,113. It would therefore be unnecessary to print a fresh issue this year. The Executive Committee had referred to the Pharmacopœia Committee for consideration and report a memorial from the Decimal Association, and other papers relative to the Weights and Measures (Metric System) Bill. The Committee were strongly impressed with the importance of bringing the weights and measures of the British Pharmacopœia into accord with the international system which was current in the pharmacopœias of all other countries, and were therefore of opinion that the Council might properly use its influence in favour of the legislation referred to in the memorial of the Decimal Association, and in a motion of which Mr. Jackson had given notice.

On the motion of Mr. Jackson, seconded by Mr. Tichborne, it was afterwards resolved:—"That the President (with the Chairman of the Pharmacopœia Committee) be requested to inform the Lord President of the Privy Council that in the opinion of the Council it is desirable that after a sufficient period, to be fixed by law, the metric system of weights and measures should become the one legal system for the preparation and dispensing of drugs and medicines; that the Council would view with favour the passing into law of a Bill such as that now before Parliament entitled the Weights and Measures (Metric System) Bill; and that in that event the Council would be prepared to take all necessary steps to give effect to the law by making the proper modifications in the British Pharmacopœia."

The Use of Professional Titles by Companies.

On the motion of Sir Charles Ball, seconded by Mr. Tichborne, it was resolved:—"(1) That copies of the judgments in the cases 'O'Duffy *v.* Jaffe, Surgeon Dentists (Limited),' and 'The King (Rowell) *v.* Registrar of Joint Stock Companies,' together with the following resolutions of the General Medical Council, be sent to the Lord President of the Privy Council for his information. (2) That, in view of the judgment of Chief Baron Palles, the General Medical Council hope that the Government will take such steps as may be necessary:—(*a*) To restrain the Registrar of Joint Stock Companies from registering any new company unlawfully using the term dentist or any similar title which would be likely to lead the public to believe that the members of such company were registered dentists when such is not the case; (*b*) to prevent companies already registered from continuing unlawfully to use the term dentist or any similar title which would be likely to lead the public to believe that the members of such companies were registered dentists when such is not the case; (*c*) to in like manner prevent the use by companies of unlawful titles which would be likely to lead the public to believe that the members of such companies were registered medical practitioners when such is not the case."

NOTTINGHAM AND NOTTS. CHEMISTS' ASSOCIATION.

ANNUAL MEETING.

Tuesday, May 31, 1904, at Calvert's Café, Long Row, Nottingham, Mr. Richard FitzHugh, J.P., President, in the chair.

New Members.

Mr. Plattin and Mr. Meakin were elected associate members.

Annual Report.

Mr. Gill, Secretary, read the report of the Council, which marked steady progress. In the month of June the Executive addressed a letter to each member of Parliament for the city and county, asking him to support the Pharmacy Bill then before Parliament, and also calling attention to the agitation, fostered by interested persons, in favour of relaxing the restrictions on the sale of poisons. The meetings of the Association during the year had embraced a paper (by Mr. Sergeant) and discussion on "The New Interpretation of the Medicine Stamp Acts," the annual dinner, and an interesting lecture on "Serums and Vaccines" by Mr. Thomas Maben. Reference was made to the death of Mr. Russell Bennett, and the Council desired to place on record its high appreciation of the character and accomplishments of Mr. Bennett, and its deep regret that his useful career should have been cut short. The membership now stood at sixty-five, including two honorary, fifty-two ordinary, and eleven associate members. The Council urged upon all the necessity of supporting the work of the Association. The educational work, which had been in abeyance since the formation of the Nottingham School of Pharmacy, would need to be carefully reconsidered.

On the motion of Mr. Eberlin, seconded by Mr. Widdowson, the report was adopted.

Finance.

Mr. A. Middleton presented the Treasurer's report, which showed that there was a balance in hand of £7 10s. 5d., being an increase of £4 9s. 9d. upon that of last year.

Mr. Parkes proposed, and Mr. Widdowson seconded, the adoption of the accounts.

Election of Officers.

By a unanimous nomination Mr. R. FitzHugh, J.P., retains the Presidency, Mr. A. Middleton the Treasurership, and Mr. W. Gill the Secretaryship; Mr. A. Eberlin being nominated Vice-President and Mr. H. E. E. Turton Assistant Hon. Secretary, both without opposition. Eight members of the Council were balloted for at the meeting, the following being elected:—Messrs. C. A. Bolton, T. Wilson, R. Beverley, F. R. Sergeant, A. E. Beilby, C. F. Carr, D. Ellis, and R. Widdowson.

Cordial votes of thanks were passed to the Council and officers.

The Pharmaceutical Conference.

It was decided that Mr. Eberlin and Mr. Middleton should represent the Association at the Pharmaceutical Conference to be held at Sheffield in July next.

Benevolence.

Mr. C. A. Bolton brought to the meeting's attention the case of the widow of a former member of the Association, who was now in necessitous circumstancese, and suggested that a memorial should be forwarded to the Pharmaceutical Society, putting forward her claim to an annuity, and also asking for temporary help. Her husband, he believed, was a member of the Society during his life, as well as a most respected member of the local Association.

The President supported the suggestion, and on his proposition, seconded by Mr. Middleton, it was further decided to make a grant of 10s. per week for six weeks.

EAST SUSSEX PHARMACEUTICAL ASSOCIATION.

ANNUAL DINNER.

Tuesday, May 31, 1904, at Warrior House Hotel, St. Leonards, the newly elected President, Mr. Ewbank Smith, in the chair. Among those present were Messrs. Vint, Hobbs, Rossiter, John Smith, Sydney Smith, Stedman, Riply, Edwards, Crisford, Hulme, Abbot, Sullivan, Roberts, Mitchell, Daws, Robbins, Bishop, Guy, and Dr. Hessey. Despite the miserable weather and the rain falling in torrents on the beach outside, the company was in the best of spirits. The after-dinner speakers were plentiful, but the speeches were commendably brief and unusually interesting, and, in fact, the function altogether was a happy ending to a useful session.

The loyal toast having been given from the chair,

Mr. Lewis Abbot, F.G.S., F.A.I., proposed

The Toast of Pharmacy.

Mr. Abbot, although not himself a pharmacist, showed in the course of his remarks that he had a keen appreciation of the difficulties those who follow the calling have to contend with. Whilst modestly assuring them that he was incapable of doing justice to his subject, at the outset of his speech he proved to the satisfaction of his hearers that such was by no means the case. Before he had been speaking many moments he touched on one of the greatest bugbears, both of public health and the calling of pharmacy. "The terrible amount of quackery which exists at the present time," he said, "horrifies the soul." It was scandalous that pharmacists should have to handle the worthless wares of unscrupulous capitalists. Pharmacy was an exact science, which ought to have no association with quackery.

Mr. John Smith, in replying, thanked the proposer for touching on such a burning question, and in an unmistakable and characteristic manner he proceeded to give his own views on the subject of quackery. "The nostrums and quackery" problem was one for which they were trying to find a solution. There was no doubt that these evils prevailed to a greater extent to-day than they had ever done before. Capitalists, who had no knowledge whatever of drugs or disease, relied on alluring advertisements and the patter of travellers to induce the public to buy their nostrums, which were swamping every department of pharmacy. It was usual to associate the word "pharmacy" with the true art of healing, and the pharmacists assisted the medical man in no mean way in his humane calling. The medical profession was being worked by these financiers in a no less degree than were chemists, and it was these people whom both branches of the profession had to fight against in the treatment of disease. He was happy to see that chemists were now realising the importance of fighting this scourge.

The President

was proposed by Mr. T. D. Vint in an amusing speech. But for the Association the chemists of the town would probably never have known Mr. Ewbank Smith. And even if it had served no other purpose, for that reason alone the formation of the Association was justified. He then traced the imaginary life history of the President, dating his connection with pharmacy from the time when he was given his first dose of castor oil.

Mr. Ewbank Smith, in his reply, however, dated his association with the calling from the time when he, an eight-year-old boy, used to collect jam jars, pomade pots, and empty bottles, which he used to arrange in rows, over which he placed the sign, written in schoolboy hand, "Smith, Chemist." Referring to the value of local organisation, he said that individually they were powerless to resist the machinations of capitalists, but united they need not fear them.

"We are always pleased to see

The Visitors;

in fact, we live on them," began Mr. Rossiter, in proposing the toast for which he had been chosen. "I don't mean to say we eat them," he hastened to explain. Continuing in a light and humorous strain, Mr. Rossiter wound up a very neat speech by coupling with his toast the names of a local medical man and the President of the Tunbridge Wells Chemists' Association.

Dr. Hessey, in his reply, congratulated the chemists of Hastings and St. Leonards on the good fellowship that seemed to exist between them. He was also pleased to be able to say that the medical men were on the best of terms with the pharmacists. Such might not always have been the case; in fact, at one time he believed there was a sort of "Tom Tiddler's ground" on which members of both callings sometimes encroached. More recently, however, a line of demarcation had sprung up, and he expressed the belief that the chemist now kept to "his ain side o' the hoose," so to speak, and the doctor to his. He concluded with a high compliment, remarking that his colleagues placed very great reliance on the members of the pharmaceutical profession.

Mr. Hobbs, who also replied for the visitors, referred in the course of his remarks to the newly elected members of the Council. He considered that Mr. Newsholme's position at the head of the poll was to be accounted for by the keen interest he had taken in local organisation. The greatest enemy of pharmacy was vested interests, and he emphasised the opinion that only through organisation could they hope to defeat this enemy.

Other Toasts.

In a felicitous little speech, Mr. **Sydney Smith** proposed "The Pharmaceutical Press." "The Association" was given by Mr. **Crispini**, and responded to by Mr. **Daws**. "The Past-President and Secretary" was the toast proposed by Mr. **Edwards**, to whose efforts, by-the-way, much of the success of the function was due.

A very excellent musical programme was provided, the vocal contributions by Miss Effie Ingram and Messrs. Guy and Brigden being highly appreciated. Mr. H. Poole acted as accompanist.

The Annual Meeting

preceded the dinner. The **Hon. Secretary** (Mr. Sydney Smith) read the annual report (which was received and adopted) and balance-sheet, showing a balance in hand of £3 5s. Mr. Ewbank Smith was elected President in the room of Mr. Vint, who now takes the position of Vice-President, and the name of Mr. Rossiter was added to the Committee.

GLYN-JONES TESTIMONIAL.

MEETING OF ORGANISING COMMITTEE.

Friday, May 27, 1904, at St. Bride's Institute, London, E.C.

Mr. T. H. W. Idris, L.C.C., Mayor of St. Pancras, was appointed Chairman of the Committee; Mr. C. J. G. Bunker (Twickenham) and Mr. Albert Cooper (Kensington), Vice-Chairmen; Mr. A. Tebbutt (Messrs. W. Sutton and Co., Chiswell Street, E.C.), Treasurer; Mr. G. R. Barclay (95, Farringdon Street, E.C.), Secretary; and Mr. W. Johnston, Assistant Secretary.

The following were appointed as an Executive Committee to carry out the details:—Messrs. C. B. Allen (Kilburn), G. R. Barclay, C. J. G. Bunker, Percy Edgar, J. F. Harrington (Kensington), T. W. H. Idris, Pickering (Messrs. F. Newbery and Sons), J. C. Pentney (Dalston), P. F. Rowsell (Exeter), A. Tebbutt, J. C. Umney (Southwark Street), W. Watson-Will, and A. C. Wootton, with Mr. Albert Cooper as Chairman.

The following resolution was passed:—

> That steps be taken to organise a testimonial to Mr. W. S. Glyn-Jones, in recognition of his services to the British drug-trade, and on the occasion of his leaving retail pharmacy to practise at the Bar; and to that end, that this meeting resolves itself into a general committee (with power to add to the number) to make the necessary arrangements.

The Secretary was instructed to write to the presidents and secretaries of local chemists' associations, and to the P.A.T.A. local secretaries, asking them to join the general committee. A long list of names of gentlemen (including almost every member of the Council of the Pharmaceutical Society) who had already consented to join this Committee was announced, and the understanding arrived at that the list would be published as soon as completed. It was agreed that no maximum limit as to amount of subscription be fixed.

A meeting of the Executive was held at the conclusion of the general meeting, at which it was decided that the presentation should take place at a complimentary dinner to be given to Mr. Glyn-Jones, at a date to be announced later. It was also decided that a circular inviting subscriptions should be sent to all chemists in business in the United Kingdom, and that the local associations be asked to further the object.

LINNEAN SOCIETY.

ANNIVERSARY MEETING.

Tuesday, May 24, 1904, Professor S. H. **Vines**, F.R.S., President, in the chair.

The ballot for the election of officers resulted in Professor W. A. Herdman being chosen President; Mr. Frank Crisp, Treasurer; Dr. D. H. Scott and the Rev. T. R. R. Stebbing, Secretaries.

The **President** then delivered his address. After advocating an annual report by the Council, and giving a statement of the events of the Society's year, he devoted the greater part of his address to considering the life-work of Linnæus and his claim to the gratitude of later workers.

Mr. **John Hopkinson** moved, and Mr. J. F. **Duthie** seconded, a vote of thanks to the President for his address, which was carried unanimously.

The **President** then addressed Dr. A. Günther, and presented the Linnean gold medal to him, which the recipient suitably acknowledged.

A vote of thanks to the President on his quitting office at the close of his four years' tenure was carried by acclamation.

PUBLIC DISPENSERS' ASSOCIATION.

ORDINARY MEETING.

Wednesday, May 25, 1904, at St. Bride's Institute, London, E.C., Mr. **Noad Clark** in the chair.

The meeting decided that the Association should contribute £1 1s. to the Benevolent Fund of the Pharmaceutical Society.

The decision of the London County Council to grant the title of "dispensing chemist" to the dispensers at the asylums under the Council's charge was favourably commented on, and it was resolved that a memorial should be drawn up urging the Local Government Board to grant a similar concession to its officers. The assistance of the Pharmaceutical Society is to be solicited.

Reference was made to the reports of the proceedings at the May meeting of the Council of the Pharmaceutical Society, and regret was expressed that the Dispensers' Committee of that body had been inactive.

BOOK REVIEW.

'Kelly's Directory of Chemists and Druggists,' including manufacturing chemists, wholesale druggists, drysalters, and all other trades connected therewith in England, Scotland, and Wales, and the principal towns in Ireland, the Channel Islands, and Isle of Man. Tenth edition. Pp. 738. Price 20s. London: Kelly's Directories, Limited, 182-184, High Holborn. 1904.

In the pages of this work are to be found the names of over 56,000 persons, being an increase, as compared with the last edition, of over 4,000. These include the manufacturers of almost every chemical which is considered by the compilers to be of sufficient importance to have a separate heading. The names, addresses and descriptions have been checked with the greatest care, and in many instances distinctions are, rightly, drawn between chemists and druggists on the one hand and "drug stores" or "patent medicine vendors" on the other. This is the case with most of the country places alphabetically arranged in the first part of the book, but has apparently not been found possible under the general headings where the traders are alphabetically arranged for London and the rest of the United Kingdom respectively. The Directory is indispensable for those engaged in the wholesale drug-trade, and useful to an even wider class.

LEGAL INTELLIGENCE.

Sale of Food and Drugs Acts.

Brandy.

On Monday, May 30, 1904, at North London Police Court, Mr. E. S. Fordham delivered judgment in a test case taken by the Islington Borough Council against wine and spirit dealers of the district for selling as brandy an article which Dr. Teed, the public analyst, certified to contain 60 per cent. of spirit derived from a source other than the grape. The previous hearing of the case was reported at page 727.

Mr. Fordham said the summons was taken out under Section 6 of the Food and Drugs Act of 1875. It was proved that on March 1 last an agent of Inspector Ward, in the employ of the Islington Borough Council, purchased at the shop of Mr. Alfred Hillyer, wine and spirit merchant, of Hornsey Road, a bottle of liquor labelled "Fine Old Pale Brandy." Mrs. Hillyer served the customer, and received 3s. in payment. As usual in such cases, the sample was divided into three parts, one for the public analyst, one for the defendant, and one for independent analysis if necessary. Dr. Teed, the public analyst, conducted his investigation on the assumption that brandy is an article derived exclusively from the spirit of the grape. And he gave a certificate that the sample contained 60 per cent. of spirit not derived from the grape.

What is Brandy?

The question now was: "Did this bottle contain what was asked for: was it what it was represented to be?—in other words, was this brandy?" There was no standard for brandy; and, consequently, before he could decide this case he must make a standard for himself; he must proceed on the lines of what the public understands brandy to be. The standard dictionaries and encyclopædias agreed that brandy is an ardent spirit derived from the wine of the grape; but they added that mixtures of grape and grain spirits were sold as brandy. The name brandy, for instance, was given to an article in the United States of America derived from cherries or peaches. The British Pharmacopœia's definition of brandy was that it was exclusively derived from the spirit of the grape; and this was important, because it was common knowledge amongst buyers, sellers, and consumers that brandy is largely used as a medicine. Mr. Fordham reviewed the evidence of the various witnesses, and said that Professors Salamon and Hehner, who were called for the defence, agreed that brandy must have its origin from the grape; and the only witnesses in the case who did not generally agree with the definitions of "Brandy" as found in the books were Mr. Pank (of the firm of Burn and Pank, of Mark Lane) and Mr. McKechnie (Bowen and McKechnie, of Finsbury), the former of whom said: "Brandy has never been exclusively a spirit derived from the grape"—he meant during the forty years that he had been in the trade; and the latter said that a mixture of cognac (which is brandy distilled in a pot-still from wine) with spirit derived from other sources was brandy. These two witnesses were men of very great experience in the trade, and he gave their opinions the most respectful consideration; but he came to the conclusion on the evidence before him, what the public in this country—what the ordinary purchaser, apart from the trade—understands by the word "Brandy" is "an alcoholic liquid, the spirit of which is obtained by the distillation of wine from the grape."

The Medical Value of Brandy.

Evidence was given that brandy, produced by the distillation of wine, is a spirit, the alcohol of which contains so-called "impurities" in more or less certain proportions—a large proportion of ethers to a small proportion of the higher alcohols; and that this characteristic makes brandy so produced a more desirable stimulant for use as a medicine to revive life than any spirit produced by any process from any other material. Dr. M'Naughten Jones attributed the great value of brandy in medical practice to the ethers it contains. If he was right in that it would seem desirable for Legislature to fix a standard for brandy, defining what brandy is, and the proportion of ethers it must contain—perhaps 80 parts in 100,000 of alcohol. A great deal of evidence was given as to

How Brandy is Made;

and there was no doubt that much of that which was sold as brandy in this country was a liquid the spirit of which was a mixture of the result of the distillation of wine and the result of the distillation of grain or other materials. Some was spirit derived from grain, flavoured with a small proportion of spirit derived from wine. There was also a liquid sold as brandy which was made largely of spirit obtained from bad wine, so highly rectified to take its bad flavour away to an extent that it became a silent spirit, with none of the so-called "impurities" which are amongst the most valuable properties of spirit distilled from wine. This silent spirit, having its origin in the grape, had no more of the qualities of brandy than had spirit derived from grain and rectified until it had become silent. Yet it had been urged in this case that such silent spirit, when flavoured with spirit distilled from wine, was properly brandy, because it had its origin in the grape. He (the magistrate) could not accept this view.

The Magistrate's View.

He did not think that, after the spirit obtained by the distillation of wine had been so highly rectified as to have lost the properties peculiar to spirit so obtained, it was still "spirit obtained by the distillation of wine," so as to fulfil the definition of brandy. However, in this case it was not necessary for him to rule as to whether highly-rectified grape spirit, flavoured with grape spirit is brandy or not; it was enough for the purposes of this case for him to hold that brandy is an alcoholic liquid, the spirit of which is obtained by the distillation of wine from the grape. Now, having determined his standard—having decided what brandy is—he had to find whether the bottle of liquid sold by the defendant was a bottle of brandy. On the evidence before him he came to the conclusion that Dr. Teed was correct in his analysis and in the opinion he formed upon it. He found that this bottle of liquid, labelled "Fine Old Pale Brandy," sold by the defendant as brandy, was not brandy, and that the purchaser was prejudiced, and did not get the article of the nature, substance, and quality demanded. He therefore convicted the defendant.

The Penalty.

In fixing the penalty he considered that the defendant really had no intention to cheat the purchaser or the public by selling this mixture as brandy. Such mixtures, some of more value than this, and some of less value, had no doubt been sold as brandy in this country very extensively for some years— for so long that amongst a certain class of merchants and retailers it had come to be called "Brandy"; and the defendant had done no more than had thousands of other respectable traders. But he did think that when a liquid was sold as brandy, which was, to use Mr. Avory's expression, an article made from spirit which was not derived from wine, the seller should be obliged to give notice to the purchasers. So far as he (the magistrate) knew, there was no reason why an intoxicating liquor made from grain spirit, beet spirit, or wood spirit should not be sold if the public liked it; but he thought it should be distinguished to the buyer by a description, and not sold as that which it is not. It might be sold as "British Brandy," "Industrial Brandy," "Sophisticated Brandy," or "Mock Brandy," but it should not, in his opinion, be sold as "Brandy" simply, which was like selling cats for hares, because both are called "puss" by some people. Any fine he might impose in this case would go to the complainants, but he thought they were entitled, in fairness to the ratepayers, to a sum which would reasonably cover the costs of the prosecution. He ordered the defendant to pay a fine of £5 and £50 costs, or one month as a second-class misdemeanant. His worship complimented Mr. Bramall on the manner in which he had laid his case before the Court, and Mr. Bramall thanked the magistrate for the careful attention he had paid to it. The other summonses will be mentioned later on.

Magnesia.

On Monday, May 30, 1904, the Justices of the Spelthorne Division of Middlesex, sitting at Sunbury-on-Thames, heard a summons against William Scott, a grocer, of High Street, Hampton Hill, who was charged with giving a false warranty in writing to Agnes Cook in respect of a quantity of "magnesia."

Mr. Walter Tyler, inspector to the Middlesex County Council, prosecuted, and defendant, who pleaded not guilty, was represented by Mr. C. H. Kirby.

It appeared that on March 7 last an inspector called upon Mrs. Cook, who is a shopkeeper at Ashford, and asked for a packet of magnesia. Mrs. Cook was summoned at the Spelthorne Bench on April 18 for selling an article that was not of the nature and substance demanded by the purchaser, and a certificate from the Public Analyst was then put in to the effect that the magnesia sold to the inspector consisted of 100 per cent. of magnesium carbonate. Mrs. Cook put in as her defence a document, which she said she received from Mr. Scott, the present defendant, from whom she purchased the magnesia. The Bench decided that the document amounted to a warranty, and dismissed the summons.

Frederick Cook, the husband of Mrs. Cook, was called, and gave evidence as to the purchase of the magnesia from the defendant. He asked defendant for "some magnesia," and the defendant asked him whether he wanted citrate of magnesia, or magnesia in bottle. Witness said, "I want penny packets of magnesia," and one dozen packets were supplied to him. Mrs. Cook subsequently received from Mr. Davis, in Mr. Scott's employ, a receipt for moneys paid for a number of articles, including "12 magnesia, 5½d."

By Mr. Kirby: When witness saw the packets at Mr. Scott's shop he saw that they were labelled "carbonate of magnesia" on three sides.

Mr. Walter Tyler said, in reply to Mr. Kirby, that he, as well as others, saw that the packet was labelled "carbonate of magnesia," and so far as he could tell it was a straightforward and *bonâ-fide* sale.

Mr. Walter Beavan, the public analyst for Middlesex, bore out his certificate of analysis.

Mr. Buckmaster (a magistrate) asked the witness if all magnesia was not sold as carbonate of magnesia, and that when one asked for magnesia simply they never got pure oxide of magnesia?

Mr. Beavan said pure oxide of magnesia was often obtained when magnesia only was asked for.

Mr. Buckmaster said he bought some magnesia the other day, and said to the man, "What is this?" and he said, "It is carbonate of magnesia."

Mr. Beavan said that carbonate was about half the price of the oxide, and the latter was twice as effective.

In reply to Mr. Kirby witness said a person who went into a shop and asked for magnesia would get in nearly every case real magnesia. There were four different kinds of magnesia. In the trade oxide was generally described as oxide, and carbonate as carbonate. But the ordinary purchaser did not always get oxide, and that was the reason why the ordinary purchaser should be looked after.

Mr. Kirby then addressed the Bench. First of all, he contended, the case against Mrs. Cook was properly dismissed, apart from the warranty, for not only was the label "carbonate of magnesia" on the packet, a quite sufficient defence under the Act, but the purchaser read the label at the time of the purchase, so that, according to Section 6, he had notice of what the packet contained. As to whether the document given to Mrs. Cook by the defendant amounted to a warranty, he asked the Bench could the words "12 magnesia, 5½d.," written upon a receipt, be regarded as a warranty? He drew the attention of the Bench to paragraph 6 of Section 20 of the Act of 1899, in which it was stated that a person should be liable to a fine for giving a false warranty unless he could prove that when he gave the warranty he had reason to believe that the statement or description contained therein was true. Something more was required to make the document amount to a warranty. For instance, if the word "oxide" had been upon it, it was clear that would amount to a warranty for oxide of magnesia. Or, if it had said "calcined magnesia," or specified any form of magnesia, distinguishing it from other forms, it would amount to a warranty. But there was nothing of that kind here. It was a sale upon sight, and that was sufficient to show that the article was carbonate of magnesia. Assuming that there was a false warranty for the sale of oxide, the Bench must be satisfied that the defendant had reason to believe that "the statement or description contained therein is untrue." What were the facts? Until 1903 the defendant did not know what magnesia was, and when he bought it he did not know what he was buying. He believed that this article, "carbonate of magnesia," was the article usually sold to the public as "magnesia," and upon these grounds he asked the Bench to dismiss the case.

The Defendant was called, and said he did not deal in magnesia until May last year, when he purchased a quantity from a firm in Bermondsey. He asked for magnesia. It was invoiced to him as "carbonate of magnesia," but that did not convey to him that there were other kinds of magnesia, of which he was not aware. Witness added that since these proceedings began he had been to various grocers' shops in the district and purchased magnesia, and in three out of seven cases the packet was labelled "carbonate of magnesia."

In reply to the Bench, witness said he did not know what there were several other kinds of magnesia, and at the time he sold this packet he did not know that carbonate of magnesia was cheaper than other forms of magnesia.

The Bench having consulted, the Chairman (Mr. J. Ashby) said the opinion of the Court was that the summons must be dismissed, for there appeared to be no intention on the part of the defendant to give a false warranty, as he did not know the difference between carbonate of magnesia and any other kind of magnesia.

The summons was then dismissed.

Cream of Tartar.

On Thursday, May 26, at the Driffield Petty Sessions, Fras. Wharram, who keeps a small grocery shop at the village of Beeford, was summoned under the Sale of Food and Drugs Act on a charge of selling an inspector under the East Riding

County Council half a pound of cream of tartar which was not of the nature asked for.

The Inspector produced a certificate from the Public Analyst certifying that the sample submitted contained 1 grain of lead to each pound in weight. It was not alleged that the adulteration had been put into the article with a view to defrauding the public, and the prosecution stated that the presence of the lead was accounted for by the manufacture of the drug being carried on in a leaden vessel.

It was stated that the drug had been in stock over two years, since which time, owing to the action of local authorities, the drug was now almost universally manufactured in porcelain vessels.

The Chairman said, though the defendant had had no idea of committing a fraud, the case was an important one. He would have to pay a fine of 5s., the analyst's fee of 15s., and the costs, 3s.

Cream of Tartar.

On Saturday, May 28, 1904, at Pontypool Police Court, Anson Powell, of Harpur Road, Garndiffaith, was fined 20s. for selling cream of tartar which contained 23 per cent. of starch.

On Saturday, May 28, 1904, at Bridlington, John Beamish, grocer, Burton Agnes, was charged with having sold cream of tartar containing lead at Burton Agnes on April 22. Defendant pleaded that he thought it was a pure article, as it had been bought for one. He refused to tell the Bench where he had got the drug, but stated that last October he had purchased 2 lb. of cream of tartar, and had only sold ½ lb. since, and that had been to the inspector.

Fined £1 1s. costs. The Bench refused to allow the analyst's fee, solicitor's fee or police expenses.

Pharmacy Act (Ireland), 1875.

Proceedings Under Section 30 at Templepatrick.

Lester v. Alexander.

On Wednesday, May 25, 1904, at Templepatrick Petty Sessions, before Messrs. P. C. Creaghe, R.M., and J. B. Wylie, J.P., James Alexander, described as a publican and grocer, of Craigarogan, Templepatrick, was summoned at the instance of Sergeant Lester, Lisburn, inspector of weights and measures, for having, on March 23 and 24, kept open his shop for retailing and dispensing poisons within the meaning of the Act, and for selling and dispensing poison—namely laudanum —to George H. Lester, sergeant R.I.C., contrary to the Pharmacy Act (Ireland), 1875 (38 and 39 Vic., ch. 57, sec. 30), defendant not being a person properly qualified on that behalf according to law. There were also summonses against the defendant for keeping open his shop for the sale of poisons on the same dates, and in respect of one of the dates a summons against the defendant for selling laudanum in a bottle which was not distinctly labelled with the name of the article and the word "poison," and with the name and address of the seller of the poison, as required by the Sale of Poisons Act, 1870.

Sergeant Lester, who appeared to conduct the case, said the proceedings were taken under the direction of the Council of the Pharmaceutical Society. The certificate of the Public Analyst (Mr. Robert Barklie, F.I.C.) of Belfast showed that he had examined the contents of the small bottle handed to him on the 19th ult., labelled "Poison—laudanum." The bottle contained laudanum, which was a poison. Sergeant Lester then read Section 30 of the Pharmacy Act (Ireland), 1875, under which, he pointed out, the defendant was liable to a penalty of £5, and not less in respect of each of the two sales, and produced in support of this contention the decision of the Superior Court in the case of Patrick M'Gann *v.* James Kelly, 1893. The Sergeant, having been sworn, deposed that on March 23 he entered the defendant's shop and purchased an ounce of laudanum from his wife, and for which he paid twopence. On the 24th he again visited the place, and purchased an ounce of laudanum from the defendant personally.

The Defendant admitted selling the laudanum, stating that he did not know he was doing any harm, and that he had not sold laudanum extensively.

The Resident Magistrate said the law was clear on the matter, and the penalty was £5. Defendant was ordered to pay a fine of £5 and costs on each of the summonses for selling, and

Sergeant Lester withdrew the summonses for keeping open the shop for the sale and dispensing of the poisons. The summons for non-labelling was not pressed, and the nominal penalty of 1s. and costs was imposed.

POISONING CASES AND INQUESTS.

The deaths from poisoning recorded during the seven days ended Wednesday, June 1, 1904, numbered nineteen, thus:—

Poison.	Accident.	Suicide.
Aconite and Belladonna	1	—
Carbolic Acid	1	1
Chloral Hydrate	1	—
Coal Gas	1	—
Hydrochloric Acid	—	1
Laudanum	2	3
Morphine	1	—
Oxalic Acid	—	1
Phosphorus	1	1
Potassium Cyanide	—	1
Ptomaine	2	—
Sulphuric Acid	1	—
Total	11	8

Aconite and Belladonna.—A Cambridge gentleman, aged 80, was given some aconite and belladonna liniment in mistake for medicine.

Carbolic Acid.—The wife of a miner at Gateshead died from the effects of carbolic acid taken with suicidal intent. The Coroner warned intending suicides as to the excruciating agony caused by taking carbolic acid, and expressed the hope that they would pause before they took that poison. A child at Battersea took a fatal dose of carbolic acid, which was kept in a jam-pot.

Chloral Hydrate.—A lady at Kensington died from misadventure through taking an overdose of chloral hydrate to procure sleep.

Coal Gas.—A man at Marylebone was asphyxiated through sleeping in a room in which gas had been escaping.

Hydrochloric Acid.—A labourer at Leeds committed suicide by taking some spirit of salt.

Morphine.—On May 31, at Ince, near Wigan, the inquiry was resumed by Mr. S. Brighouse, county coroner, into the death of a collier named Clark (see p. 757, *ante*). The inquiry lasted three and a-half hours, much of it turning upon the question as to whether a bottle of solution of morphine, handed to the police by Dr. C. A. Craston, who had prescribed and dispensed a sleeping-draught for Clark, was in fact the stock bottle from which the medicine had been taken. Mr. W. Collingwood Williams, F.I.C., county analyst, stated that the medicine was ten times stronger in morphine than it should have been if correctly made up according to the prescription. It was alleged by some witnesses that Dr. Craston was drunk when he ordered and dispensed the medicine, but two other witnesses stated that, although the doctor had had a little beer, he was not drunk. The jury found that death was due to congestion of the lungs and pleurisy, accelerated by an overdose of morphine. The jury also was of opinion that there had been carelessness on the part of Dr. Craston, and desired the Coroner to censure him. The Coroner said he was absolutely certain in his own mind that the doctor gave the man a dose of medicine that should not have been given, and that the doctor was not in a fit state at the time to prescribe medicine. He proceeded to censure Dr. Craston for his conduct.

Laudanum.—A marble mason of Shoreditch, a woman at Consett, and an engineman at Denny committed suicide by laudanum poisoning. A woman at Weston-super-Mare and a builder at Leicester accidentally took an overdose of the same poison.

Oxalic Acid.—A tram driver, of Hulme, Manchester, died from the effects of oxalic acid taken intentionally.

Phosphorus.—A woman at Edmonton committed suicide by taking a quantity of phosphorus paste, which her daughter, aged ten, had obtained for her at an oil-shop. The jury expressed an opinion that there should be restrictions on the sale of such poisons. A fatal case of "phossy jaw" is reported from the Poplar and Stepney Sick Asylum.

Potassium Cyanide.—A photographer at Llandudno was found dead in his bedroom with a bottle containing a quantity of potassium cyanide and an empty glass beside him.

Ptomaine.—Major W. E. Harrison, a retired volunteer officer, of Stockton-on-Tees, died from ptomaine poisoning caused by eating sausages. Ptomaine poisoning, following a meal of tinned salmon, has caused the death of a moulder at Farsley.

Sulphuric Acid.—A joiner at Leith drank some sulphuric acid in mistake for spirits.

Non-Fatal Cases.—Three cases of attempted suicide by poisoning are recorded, the poisons used being liniment (2) and one case in which the kind of poison was not stated.

NOTES IN PARLIAMENT.

Injection of Antitoxin.

Mr. R. Cameron on Monday asked the Home Secretary whether his attention had been called to the report of the Lister Institute of Preventive Medicine, in which it was admitted that the injection of antitoxin caused a large number of rashes, inflammation of joints (ascribed to something inherent in the serum of the horses or other animals), and also an increased number of cases of paralysis; and whether, in view of this statement, he would consider the advisability of taking steps to prohibit the manufacture of serum in laboratories licensed under the Vivisection Acts. Mr. Akers Douglas replied to the effect that the manufacture of serum is a procedure outside the scope of the Cruelty to Animals Act, and he is not prepared to adopt the suggestion of the hon. member. As regarded the first part of the question, he assumed that the hon. member referred to a pamphlet which the Lister Institute had thought it right to issue by way of a warning (in order to prevent unnecessary alarm) that in some cases certain results, such as rashes and joint pains, may follow the therapeutic use of sera. These results, it was stated, are of a temporary nature, and cause no bad after-effects. The words of the pamphlet with reference to diphtheritic paralysis did not convey to his mind the meaning attributed to them by the hon. member.

The Pharmacy Bill.

The Pharmacy Bill, which was introduced by Mr. Lough early in the Session, still awaits second reading. It was on the Order Paper on Wednesday last, but an immense amount of Government business stood before it, including the Anglo-French Convention Bill and the Shop Hours Bill, which occupied nearly the whole of the sitting. The Bill now stands nominally for second reading on July 4, but it need not be said that at this stage of the Session the chances of the consideration of Bills of private members become small by degrees and beautifully—or disagreeably—less. Meanwhile, we must look forward with curiosity to the promised production in the House of Lords of the measure promised by the Government.

Shop Hours Bill.

The Shop Hours Bill of the Government came on for discussion on Wednesday last. The motion for the second reading was formally made from the Treasury Bench by Mr. Cochrane, as representing the Home Office, and Sir Charles Dilke at once moved, as an amendment, "That, in the opinion of this House, the proposed measure for the early closing of shops is unduly hampered by restrictions, and, not providing for the regulation of the hours of shop assistants, fails to satisfy the terms of the unanimous resolution of this House." Captain Norton seconded the amendment. Both members spoke very briefly, apparently with the friendly object of facilitating the taking of an early division. They were, however, strongly of opinion that the hours of employment of assistants, and not merely the hours of public business, should be dealt with, for employees might be kept at work though a shop was not open.

Mr. Asquith said that he would vote for the second reading, though he was in general sympathy with the amendment. He suggested that the procedure of the Bill should be simplified. He agreed that the initiative should be with the local authorities, but he thought that they should have a freer hand than the Bill, as at present framed, gave them. He was not satisfied that it was necessary that Orders under the Bill should have to be laid before Parliament, and lie on the table for forty days, as proposed.

Mr. W. F. Lawrence, Mr. P. Thornton, Sir F. Powell, Dr. Farquharson, and other private members followed. The Bill was very generally supported, and the principle of allowing an adequate majority of local traders to bring about a reduction of the hours for which shops might be opened was widely approved. It was suggested that difficulty would exist with respect to the determination of the authority which should act in London for the purposes of the Bill, as the London County Council might be thought to represent too big an area, and the borough councils to represent areas so insufficient that, according to the nature of the boundaries, shops might be closed on one side of a street, whilst similar shops might be open on the other side.

Mr. Cochrane wound up the debate from the Government side, describing the Bill as following the spirit of our factory and workshop legislation. As regarded the suggestion that the hours of employment, and not merely the hours of public business, should be regulated, he expressed the view that it would be very difficult to secure the thorough carrying out of such a provision, for it was easy for inspectors to see when a shop was closed, but not what went on after closing.

He thought, however, that shopkeepers, in their own interests, would not keep assistants longer after the shop was closed than was needed for putting away goods and arranging the cases. He quoted medical evidence as to the necessity for this legislation, defended the particular proposals of the Bill, and claimed that they would meet a public need in a practical way. As regarded London, the Government would be prepared in committee to consider whether the borough councils, instead of the London County Council, should be the authority for the purposes of the Bill.

Sir Walter Foster supported the amendment, not on the ground that the Bill went in the wrong direction, but that it was wholly inadequate to cope with the grave evils which were admitted to exist. The machinery was, in his opinion, too elaborate and clumsy.

In reply to Mr. Ernest Gray, Mr. Cochrane said that it would be for the local authority to determine whether they would act on the representations of the two-thirds majority of the shopkeepers generally, or only of a particular trade. Mr. Gray thereupon observed that it would be possible, unless the Bill were amended, for the shopkeepers generally to over-rule those of a particular trade.

By 130 against 42 the amendment was negatived, and the second reading was then agreed to and the Bill referred to the Standing Committee on Trade.

VETERINARY NOTES.

BY "CENTAUR."

Inflamed Joints—Arthritis.

Considering the general immunity of domesticated animals from gout and syphilis, it strikes the tyro in veterinary science as remarkable that so many joint ills are met with in these creatures. It occasions no surprise that old horses, or even young ones, upon whose joints the strain of drawing heavy loads is placed, should become inflamed, or that the hunter, jumping with weight on his back, and subject to violent concussion, should give out in the synovial cartilages. These, though numerous enough, are not the chief cause of joint trouble on the farm. It is among the very young that we look for the worst cases, many of them ending fatally or rendering the subjects of these arthritic affections useless or unprofitable to the breeder. Nor are they confined to any one species; colts, calves, lambs, pigs all are liable to affections of the joints, described in the lump as "joint-ill."

A few sporadic or accidental cases there will necessarily be, having regard to the liability to injury from external violence, but the great majority are of an infectious character and introduced through the open navel string. It has been ascertained that a micro-organism gains access through the umbilicus, and presently produces its effects upon the articular cartilages, or synovial membranes, which secrete the lubricating fluid commonly known as joint-oil. Instead of a lubricant—in appearance and viscidity resembling glycerin—an irritating material takes its place. Much pain is suffered, mobility impaired or altogether lost, and outward deformity follows, if it does not precede the trouble. If the above sketch represents the true history of joint-ill, it will be seen that outward applications can only be of value in so far as they consist of substances capable of being absorbed and of neutralising the poison generated by the organisms, for it is supposed that it is their detrita, rather than their own "corpus vile," which proves so injurious, as is the case with tetanus. The tetanus bacillus may be taken, perhaps, to better illustrate our meaning. If a horse suffering from broken knee develops tetanus from invasion of the wound by the specific organism, examination, whether in life or *post mortem*, does not prove the general distribution of the bacilli over the animal's body. The distant effects upon voluntary muscle are the result of the circulation in the blood of the waste products of the bacilli found harbouring in the deeper layers of the wound. The surgeon therefore seeks to destroy them in the wound (uncovering it as far as possible) and applying such agents as are known to be fatal to the organism. If too large a "dose" of the effete products has not already gained access to the blood, the patient will survive. So, with infectious joint ills, we must treat the umbilical cord with a view to arrest the development of the micro-organisms responsible for the mischief.

Certain districts are much more liable to this disease than others; the land may be deemed infectious, and flock masters should be advised to change the site of the fold yard from year to year if possible. Disinfection of the foaling boxes and cowsheds, calf-houses and premises generally should be recommended. The proper carrying out of these recommendations should be superintended, as very few people are really to be trusted with them, and no one is better fitted than the pharmacist, if he will consent to attend to it and can see how to obtain adequate remuneration for his work. We may remind him that aërial disinfection by chlorine or hydrochlorous gas will serve where the buildings are of such a nature as to preclude the possibility of thorough contact by liquids or powders.

The most direct method of treatment will be by anticipation, providing the farmer with a suitable dressing for the recently severed umbilical cords or navel strings. A variety of substances have been suggested. What we need is something safe and easy of application and not too expensive.

The following is to be recommended:—

Hyd. perchlor.	1 drachm
Aquæ dest.	4 ounces
Glycerini	4 ounces

Misce.

Directions.—Paint the navel string of the new-born, repeating on alternate days so long as it remains moist. A one-in-ten carbolic acid solution is safe and efficacious, or one part of clove oil in ten of any seed oil. Where large numbers are concerned and cheapness is of the utmost importance, a saturated solution of alum exsiccatæ, coloured to fancy, may be prescribed.

I should like to ask our pharmaceutical friends why alum exsic. dissolved in water is more styptic and constringing in its action than alum with its water of crystallisation, provided both solutions have taken up the same amount of alum? As a matter of practice and of long experience, I can assure readers that it is so, and would like to know in what respect water of crystallisation differs from H_2O distilled. If a "doubting Thomas" reads this, I would ask him to try the two on an aphthous mouth or any damaged mucous membrane or gums he cannot harden enough to take a denture with comfort.

With regard to outward applications, there should be a large proportion of iodine, an alkali, and an oil. The alkali should not wholly saponify the oil. Iodine is a powerful germ destroyer. Alkalies cause the cuticle to swell up and admit the true remedial agent. An excess of oil provides a lubricant for that due massage without which liniments are of but very little service, and for want of which such preparations fell out of vogue very much during the latter part of the last century, and were only revived by the reintroduction into medical practice of the customs of the ancient Chaldeans (massage).

Yellow Lacquer for White Metals.

Shellac, 100; mastic, 80; Venice turpentine, 75; dragons' blood, 45; gamboge, 50; alcohol (methylated), 1,500.—*Journ. Pharm. d'Anvers*, **60**, 50.

PATENTS AND TRADE MARKS.*

New Patent Applications.

MANUFACTURE OF OXIDE OF ZINC (No. 12,719 of 1903).—H. H. Lake, 45, Southampton Buildings, London, W.C. (Communicated by Syndicat pour l'Exploitation des Inventions du Professeur Oettli). A warm solution of sulphate of sodium, Na_2SO_4 (or of any other alkaline salt), is electrolised by means of electrodes formed of sheets of zinc. This forms at the anode sulphate of zinc (or other soluble zinc salt), and at the cathode soda (or other soluble alkali). The soda or alkali throws down hydroxide of zinc, $Zn(OH)_2$, formed from the solution of zinc salt, and said hydroxide of zinc, being insoluble in water, is then separated from the solution by filtration, drying, or otherwise, and is afterwards calcined, thus forming anhydrous oxide of zinc, ZnO, or zinc white. The chemical reactions are as follows: — $2Na_2SO_4 = 4Na + 2SO_4$; $4Na + 4H_2O = 4NaOH$; $4H_2SO_4 + 2Zn = 2ZnSO_4$; $4NaOH + 2ZnSO_4 = 2Na_2SO_4 + 2Zn(OH)_2$; $2Zn(OH)_2 = 2ZnO + 2H_2O$. A normal tension of 2·5 volts and an electric density of 10 amps. per square decimetre are preferably employed.

TOOTH POWDER (No. 7,479 of 1904).—E. C. Kirk, Lansdowne, Delaware, Penn., U.S.A. Hitherto it has been found impossible to incorporate hydrogen dioxide into a powder composition without its losing the valuable antiseptic and germicidal properties which it is known to possess, and hence its use as a dentifrice has been confined to liquid form. The inventor has discovered that calcium dioxide, combined with well-known tooth powder material, when brought into contact with the acids of the mouth, will be transformed into hydrogen dioxide. A dentifrice composition suitable for daily use may consist of 92 per cent. of precipitated chalk, 3 per cent. powdered castile soap, and 5 per cent. calcium dioxide, together with flavouring and colouring matter as preferred.

MANUFACTURE OF EXTRACT OF MEAT (No. 7,895, of 1904).—A. R. da Silva Braga, 12, Rua Formosa, Sao Paulo, Brazil. A quantity of meat and of some fruit of the Papaw family (*Carica papaya*) is cut up into pieces as small as possible, and is placed in water slightly acidulated with hydrochloric acid and the temperature raised to 50-70° C. When the mass disaggregates and leaves the fibres, the temperature is raised to boiling point. When the liquid cools it is strained and the suet taken off, but not the grease, and the liquid is evaporated and diluted with neutral glycerin to obtain the liquid meat. The fruit must be used when ripening and already containing albuminoids equal to those of the meat and ready for eating. Meat obtained by this process contains more soluble albuminoids than products of a like nature have formerly done, does not contain papain, and has a notable decrease in potash salts and other bodies which generally render such products objectionable.

Note.—Opposition to the grant of above Patent applications must be filed at the Patent Office on or before July 11, 1904.

New Trade Mark Applications.

"**HYDRONAL**" ("Hydro" disclaimed), for photographic developers, by Dr. Lüttke and Arndt, 8, Zollstrasse, Wandsbek, Germany. 261,734.

"**DRYOL**" ("Dry" declaimed), for chemical substances used for agricultural, horticultural, veterinary and sanitary purposes, by Brull and Co., 1, Vordere Sterngasse, Nuremberg, Germany. 261,956.

"**SOLUTION D'ADRENALINE CLIN**" (signature), label (signature only claimed), for a pharmaceutical preparation for human use, by F. Comar and Fils and Cie., 20, Rue des Fossés St. Jacques, Paris, France. 259,560.

"**BOE**" and devices (word disclaimed), for medicines for human use, by T. H. Barlow, 7, Halesowen Street, Blackheath, Staffs. 262,264.

"**HEALTH, ENERGY AND VITALITY PILLS**" (signature), label (signature only claimed) for pills for man, by E. Roberts, Oxford House, Elmers End Road, Beckenham, S.E. 262,629.

"**WELSH EMBROCATION**," label (device of Welsh woman working spinning wheel) (device only claimed), for an embrocation, by Ewart and Co., 31, Matthew Street, Seacombe, Cheshire. 262,576.

"**VIRILLA**" (pierrette), label, for medicated paper, by the Paper Cutting and Toilet Requisite Co., Limited, 90, Goswell Road, E.C. 263,058.

"**CELOR**," for photographic lenses and apparatus, by C. P. Goerz, 4 and 5, Holborn Circus, E.C. 263,023.

"**JOCO**," for philosophical instruments, scientific instruments, and apparatus for useful purposes, instruments and apparatus for teaching, by Sharp and Hitchmough, 101 and 103, Dale Street, Liverpool. 263,254.

"**NUDA**," for cream of tartar, tartaric acid, and substitutes thereof and baking powder, by The Pure Chemical and Spice Co., 50, Tower Buildings, Water Street, Liverpool. 263,236.

"**ESPA**," for perfumery, etc., by E. Ripley, 261, London Road, St. Leonards-on-Sea. 261,858.

"**HAIRSTOWE**" label (portrait of applicant) ("Hair" disclaimed), for a toilet preparation for promoting the growth of the hair, by A. Pyrah, 1, Carlisle Terrace, Manningham. 260,360.

"**TWYOL**," for a non-medicinal toilet fluid, by L. J. Holland and Co., 103, Tollington Park, N. 262,095.

"**DENSYL**" ("Dens" disclaimed), for antiseptics for the teeth and mouth, by F. Schulz, 44, Kaiserwilhelm Strasse, Leipzig, Germany. 261,915.

Note.—Opposition to the registration of above trade-marks must be filed at the Patent Office on or before July 1, 1904.

COMPANY INTELLIGENCE.

Varidy Mullai Estates Co., Limited.—Capital, £5,000 in £1 shares (4,000 preference). To adopt an agreement with Jane E. Peters for the acquisition of the property and estates known as Varidy Mullai Estates, in the registration district of Calicut, Madras, to develop and turn to account the same, and to carry on the business of growers and producers of tea, coffee, cardamoms, turmeric, rubber and other trees, plants and roots, to prepare for market and deal in the same and the products thereof, etc. Registered office: 215, Gresham House, E.C.

BANKRUPTCY INTELLIGENCE.

T. H. Downing, druggist, Commercial Street, Llanllwchairan, Newtown.

The estate of the above has been wound up by the Official Receiver of the Shrewsbury Bankruptcy Court. A supplemental dividend of 15s. 9d. has been declared, making a total of 20s. in the £, with interest at 4 per cent. per annum.

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* These abridgments of new patent applications and particulars of new applications for trade marks have been specially compiled from official sources, for the *Pharmaceutical Journal*, by Mr. Reginald W. Barker, agent for procuring patents and registering trade marks and designs, 56, Ludgate Hill, London, E.C., from whom any information on the subjects may be obtained. Mr. Barker will also send copies of his 'Trade Mark Notes' and 'Patent Notes for Inventors' free on application.

MISCELLANEOUS NEWS.

Divisional Secretaries and other Members of the Pharmaceutical Society are requested to assist the Editor by sending local newspapers containing items of interest to chemists and druggists.

Chemist's Will.—The will of the late Mr. Henry Thomas Beavan, chemist, of Prudhoe, near Newcastle-on-Tyne, has been proved at £5,719.

Arsenic in Beer.—The Manchester Analyst states that four samples of beer which have been recently examined were found to contain traces of arsenic.

Eucalyptus Cigarettes.—At Swindon on May 26, Geo. Bull, of Gloucester, was committed for trial on a charge of obtaining money by false pretences in connection with the sale of eucalyptus cigarettes. Dr. Dyer, public analyst, stated that the cigarettes contained a faint trace only of eucalyptus oil.

A Generous Chemical Firm.—Messrs. Brunner, Mond, and Co., chemical manufacturers, Northwich, have promised to give £1,000 towards the fund for the extension of the Victoria Infirmary, Northwich. The extension scheme, which is to form Mid-Cheshire's memorial to Queen Victoria, will cost between £4,000 and £5,000 to carry out.

Death in a Chemist's Shop.—A painful scene occurred at the pharmacy of Mr. J. Cotton, chemist and druggist, of Church Street, St. Helen's, on May 26. An elderly woman named Wright entered the shop in an exhausted condition, and sat down on a chair. The unfortunate woman died from heart-disease before medical aid could be obtained.

Notts Chemists' Athletic Club.—Notts Chemists *v.* Y.M.C.A.—Played on the Forest, May 26. The Y.M.C.A. batted first, and amassed the respectable total of 73; the Chemists replied with 64, thus losing by the narrow margin of 9 runs. F. C. Cartledge (23, not out) and S. H. Plattin (18) batted well for the Chemists, W. Lee being the most successful bowler, taking four wickets for 13 runs.

Duty on Herbs in Alcohol.—The question as to whether herbs imported into the United States in kegs, immersed in alcohol for preservation, are subject to duty as alcoholic compounds is shortly to be brought before the courts. In a recent case, heard in the United States Circuit Court, it was decided they were not dutiable, but the Treasury Department has reached the conclusion that an error was made.

Shop Fire.—A fire occurred on Friday, May 27, at the shop of Mr. A. S. Weir, chemist and druggist, Kemnay. The outbreak originated in a box of celluloid in one of the shop windows, and is supposed to have been caused by the heat of the sun. A number of combs, brushes, and other articles were damaged, and the celluloid, which first ignited, was consumed, the box containing it being charred and blackened. The damage, which is covered by insurance, is reported to be very slight.

The United States Pharmacopœia.—The Board of Trustees of the U.S. Pharmacopœial Convention, in session at Atlantic City, May 2 and 3, voted that the new Pharmacopœia should become the recognised authority ninety days after it is published. The publication day is not positively settled, but will probably be the latter part of October. The understanding is that unless some special emergency arises the book will be sold for $1.50 wholesale and $2.50 retail.

Quack Advertisements Censored.—According to the New York correspondent of a London daily, the Post Office Department has decided to establish a censorship over newspaper advertisements in an endeavour to prevent the publication of those of an offensive or fraudulent character. Newspapers printing such advertisements will be barred from the post. The advertisements aimed at are chiefly those of the lowest class of patent medicines, about twenty of which are being examined by the Bureau of Chemistry to see if they correspond with the claims of their proprietors.

The Bloomsbury of Other Days.—"Changes!" writes E. G. O. in the *Academy*, "Yes, I see them too—there are many Bloomsburys for me—that of the days when from Gray's Inn Lane I could step into the field paths and see before me the wooded heights of Highgate and Hampstead villages; the Bloomsbury where gentlemen went to wash out in blood the anger of a gaming house, or to settle their claims for the favours of the fair and sometimes, perchance, of the frail; when of winter nights and summer, beneath the bright moon or shivering through the snow, the watchmen calling the passing hours. Passing hours!"

A Journalistic Jubilee.—To celebrate the completion of the fiftieth year of the *British Journal of Photography*, the proprietors will issue on June 10 next a special jubilee number of the publication, which is the oldest of its kind in the world. The ordinary issue of the journal of June 10 will be more than doubled in size in the text portion, and amongst other features will include, by way of supplement, an illustrated history of the *British Journal of Photography*, with portraits and biographies of the eminent men of science, journalists, and photographers who have been identified with the conduct of the paper during the last fifty years.

John Wesley's Pharmacopœia.—The name of the founder of Wesleyan Methodism is more usually associated with physic for the soul rather than medicine for the body, and it may be news even to his own followers that John Wesley wrote a book entitled 'Primitive Physic; or, An Easy and Natural Method of Curing Most Diseases.' According to *T.P.'s Weekly*, the volume was published in the year 1743, and contains as a supplement a large collection of recipes, and most of the preacher's prescriptions are remarkable for their simplicity. His cure for a cold in the head would hardly recommend itself to the physician of to-day. He recommends the patient to "thin the yellow rind of an orange, roll it up inside out, and thrust a roll into each nostril." For lunacy he prescribes a decoction of agrimony to be taken four times a day; or an alternative treatment is an ounce of vinegar taken daily. For "raging madness" he advises wet cloths applied to the head. To make the hair grow he recommends a decoction of rosemary, a method of treatment which is still popular.

Royal Institute of Public Health.—The Folkestone congress of the Royal Institute of Public Health will take place from Thursday, July 21, to Tuesday, July 26. The congress will be conducted in the following sections:—Preventive medicine (President, Dr. W. J. Tyson, F.R.C.P.); comparative pathology, bacteriology, and chemistry (President, Dr. E. Klein, F.R.S.); engineering and building construction (President, Mr. W. Harpur, M.I.C.E.); child study and school health (President, Sir George W. Kekewich, K.C.B.); ladies' section (President, Lady Radnor); the early physical training of the Navy, Army, and Imperial Forces (President, General Sir W. G. Stirling, K.C.B.); tropical medicine (President, Professor W. J. Ritchie Simpson, M.D., F.R.C.P.). The general programme arranges for a number of social gatherings, receptions, and excursions. On Tuesday, July 26, an address on Tuberculosis (in English) will be given by Professor Ferdinand Hueppe, M.D., director of the Hygiene Institute of Prague, and a popular lecturer on "The Personal Health of the Citizen in Relation to National Efficiency," by Surgeon-General G. J. H. Evatt, C.B., M.D.

Funeral of Mr. Waddington, of Bradford.—The remains of the late Mr. Alfred Henry Waddington, homœopathic chemist, Darley Street, Bradford, were interred on Saturday, May 28, at Undercliffe Cemetery, Bradford. The general esteem in which Mr. Waddington was held was evidenced in the large and representative gathering of tradesmen and of public workers. The chief mourners were Mrs. Waddington and their three children and other members of the family. Mr. G. T. W. Newsholme (Sheffield) attended on behalf of the Council of the Pharmaceutical Society; Mr. Worfolk, of Ilkley, represented the Leeds and District Chemists' Association, and Mr. Rhodes (of Mirfield) was present for the Dewsbury Chemists' Association. The Bradford Chemists' Association was represented by Ald. H. Dunn, of Shipley (President); Mr. A. Hanson, of Queensbury; and Messrs. R. T. Silson, A. Wilson, H. Jackson, G. Rimmington, A. Mackay, J. T. Metcalfe, R. H. Marshall, B. Rogerson, J. M. Newboult, and J. O. Moulson, of Bradford. The Bradford Chamber of Trades, of which Mr. Waddington was a founder and one of the vice-presidents, was also represented, as well as other trade organisations affiliated with the Chamber of Trades. The funeral ceremony was of the simple and impressive character adopted by the Society of Friends, of which Mr. Waddington was an active member.

The 'Ophthalmic Optician.'—In view of the interest now being taken in the qualification of opticians, the following paragraph, which is quoted from the *Lancet*, is not without interest to chemists and druggists:—"We have received a little leaflet sent out by that enterprising advertiser Chas. F. Forshaw, M.S.A., or Forshaw and Co., or Dr. Forshaw, for he gives himself all three titles. From it we learn that 'Dr. Forshaw has absolutely nothing antagonistic to say against the qualifications of country opticians generally, but he desires to point out . . . that ours is an extensive and up-to-date optical practice, and we mean to keep it so.' Forshaw is an amusing quack, and has managed to get a testimonial from four Bradford medical men. Three of these—namely, Mr. A. Ramage, Mr. W. J. Mullany, and Mr. J. Bradley—we have been able to find in the Medical Directory and in the Register, but the fourth—Dr. C. McDowell—is neither to be found in the Directory nor the Register. Forshaw was dispenser at the Bradford Eye and Ear Hospital for some sixteen months, and the four medical men imply that this appointment gave 'Dr. Charles Forshaw great experience in diseases of the eyes,' while another testimonial from the Hon. F. H. Pollexfen, who states that he is a notary public and a master extraordinary in the High Courts of Chancery, besides being a member of the Spectacle Makers' Company, mentions that Forshaw's 'experience as dispenser at the Bradford Eye Hospital is unique in the annals of optics.' We cannot find Mr. Pollexfen's name in the Law List, but then he may be a colonial notary. His Grace the Archbishop of Armagh also gives a testimonial, but whether this confiding cleric is the prelate of the Church of Ireland or the Roman Catholic Archbishop there is nothing to show. Finally, Forshaw states with pride that he is ophthalmic optician to his Lordship the Marquis de Leuville. Forshaw has learned wisdom in one point. He does not put drops into the eye. But why he should be allowed to call himself doctor, and why any medical man should give him a testimonial, we cannot understand."

SCHOOL AND COLLEGE NEWS.

London College Cricket Club.—This club opened the season with a match at Nunhead on May 28 between Englishmen and Welshmen, both teams being drawn from the students of the college. A well-balanced and enthusiastic contest resulted in a win for the Englishmen, though the men of the Principality were but seven runs behind. Scores:—English, 68, to which Hosking (14), Righton (14), and Jarvis (11) were the largest contributors; Welsh, 61, made mainly by Hughes (21), James (16), Evans (14). The nearest approach to the score of half a century, for which a presentation ball was offered, was 36 by Sharp, the English captain, in the unfinished second innings.

West of Scotland College of Pharmacy.—Victoria Day, 1904, was a *fête* day at the West of Scotland College of Pharmacy, the annual excursion taking place to Stirling. The party numbered almost thirty, and would probably have been larger had the morning been brighter; the day, however, turned out well, save for an occasional slight shower. Stirling Castle was visited by way of the Back Walk, beloved of botanists, but neglected on this occasion by reason of the holiday spirit. After dinner, at the Waverley Hotel, the annual football match, Seniors *v.* Juniors, took place in the King's Park. It resulted in a draw—four goals each. The ball was kicked off by Mrs. Barrie, and a most exciting game followed. Those players who had enough energy left then paid a visit to the Wallace Monument, the view from the top of the same being well worth the trouble of the ascent. After tea the party returned to Glasgow, well pleased with their day's outing.

PERSONALITIES, BUSINESS CHANGES, &c.

Messrs. Wathes and Jackson, chemists, Sandiacre, are opening a branch at Draycott, near Derby.

Mr. W. S. Glyn-Jones is on the list for call to the Bar on June 15. The ceremony will take place in the Middle Temple Hall.

Mr. E. M. Holmes, Curator of the Museums of the Pharmaceutical Society, is confined to his house at Sevenoaks owing to illness.

Mr. Arthur Pain, chemist and druggist, of 14, Lower Brook Street, Ipswich, has been nominated to fill a casual vacancy that has occurred on the Town Council.

Dr. A. W. Crossley, Lecturer on Chemistry at St. Thomas's Hospital, London, has been appointed a member of the English Board of Examiners of the Pharmaceutical Society, in the place of Professor Smithells, resigned.

Mr. A. Sidney Campkin, J.P., is to receive a Past Grand Master's jewel, an illuminated address, and a donation of ten guineas, as a recognition of his services to the Manchester Unity of Oddfellows. Partly in consequence of his co-optation to the Council of the Pharmaceutical Society, Mr. Campkin has recently resigned his seat on the Board of Directors of the Manchester Unity, after twenty years' service. At the annual meeting of the Unity last week numerous references were made to Mr. Campkin's work as Grand Master and as director.

Honorary Degrees at Oxford.—In a Convocation to be held on Wednesday, June 22, the Honorary Degree of Doctor of Science will be conferred on the Hon. Charles A. Parsons; M. Pierre Curie, Professeur de Physique Générale de l'Ecole Municipale de Physique et de Chimie Industrielles; Sir William S. Church, President of the Royal College of Physicians; Sir Andrew Noble; Sir William Crookes, F.R.S.; Sir David Gill, Astronomer Royal, Cape of Good Hope; Sir John Murray, F.R.S.; Professor Alfred Marshall; Professor J. J. Thomson; Professor Horace Lamb, LL.D., F.R.S.; Professor Andrew R. Forsyth; Mr. James Dewar, Fullerian Professor of Chemistry in the Royal Institution; and Mr. Joseph Larmor, Secretary of the Royal Society.

TRADE NOTES.

Piscarol is the name of a new substitute for ichthyol, and is manufactured by Messrs. Lüdy and Co., Burgdorf, Switzerland. It is claimed that this article is chemically pure, and equal to ammonium sulpho-ichthyolate, while the price is tangibly cheaper. The London agents are B. A. Smith and Co., 36, Crutched Friars, E.C.

Photographic Mounts.—Messrs. W. Butcher and Sons, Camera House, Farringdon Avenue, E.C., are now supplying a series of "Nature" mounts, which may be had in the sheet or in cut sizes. There are nineteen tints, ranging from black to white, and a small booklet of samples is supplied from which selections may be made. Messrs. Butcher and Son have also an assortment of new and effective slip and plate-sunk mounts at various prices and in different sizes. Photographic dealers who are not acquainted with these artistic mounts should write for particulars.

The P.A.T.A. List.—A number of recent additions have been made to this list. R. J. Fullwood and Bland add essence of rennet, junket powder, and junket tablets. James and Co., London House Yard, E.C., add "Subrandy," a substitute for brandy. The Peat Products Co., 71a, Great Russell Street, have placed their "Sphagnol" preparations (soap and ointment) on the list. Holloway's pills and ointment are now on the list. Benger's Food, Limited, add their food and dietetic specialties for invalids. John Knight and Sons, Limited, Silvertown, E., makes the addition of "John Knight's Primrose Soap. The Koko Maricopas Co., Limited, 16, Bevis Marks, E.C., have added "Koko." The Konvo Manufacturing Co., Leeds, add "Konvo," a specialty for rheumatic and sciatica cure.

LONDON GAZETTE NOTICES.

Partnerships Dissolved.

A. Wormull and C. A. Wormull (lately deceased), Stamford Street, Blackfriars, surgical instrument manufacturers under the style of Evans and Wormull.

R. T. Bedford and W. D. G. Mulloy, Malden Road, Haverstock Hill, and Craig Clair, Maitland Park, London, N.W., physicians, etc., under the style of Bedford and Mulloy.

A. M. Hugill, J. Overton, and W. R. Roberts, chemists, Liverpool, under the style of the Liverpool Apothecaries' Co.

Receiving Order.

Newton, William, Mincing Lane, E.C., analytical chemists.

PRACTICAL NOTES AND FORMULÆ.

Nail Polish.

(1) Tin oxide, 6 oz.; tragacanth, 6 grains; glycerin, 4 drops; rose water, sufficient to mass. (2) Tin oxide, 8 oz.; carmine, 45 grains; bergamot oil, 20 drops; lavender oil, 20 drops. Mix.—*Spatula*, **10**, 145.

Athletes' Embrocation.

Liniment of ammonia, 10; liniment of belladonna, 2; liniment of turpentine, 10; oil of eucalyptus, 1. Mix.—*Spatula*, **10**, 155.

White Embrocation.

Ammonium chloride, 240 grains; soft soap, 2½ oz.; oil of turpentine, 20 fl. oz.; boiling distilled water, 25 oz. Mix.—*Spatula*, **10**, 155.

Pagliari's Hæmostatic Water, Ph. Ital. II.

Potash alum, 2; benzoin, 1; water, 20. Boil together for six hours, keeping up the quantity of water. Cool and filter. Pollaci adds sodium chloride, 2, to the filtrate.—*Journ. Pharm. d'Anvers*, **60**, 43.

Aqua Imperialis, Ph. Ital. II.

Potassium boro-tartrate, 10; sugar, 30; water, 500. Dissolve.—*Journ. Pharm. d'Anvers*, **60**, 43.

Granulated Lecithin.

Lecithin, 20; vanillin, 1; alcohol (90 per cent.), 160; granulated sugar, 1,760. Dissolve the lecithin and vanillin in the alcohol, pour on the granulated sugar, mix intimately, and dry in the air or at a low temperature. A teaspoonful contains nearly a grain of lecithin.—*Revista Farm. Chil.*, through *Journ. Pharm. d'Anvers*, **60**, 43.

Creosotal Emulsion.

H. Haefelin gives the following formulæ for creosotal emulsions:—Mucilage of acacia, 12; sweet almond oil, 8; creosotal, 3, and tincture of quillaia, 3, are emulsified by thorough agitation in a bottle, then syrup of liquorice, 40, is shaken in, and lastly water to produce a final product of 120. Another form may be prepared by shaking together mucilage of acacia, 12; creosotal, 3; tincture of quillaia, 3; then incorporating sweet or bitter almond emulsion, 60, and adding syrup and cognac as required.—*Pharm. Zeit.*, **49**, 141.

Cosmetic Jellies.

(1) Starch, 30; mucilage of Irish moss, 480; boric acid, 15; glycerin, 240; eau de Cologne, 240. Boil the starch in the mucilage. Add the boric acid and glycerin. When nearly cold add the eau de Cologne. (2) Mucilage of linseed, 240; boric acid, 2; salicylic acid, 1·3; glycerin, 60; eau de Cologne, 120; rose water, 120. Mix.—J. V. Dion in *Amer. Soap Journ.*, *Nat. Drugg.*, **34**, 105.

Incompatibility of Acid Fruit Syrups with Caffeine and Sodium Benzoate.

Tabuteau directs attention to the fact that acid fruit syrups, such as currant and lemon, should not be employed to flavour mixtures in which caffeine is rendered soluble by means of sodium benzoate, since the free acid decomposes the salt and precipitates benzoic acid. The precipitation may be prevented by adding sufficient sodium bicarbonate to neutralise this free acid.—*Répertoire* [3], **16**, 168; after *Archives Méd. d'Anger.*

MARKET REPORT.

The quotations given below are the lowest prompt cash prices for bulk quantities, to which other charges have to be added. It is important that this should be borne in mind in making any comparison between the prices quoted and those of the wholesale drug trade.

General Markets.

London, Thursday, June 2, 1904.

Extreme quietness has again characterised the Drug and Chemical Markets during the week, and business shows no signs of improving. Except that the usual weekly Spice Sales were not held on Wednesday, "Derby Day" can hardly be said to have interfered with trade, or to have accounted for the quiet state of affairs. If there has been no business there has been a number of fluctuations in value. For the most part these changes are on a downward scale. For some time back low prices have prevailed in the Opium market, and the reduction of Morphine and its salts was not therefore altogether unexpected. Twopence per ounce has been taken off the prices quoted last week. Codeine remains unchanged. As regards Opium itself it is not expected that prices will go much lower. Santonin is 1s. per lb. dearer. The rise is said to be due to the poorness of the wormseed harvest, which has already been referred to, but it is also thought that there may be other reasons. The most important, however, is that the article is dearer whatever may be the cause. Those who read this column last week will not be surprised to learn that Quicksilver has been reduced. The decline is not great, being 2s. 6d. per bottle. This is the second drop, however, within a short space of time, and has been sufficient to induce the makers of Mercurials to take 1d. per oz. off the prices of those preparations. The reduction in Mercurials was announced this morning. Owing to lack of demand, Saffron is easier, but in view of the fact that stocks are not large, it is quite possible that the least demand would bring back this article to a firm position. Citric Acid is a little firmer, owing to the consumptive demand, which it is not unreasonable to expect at this time of the year. Cream of Tartar and Tartaric Acid are both unchanged. Essence of Lemon is firm, but prices have not advanced; the usual summer demand for this article is noticeable. There is very little business passing in Quinine, and the price is nominally 11¼d. per oz. for the German Sulphate in the second-hand market. Cod-liver Oil is slightly better as regards price, but there is very little business doing. Camphor is about 1d. to 2d. dearer as far as Japanese refined is concerned, and English refined is unaltered. Japanese Peppermint Oil is quiet, and the quotation is unchanged from last week. The position of Menthol looks somewhat healthier, and a little more inquiry has been evinced during the week. No further reports are to hand from Bulgaria concerning the Otto of Rose crop. As was mentioned last week, the distillation begins about now, and a great deal depends on the weather during the period of distillation. New Cascara Bark is slightly lower on the spot, but the position of old Bark is unaltered. A report from the other side anticipates a rise. The above are the most interesting items of the week.

BLEACHING POWDER.—English, £4 15s.

BORACIC ACID.—Crystals, £1 2s. 6d.; powder, £1 4s. 6d.

CAMPHDR—Is firmer, and 1d. to 2d. per lb. dearer is quoted for Japanese refined. English refined is nominally unaltered in price.

CARBOLIC ACID.—Crystals, 39-40°, 6¾d.

CASCARA SAGRADA.—A report received from the other side says:—"Present prices will be considered cheap in a month's time." In the meantime, quotations on the spot are slightly lower for new bark. Old bark is steady at 85s. to 90s. The market is very quiet indeed.

CINCHONA BARK.—The shipments at Java during the month of May were 1,154,000 Amsterdam lb., against 1,155,000 Amsterdam lb. during May last year. The total shipments for the first five months of the year are 5,029,000 Amsterdam lb., against 4,502,000 Amsterdam lb. during the corresponding period of last year.

CINNAMON.—The second quarterly auctions of the series were held on Monday. The supplies brought forward were small, the total amounting to 516 bales Plantation Ceylon. The demand was very slow, and only a small quantity found buyers; since, a large number of bales Unworked have been sold privately at sales' rates. Worked Sorts brought steady prices, and unworked sold at previous rates.

CITRIC ACID—Is rather firmer; the quotation is 1s. 0¼d. per lb.

CLOVES.—The market is quiet. Sales of Zanzibar have been made at 8 3-16d. for June-Aug. delivery.

CODEINE.—There is no change in the price, and 8s. 4d. per oz. is quoted for the pure alkaloid.

COD-LIVER OIL—Is rather better. 170s. is quoted for Norwegian. The demand remains practically at a standstill, and little business is reported.

CREAM OF TARTAR—Is unchanged and steady. The quotation for 98 per cent. foreign powder is 87s.

ESSENCE OF LEMON—Is firm, and, as should be expected at this season of the year, there is a fair business doing.

GLYCERIN.—1·260 chemically pure, in tins and cases, is quoted 67s. to 69s. 6d. per cwt., according to quantity, the lower figure being for five-ton lots.

IODIDES.—Sodium Iodide, 11s. 10d. to 12s. 1d.; Potassium Iodide, 10s. 3d. to 10s. 9d.

MENTHOL.—There is a little more inquiry, and the position looks somewhat healthier. 16s. 6d. per lb. is quoted for Kobayashi on the spot.

MERCURIALS.—Following on the decline in Quicksilver, as anticipated in the *Pharmaceutical Journal* of last week, makers of mercurials have reduced the price 1d. per lb. The revised prices are as follow:—Calomel, 2s. 7d.; Corrosive Sublimate, 2s. 3d.; Red Precipitate, 2s. 10d.; White Precipitate, 2s. 10½d.; Mercuric Sulphate, 2s. 3d.

MORPHINE—Has been reduced 2d. per oz. The quotations are now as follow:—Muriate (powder), 4s. 3d.; crystal, 4s. 5d.; Pure Alkaloid, 5s. 4d.; Acetate, 4s. 3d. The reduction is accounted for by the low prices which have lately prevailed in the opium market.

OPIUM.—The position is steady. The market is quiet, but prices are not likely to go much lower. Talaquale (ordinary manufacturing) is quoted 7s., and Carahissar (druggists' opium), 7s. 9d. The reduction in Morphine is recorded elsewhere.

OTTO OF ROSES.—No information from Bulgaria is yet to hand concerning the distillation of the oil, which is about to commence.

PEPPERMINT OIL.—The market, both for American and Japanese, is quiet. To all intents and purposes, prices are unaltered.

QUICKSILVER—Has declined 2s. 6d., the price now being £8 per bottle. The world's production of Quicksilver has been estimated at 2,588 metric tons for the year 1901, against 3,152 in 1900 and 3,521 in 1899.

QUININE—Is extremely quiet, and no transactions of any importance are reported. The price asked for the German Sulphate in the secondhand market is 11¼d. per oz. Makers' prices remain as quoted last week.

SAFFRON—Is slightly easier through sheer lack of demand, and about 6d. less is quoted for the article. The least demand would probably retrieve the position, as stocks are rather small.

SANTONIN—Has advanced 1s. per lb. The quotations are 26s. to 27s. 3d. per lb., the lower price being for 2 cwts. in one delivery. As readers of this column are aware, the rise was not unexpected.

SHELLAC—Is firmer, but the high prices check demand. Fair TN orange is quoted 220s.

TARTARIC ACID—Is steady at 1s. 1½d. for English, and a fair business is doing.

VANILLA.—At auction 186 tins, out of 267 offered, found buyers at rather easier prices.

WHITE PEPPER—Is slow of sale, and prices are unchanged.

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THE CULTIVATION OF LINSEED IN RUSSIA.—The cultivation of linseed, which at one time attained considerable proportions, in the consular district of Rostov-on-Don, in Russia, shows signs of going out, on the one hand owing to prices falling, and on the other to decreased yields, partly due to unfavourable seasons and partly to the exhaustion of the soil, which is never manured. The low prices ruling for linseed made it more profitable to extract the oil and to ship the cake.

COMMERCIAL TRAVELLERS IN SMYRNA.—The Consul-General, in his report on the trade of the consular district of Smyrna (1902-3), says the fact that out of an annual average of 730 commercial travellers during the past four years, 81 were British, whilst in 1899 there were only 70, as against 700 from other European countries, shows that though this mode of pushing British goods has been resorted to on a slightly increased scale, it is still not adapted as largely as might be expected, and justifies the following remarks. The owner of one of the most important local British engineering works complains that "most British traders do not consider it necessary to send their representatives to see what commodities are required to suit the market and to obtain orders for same; consequently, traders of other nationalities, who do, supply the market." A large importer of manufactured goods and of yarns, as also the foremost chemist, have made identical remarks as to the neglect of the market by British commercial travellers. The French travellers averaged 136, the Austro-Hungarian 127, the Italian 120, and the German 84.

FOUR DRUGS SHIPPED FROM ADEN.—Aden enjoys the distinction of being the export market of four articles of commerce to which no other port can in any way be a rival. These four articles are aloes, civet, myrrh and incense. During the year 1903 there were 31,696 lb. of Socotrine aloes exported from Aden, of which 29,120 lb. went to Europe—mostly to London—and 2,576lb. to Bombay. As regards civet, the United States Consul for Aden says it is rather hard to get a pure article of civet in the market. On account of the rather limited supply and its corresponding high price, much of it is adulterated with lard, butter, ghee and other greasy substances. There is only produced annually from 250 to 300 lb., about one-half of which is shipped to New York. A considerable amount goes to France, and the balance is used by the natives in its natural state. It is impossible to give the exact amount of myrrh shipped from the port. The return for 1903, after enumerating other kinds of gums, does not classify myrrh under a separate head, but under the item "gums and resins, other sorts." Under this class were exported 1,719,536 lb., and of this amount probably about 1,344,000 lb. were gum myrrh. The crop of incense varies from 2,240,000 lb. to 3,360,000 lb., and is gathered in the autumn and brought to the market by the Somalis during the winter months. Incense is extensively used all over the Orient, and last year 1,493,744 lb. were shipped to Bombay, which is a great distributing point, and 1,426,880 lb. to European ports, the greater portion of it going to Marseilles and Trieste.

DIVING DRESS AND SPONGE FISHERS.—The question of preventing the fishing for sponges off the Turkish Islands by means of the diving apparatus has often been raised, and in 1902 orders were issued prohibiting its use. As, however, this order was received in the summer, when all the boats were ready to start for the fisheries, the execution of this measure was postponed until 1903, since when it has been strictly enforced. Important sums of money invested in diving apparatus have been lost, and many of the inhabitants of the islands of the Sporades are suffering through this prohibition, as it needs several years' practice to become proficient in diving without a "dress."

THE VALUE OF OPIUM COMPARED WITH THE WHEAT CROP.—The great producing centre of native opium in the province of Kiangsu is in the north-west. The area of poppy cultivation is approximately 100 square miles, or 64,000 acres; each acre produces 250 oz. of the raw drug. This brings about 25c. per ounce to the farmer, or 4,000,000dol. to the section. The area thus taken up by the poppy would produce about 500,000dol. worth of wheat. If these figures are correct, a field of opium is worth to the farmer eight times the field of the wheat which it displaces, and the spread of the poppy follows as a natural sequence.

Horse-chestnut Preparations.—*Æsco-quinine*: This is a compound of quinine with the glucosides of horse-chestnut extract. It forms a yellowish amorphous powder, which, in the presence of a trace of acid, is readily soluble in water. It has a bitter taste, and contains about 50 per cent. of quinine. It is given in the form of tablets, containing 1½ grains of æsco-quinine, which are taken three to five times a day in catarrh, affections of the respiratory organs, coughs, hoarseness, and also as a nerve tonic. *Kastanol*: Flugge has applied this name to his extract of the active principles of horse-chestnuts combined with 8 per cent. of camphor. It is employed externally as an anodyne pigment in all painful affections of the muscles and joints, such as those due to rheumatism, and as a dressing for chilblains.—*Pharm. Zeit.*, **48**, 844.

LETTERS TO THE EDITOR.

All Communications for the *Pharmaceutical Journal* must be addressed to the Editor, 17, Bloomsbury Square, London, W.C., and, if intended for publication in the current week's issue, should reach the Office not later than Wednesday, unless specially arranged for in advance. The matter should be written clearly and concisely on one side of the paper only and must be authenticated by the names and addresses of the writers, as no notice can be taken of anonymous letters. Articles submitted for the Editor's approval should be accompanied by stamped addressed envelopes, otherwise no guarantee can be given that they will be returned if not found suitable. Reprints of articles cannot be supplied unless the authors communicate with the Editor before publication. The right to reproduce all original matter and illustrations published in the Journal is strictly reserved.

The Preservation of Chloroform.

Mr. F. A. U. Smith, in a paper published in last week's Journal, states that I recommended the use of lime as a preservative for chloroform. I feel sure this statement would not have been made had he read my "Notes on Lime as a Preservative for Chloroform," published in the *Pharmaceutical Journal* of December 24, 1898. Those notes show, as the result of numerous experiments, that, instead of acting as a preservative, lime accelerates the decomposition of chloroform. With lime it decomposed in a few days. Without it, and under similar conditions of exposure, it did not decompose after several weeks. The recommendation was made by Dr. D. Newman and Professor Ramsay.

Edinburgh, May 30, 1904. D. Brown.

Belladonna Plasters.

I recently sold a customer a porous belladonna plaster. After applying it to her husband, he became very ill, and she had to call in a medical man, who said he had been upset by the poisonous belladonna from the plaster. It occurred to me possibly some fresh ingredient had been introduced in the manufacture, such as capsicum, which would act as an irritant and vehicle. It may be a serious matter to the retailer, and it would be interesting to know if any others have received similar complaints.

Plymouth, May 31, 1904. Jas. Cocks.

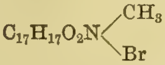
Joint Stock Companies and the Title "Chemist."

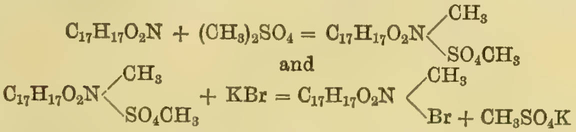
Surely the Council of the Pharmaceutical Society will move in the matter of deleting that portion of the Articles of Association granted by the Board of Trade to limited companies to carry on the business of chemist and assume the title of chemist, which is illegal and contrary to law and common sense, as I have pointed out to Presidents Carteighe, Hills, and Newsholme on various occasions, and is now shown to be correct in the Irish High Court in the attempt to compel the Registrar of Joint Stock Companies to register a company to be styled "S. G. Rowell, Dentist, Limited," the statement of the Chief Baron was "its being a false representation." The fact is, no clause in the Joint Stock Companies Act empowers the Registrar under that Act to grant permission to assume a false title any more than to issue a false balance-sheet. In the first place, it is debarred by the Law of Apprenticeship, as example, Act Geo. II. exempting chemists who have served a regular apprenticeship from taking out a "spirit licence." Next, the Medicine Stamp Act, which all of us should now be familiar with, specifically names "regular apprenticeship," and in the Crown cases under this Act the barristers in their pleadings said, "this exemption does not apply to limited companies, as they could not serve an apprenticeship." What is a regular apprenticeship? In law, an indenture, properly signed, sealed and executed, and stamped *ad valorem*. This indenture was the only legal right until the 1868 Pharmacy Act came into operation, then it was plus the conditions of that Act. To withdraw that section to carry on the business of chemist and to assume the title can be no hardship, for when the applications were made it was fully known to those concerned that their object was to override the Pharmacy Act. Vested interests! Do such exist in an illegal calling? Vested capital! How does this apply to poachers, their dogs, guns, nets, etc., when captured? Compensation! Yes; but that they should pay a just amount to those who have been injured—viz., the chemists. The remedy is within grasp by members of each profession through its members taking up arms and fighting for the right.

May 31, 1904. "Insignia" (8/49).

NEW REMEDIES.

The Notes in this column embody recent suggestions in therapeutics, for the information of dispensers; they deal with novel applications of drugs and preparations in common use, in addition to new remedies strictly so-called.

Eupophin is the name applied to apomorphine brom-methylate,  $C_{17}H_{17}O_2N\left<\begin{matrix}CH_3\\Br\end{matrix}\right.$ which has been introduced as a non-toxic substitute for apomorphine hydrochloride. It is obtained by alkylising apomorphine with methylsulphonic acid, and treating the methylsulphonate so obtained with potassium bromide.



$$C_{17}H_{17}O_2N + (CH_3)_2SO_4 = C_{17}H_{17}O_2N\left<\begin{matrix}CH_3\\SO_4CH_3\end{matrix}\right.$$

and

$$C_{17}H_{17}O_2N\left<\begin{matrix}CH_3\\SO_4CH_3\end{matrix}\right. + KBr = C_{17}H_{17}O_2N\left<\begin{matrix}CH_3\\Br\end{matrix}\right. + CH_3SO_4K$$

This method has been patented. The apomorphine brommethylate thus obtained forms colourless needles or scales which melt at 180°. Its solutions are less affected by light than those of apomorphine.—*Pharm. Zeit.*, **49**, 386.

Tannochrom.—A chemical combination of chromium oxide, 1, tannin, 4, and resorcin, 8, has been put on the market in the form of a powder and also, as a 50 per cent. solution, as an astringent antiseptic dressing for wounds and general germicide. J. W. Frieser reports that the latter is an excellent antiseptic for dressing wounds, since it is odourless and occasions no pain. The powder may be used for similar purposes as a 5 or 10 per cent. dressing. Chilblains were successfully treated with a 5 to 10 per cent. collodion. Fistula was treated by syringing with a ½ to 1 per cent. solution and dressing with 10 per cent. gauze. Tannochrom has also been successfully employed as an injection in gonorrhœa and as a local application for hæmorrhoids.—*Pharm. Centralh.*, **45**, 262.

Vanadium Preparations; Citrozone; Urolysin; Nervol.—It has been claimed that the therapeutic activity of vanadium is 30,000 times greater than that of iron as a carrier of oxygen. In order to administer this powerful agent in a harmless form, B. Rhoden has prepared vanadium sodium citro-chloride, which, made into an effervescent salt with the ordinary basis, and dosed to contain 5 Mgm. of vanadium pentoxide in 100 Gm., is known as citrozone. When the original salt is combined with 10 per cent. of quinic acid and effervescent basis it is named urolysin. A similar mixture, with 10 per cent. lithium bromide, is nervol. Citrozone is given for anæmia, tuberculous affections, and diabetes, in doses of 6 to 8 teaspoonfuls a day, in water or seltzer water. Urolysin is similarly prescribed in kidney diseases. Nervol is given in hysteria, insomnia, and neurasthenia, in doses of one teaspoonful at bedtime.—*Pharm. Centralh.*, **45**, 159.

REPLIES TO CORRESPONDENTS.

Information required by readers will be published in this column as early as possible, but the Editor cannot undertake to reply by post, even though stamped addressed envelopes accompany the queries. Replies will, in all cases, be referred to the sender's initials, and the registered number added in each instance should be quoted in any subsequent communication on the same subject. When formulæ are given without definite weights and measures, it should be understood that the solids are to be weighed and liquids measured. Plants for recognition should be addressed to the "Curator, 17, Bloomsbury Square, London, W.C.," accompanied by a stamped, directed envelope for reply. No notice can be taken of anonymous communications.

Liq. Ammon. Acet. (A. S.—112/22).—Heating the liquid is not of much use, as dissociation takes place and ammonia is dispelled, leaving the liquid acid.

Syr. Ferri Hypophos. Co. (S. S.—112/20).—The preparation ought to contain strychnine.

'P.J.F.' Supplement (A. W. P.—112/24).—It will be sufficient to put the letters 'P.J.F.' before the registered numbers.

Pewterer's Oil (H. E. G.—112/18).—We do not know what this "oil" may be. Why not obtain a specimen and examine it?

Novel (C. H. F.—8/40).—Submit your manuscript, when completed, to one of the publishers who make a specialty of producing works of fiction.

Oatmeal Diet (F. W. W.—112/23).—We are unable to add to the information already published, but presumably liquid albumin should be used.

Liniment (H. R. D.—112/21).—According to Section 17 of the Pharmacy Act, 1868, the label must bear "the name of the article and the word poison."

Spray Bellows (A. F. C.—112/15).—We are informed that Messrs. W. J. Bush and Co., Limited, Ash Grove, Hackney, E., supply spray bellows such as you require.

Estimation of Sugars (T. H.—112/11).—We do not know of any suitable work. Write to Messrs. E. and F. N. Spon, 125, Strand, London, or apply to some Inland Revenue officer in your district.

The Sale of Pure Spirit (T. D.—112/19).—No change has been made by the Board of Inland Revenue. Qualified chemists and druggists are permitted to supply small quantities (not exceeding eight fluid ounces at a time), for medical and scientific purposes only, without taking out a licence. The Board of Inland Revenue has always consistently refused the requests made by limited companies that the concession should be extended so as to apply to them.

DEATHS.

Beverley.—On May 23, George Beverley, Chemist and Druggist, Keith. Aged 53. Mr. Beverley, who was a sheep-dip manufacturer as well as a chemist and druggist, died at his residence in Mid Street, after a very short illness. He was at business on Friday, May 20, when he was taken with a sharp attack of pleurisy. Mr. Beverley was a native of Strathdon, and went to Keith twenty-eight years ago. He made an excellent connection as a chemist and druggist, and his sheep-dip manufacture commanded a ready sale. He built, some years ago, a fine block of buildings in Mid Street, which he occupied to the time of his death. He had an attractive personality, and his death will be deeply mourned by many over the north of Scotland.

Clark.—On May 28, John Clark, Pharmaceutical Chemist, Tynemouth. Aged 66. Mr. Clark was a life member of the Pharmaceutical Society, and formerly a partner in the wholesale drug house of Messrs. Langton, Edden, Hicks, Clark and Co., of London. Residing in York, he represented that firm in the north of England and in Scotland. After a short interval, he acquired the business of the Mawson Filter Co., of Newcastle. A genial, cheery man, of chatty disposition, and a man of some thought and reading. Mr. Clark met his death at Tynemouth Railway Station, having, during a fit of temporary insanity, jumped in front of a train.

Fraser.—On May 29, Alexander Fraser, Chemist and Druggist, Church Road, Liverpool. Aged 61.

Hogg.—On May 26, Robert Hogg, Pharmaceutical Chemist, Ealing. Aged 87. Mr. Hogg, who had been a member of the Pharmaceutical Society since 1852, was the senior partner in the firm of Messrs. R. Hogg and Son, of Southwick Street, Hyde Park Square, W., and brother of the late Mr. T. P. Hogg, proprietor of the Pharmacie Hogg, Rue Castiglione, Paris.

Keith.—On May 26, Alfred George Keith, Chemist and Druggist, Kintore. Aged 38. Mr. Keith had been a member of the Pharmaceutical Society for some years, and at one time acted as Local Secretary of the Society at Kintore. Mr. Keith was one of the most esteemed residents of Kintore, where he established a good business about fourteen years ago, and identified himself with everything tending to the good of the burgh and district. He was never of a robust constitution, but possessed a keen, active mind, and his capacity for work and his willingness to give assistance led him to undertake many duties, which he carried out with thoroughness. He was registrar for the parish, actuary for the local savings bank, secretary to the Public Hall trustees, and a deacon in the United Free Church, in connection with which he held the double offices of treasurer to the Sustentation Fund and congregational treasurer.

Weston.—On May 31, Matthew Frank Weston, Chemist and Druggist, Newcastle-on-Tyne. Mr. Weston was for a long time dispenser at the Royal Infirmary, Newcastle-on-Tyne, and teacher of dispensing and pharmacy to the students of the University of Durham College of Medicine. He was for many years an Associate and member of the Pharmaceutical Society and of the local Association, on the Executive of which he has served. Mr. Weston had during the early part of this year suffered very seriously, but was thought to be in better health lately, and as recently as Saturday last was able to attend to some of his duties at the Royal Infirmary. A sudden relapse resulted in his death.

PUBLICATIONS RECEIVED.

Proceedings of the American Pharmaceutical Association. Vol. 51, 1903. Pp. 1,103. Baltimore: American Pharmaceutical Association, 1904. From the Publishers.

Kelly's Directory of Chemists and Druggists. Tenth Edition. Pp. xxxi. + 738. Price 20s. London: Kelly's Directories, Limited, 182-4, High Holborn, W.C. 1904. From the Publishers.

Golden Rules of Anæsthesia. Price 1s. Pp. 67. Bristol: John Wright and Co. 1904. From the Publishers.

Calendar for the Week (June 5—11, 1904).

Days of		Events of the Week.	SUN	
M	W		Rises	Sets
5	**S**	**First Sunday after Trinity.**	3.47	8.9
6	M	☾ Last Quarter, 5.53 a.m. Society of Chemical Industry, Burlington House, London, at 8 p.m.—Ordinary Meeting.	3.47	8.10
7	Tu	Glasgow and West of Scotland Pharmaceutical Association.—Summer Excursion.	3.47	8.11
8	W		3.46	8.12
9	Th	Brighton Association of Pharmacy.—Dinner to Mr. W. H. Gibson.	3.46	8.12
10	F	Edinburgh Chemists', Assistants', and Apprentices' Association.—Botanical Excursion, Waverley Station, 5.45 a.m. Fresenius died, 1897.	3.45	8.13
11	S	Dr. Robertson died, 1793.	3.45	8.13

LETTERS, NEWSPAPERS, QUERIES, and other COMMUNICATIONS have been received from Messrs. Barrie, Blamey, Bott, Brown, Brunt, Brunker, Christy, Cocks, Corfe, Currie, Dax, Dickinson, Downing, Dunlop, Durno, Fentiman, Fish, Gill, Harrington, Harrison, Hopkinson, Hyslop, Johnston, Leadbeater, Lowe, Metcalfe, Morgan, Phillips, Poole, Prince, Smith, Stooke, Summers, Timmins, Watt, Whitworth, Woolley, Worfolk.

Telegrams "PHARMACEUTICAL JOURNAL, LONDON"
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The Journal circulates widely in the United Kingdom, France, Germany, Austria, Italy, Russia, Switzerland, Canada, the United States, South America, India, Australasia, South Africa, etc. It is supplied regularly to the majority of the Chemists and Druggists in business in England, Scotland, and Wales, and to the whole of the members of the Pharmaceutical Society of Great Britain. Orders for Advertisements or for Copies of the Journal should be addressed to the Publishers, 8, Serle Street, London, W.C.

The Pharmaceutical Journal Office,

17, Bloomsbury Square, London, W.C.
Thursday, June 9, 1904.

Bacteriological Research was responsible for the death of Dr. Louis L. Jenner, of the Lister Institute of Preventive Medicine, who studied chemistry at the School of Pharmacy three years ago, and died from typhoid fever on June 2.

The Examiners' Report on the School of Pharmacy prize examinations was not received in time to be considered by the Council of the Pharmaceutical Society last week. The results have now been reported to the Library Committee, and are published in this issue.

The President of the Pharmaceutical Society (Mr. R. A. Robinson) desires to thank his friends for their very kind congratulations on his election, and begs that those correspondents to whom he has not been able to reply by letter will accept this intimation of his sincere thanks.

Chemists in England appear to receive higher prices for dispensing prescriptions than are obtained in some places abroad. In many European countries, however, the number of pharmacies is regulated by the State, and, as dispensing chemists then have more prescriptions to make up, they can afford to charge a lower price.

Our American Correspondent states that the action of the pharmacopœial authorities in ruling out every other system but the metric has had the effect of making the "U.S.P." more or less unpractical. The experience is particularly interesting in view of the expressed willingness of the General Medical Council to make the metric system the only system of weights and measures official in the British Pharmacopœia.

Two "Passing-off Actions" have been before Mr. Justice Warrington in the Chancery Division. Messrs. Schweppes, Limited, failed to obtain injunctions against two firms who, it was alleged, had used soda-water labels so nearly resembling plaintiffs' as to be calculated to deceive customers. Another action, in which Messrs. Hommel and Co., proprietors of "Hæmatogen," are the plaintiffs, is still unfinished.

Applications for the Research Fellowship, offered annually by the Worshipful Company of Salters, and tenable in the Research Laboratory of the Pharmaceutical Society, must be sent to Professor Wynne, 17, Bloomsbury Square, London, on or before July 9. The holder of the Fellowship is expected to devote his whole time to original investigation.

The Marvellous Rapidity with which the chemical trades of Japan are growing is shown by recent Government statistics. During the year 1902 Japan sent to Great Britain chemical manufactures and products to the value of £4,466, while during the year 1903 this value was almost trebled, being £13,302. The value of drugs sent from Japan to this country during 1903 was nearly double that of the previous year. Our exports to Japan have not increased in anything like the same proportion.

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The Finmarken Fishing is now practically over, and it is estimated that up to May 21 five and a-half millions of cod fish had been caught, yielding 2,824 barrels of oil; the catch for the 1903 season was less than four and a-half millions, and the yield only 251 barrels. The aggregate catch of the cod fisheries for the whole country amounts to nearly forty-three million fish, yielding nearly thirteen thousand barrels of oil. During the 1903 season the catch was 42·3 million fish, yielding 2,300 barrels of oil.

A Member of the London Board of Examiners of the Pharmaceutical Society, Mr. Prosper H. Marsden, has submitted a number of useful formulæ which will be considered by the sub-committee entrusted with the preparation of the 'Compendium of Medicines.' The Editor suggests that members of the Society may usefully examine the formulæ, some of which are printed in this issue, and asks that those in a position to send similar formulæ, which have not previously been published, will follow Mr. Marsden's example.

The London Drug Auctions were held to-day after a lapse of four weeks. The offerings were heavy, and comprised seventeen catalogues. The results of sales will be found in the market article. Privately, the drug and chemical markets continue dull.

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SCOTTISH DEGREES IN PHARMACY.

Since Mr. J. F. Tocher's scheme to secure a training for pharmacists in the Scottish Universities was expounded and discussed, in the year 1902, little has been heard of the progress of the negotiations necessary to carry the scheme into effect. For all that, much consideration has been given to Mr. Tocher's proposals. One of the principal reasons for the slow progress of the negotiations is to be found in the fact that the four Scottish Universities are under a statutory obligation to act in concert in such matters, and any Ordinance must be a joint Ordinance adopted by all. A draft has, however, now been prepared embodying proposed regulations for a degree of Bachelor of Science in Pharmacy, which have the approval of all the Senates. The clauses are now under consideration by the University Courts. In the meantime, the Senate of the Victoria University of Manchester has also decided to grant special facilities for students of pharmacy who desire to take a degree in science. The full details of the Manchester scheme are not yet decided on, and for the present nothing can be added to the information already given in the *Pharmaceutical Journal* (see page 678, *ante*). One very important difference between the Manchester and the Scottish proposals is with regard to the condition precedent to the final examination. The Victoria University will not, it is thought, insist that candidates who take the pharmaceutical subjects for the degree of Bachelor of Science shall already be registered as chemists and druggists. On the other hand, that condition is definitely laid down in the regulations approved by the Senates of the Scottish Universities.

The chief provisions of the draft Ordinance for the Scottish degrees may be briefly stated. Three examinations must be passed. The Preliminary examination, which is the same as that for degrees in "pure science," must be passed before the candidate presents himself for the "First Science Examination," but not necessarily before he enters on his curriculum. The subjects of the "First Science Examination" are:—(1) Mathematics or Biology; (2) Natural Philosophy; (3) Chemistry; the examination being the same as the First B.Sc. Examination in "pure science," with the addition of a practical test in optics. Candidates may present themselves in any one or more of the above-mentioned subjects after they have attended a full course in the subject or subjects professed. Before the Final examination is taken candidates must, in the course of three academical years, have attended at least seven courses of instruction, and must have been practically engaged in "the operations of pharmacy." Of the seven courses, three must be in the subjects prescribed for the First Science examination, and four in the subjects prescribed for the Final examination—*i.e.*, Chemistry, Botany, Materia Medica, and Pharmacy. Pharmacy, it will be observed, is a subject in which the candidate will not be examined until he reaches the Final examination. Four of the seven courses of instruction must be taken in the University in which the degree is conferred; the other three may be taken in other recognised institutions or under recognised teachers.

Although the degree is referred to throughout the draft regulations as that of "Bachelor of Science in Pharmacy," we learn from Mr. J. F. Tocher that graduates will not be obliged or expected to put "B.Sc. Pharm." after their names, although they may do so if they wish. They will be entitled to use the style of "Bachelor of Science," or "B.Sc.," just as graduates who take other branches of science in their final examination. A Doctorate of Science is also provided for by the Ordinance. Graduates of any Scottish University who have held the degree of Bachelor of Science in Pharmacy for a term of five years may offer themselves for the degree of Doctor of Science under the same conditions as are imposed on ordinary graduates in science. Candidates for the degree shall each present an original thesis or published memoir on a chemical, botanical or pharmaceutical subject, and, if required by the Senators, may also be bound to undergo an examination.

Scottish pharmacists are always to the fore in educational matters, and there can be no doubt that, when the scheme has been finally adopted, many candidates will enter the Universities and present themselves for examination. In the meantime, Mr. Tocher and the other Scottish pharmacists who have worked for the adoption of the scheme deserve the thanks of chemists and druggists throughout Great Britain. To have secured the consent—a reluctant consent in at least one instance—of the authorities of the four Universities to the "condition precedent" of a statutory pharmaceutical qualification is no mean accomplishment.

THE STUDENTS' COMPETITION.

The attention of Student-Associates of the Pharmaceutical Society is again directed to the examination questions which appeared in the Students' Columns on May 28. Answers to those questions can be received up to and including Monday, June 20, and prizes will be awarded, at the discretion of the Editor, to those students who send in the best papers, provided that they have not previously won a prize in either of the two preceding competitions.

LOCAL ASSOCIATIONS AND THEIR WORK.

That period of the year which is commonly spoken of as the summer is marked, perhaps owing to a feeling of regard for the editors of chemists' journals, by an almost universal lack of activity on the part of local associations of chemists and druggists. With the month of May, the session, which began in the previous October, comes to an end. Looking back on the work of the local associations during the past eight months, as reported in the *Pharmaceutical Journal*, one sees two or three subjects standing out prominently from among the many which have been, at one time or another, subjects of discussion. The incidence of Medicine Stamp Duty, as affected on several occasions by the successive grants and withdrawals of so-called "concessions" by the Board of Inland Revenue, provided the local Associations with a topic on which an animated discussion might always be expected to arise. If the discussions failed, judging by results, to have a good effect on the Board of Inland Revenue, they served, at any rate, the very desirable purposes of stimulating interest in the local associations, and of giving to those chemists who do make themselves familiar with trade matters, by reading the *Pharmaceutical Journal*, information which could be turned to commercial account.

In connection, again, with the developments of the Medicine Stamp question, several local associations did good service during the winter by sending to the Editor of the *Pharmaceutical Journal* a selected list of recipes for the 'P.J. Formulary.' The suggestion may be offered that a combination of the pharmaceutical knowledge of the members of a local association might with advantage be applied to the framing of suggestions for the 'Compendium of Medicines' now in course of preparation for publication by the Pharmaceutical Society. The 'Compendium' has already been discussed by one or two associations, the members of which have expressed themselves as generally favourable to the objects with which its production has been undertaken.

Territorial representation, co-operative buying, and the Pharmacy Bill are other subjects which have been frequently considered. While the discussions on the first-named subject have usually resulted only in "pious resolutions," much real work has been achieved by co-operation in buying. Difficulties with regard to those articles of which the price is protected have been solved in many instances by a decision on the part of "co-operative buyers" to confine the application of their scheme to non-protected articles. In principle the scheme has much to commend it, and a definite step has been taken by many Associations to meet the competition with which their members find themselves faced. It is realised that to meet competition is more likely to be effectual than to ignore or to shirk it.

Most of the Associations which have discussed the Pharmacy Bill have expressed a desire that the Council of the Pharmaceutical Society should persevere with its efforts to secure the passing of Clause 7. Some have gone so far as to affirm—probably owing to an imperfect acquaintance with the other provisions of the Bill—that no other clause would do chemists any good. Since, however, protection of titles would be secured by another clause and not by Clause 7, such a statement can hardly be taken seriously. At the same time, it may be repeated that the Council has lost none of its anxiety to see Clause 7 of the Pharmacy Bill passed into law. A welcome deduction which may be drawn from the reported proceedings of the local associations is that the members trust the Council of the Society to do what that body, with its more experienced judgment and fuller knowledge of the political position, thinks is most desirable in the interests of the trade and the public.

THE U.S.P. AND THE METRIC SYSTEM.

American pharmacists are much troubled because of the decision of the Committee of Revision of the United States Pharmacopœia not to introduce in the next edition of the Pharmacopœia alternative formulæ in the ordinary system of weights and measures, in addition to the formulæ in metric weights and measures which are now exclusively employed (see p. 813). Mr. M. I. Wilbert, Ph.M., a well-known Philadelphian pharmacist, contributes to the current number of the *American Journal of Pharmacy* a spirited defence of the action of the pharmacopœial authorities, and reviews in detail the origin, development and relation to the Pharmacopœia of the various commentaries which have from time to time been published in the United States. The 1880 edition of the Pharmacopœia was open, he states, to two serious objections. "Parts by weight" were given instead of definite formulæ, and the price charged for the book was abnormally high. As a result, the unofficial dispensatories, which gave definite formulæ, and were sold at more popular prices, once more became, as they had been in the past, pre-eminent with the rank and file of American pharmacists. In the revised Pharmacopœia of 1890 metric weights and measures were introduced, but Mr. Wilbert remarks that such introduction was rather in advance of the times and practices, very few pharmacists having acquired a practical knowledge of the metric system of weights and measures, few indeed using them in their routine work.

There are many circumstances which make it undesirable that the Revision Committee should take the retrograde step which has been suggested. Since the publication of the 1890 Pharmacopœia many States have enacted pure food and pure drug laws, and in almost all of these the United States Pharmacopœia is quoted as the standard for the purity and strength of the drugs and preparations enumerated by it. Mr. Wilbert is strongly opposed both to the elimination of metric weights and measures and to the introduction of alternative formulæ. The misleading character of such alternative formulæ is evident, he observes, from a most casual inspection of the latest edition of the British Pharmacopœia, while "the exclusive use of troy or avoirdupois weights and liquid measures would be a serious retrogressive move, would prove a hardship on all that have accustomed themselves to think of galenical preparations as having a certain per cent. strength, and would also detract no little from any claims that the pharmacist might make to being classed as a professional man." Uniformity between the Pharmacopœias of the two great English-speaking nations is particularly to be wished, and, in view of the expressed willingness of the General Medical Council to use the metric system alone in the next edition of the British Pharmacopœia, it is to be hoped that American pharmacists will reconcile themselves to the inevitable, and, by using the metric system in their pharmaceutical operations, come into closer contact with the requirements of the times.

DISPENSING PRICES.

The prices charged for dispensing by chemists and druggists in nine European countries have been collected and compared by an energetic pharmacist in Poland, who recently sent 150 well-varied prescriptions to first-class pharmacists in the capitals of Russia, England, Denmark, Germany, Italy, France, Austria, Sweden and Switzerland respectively. Comparatively little variation was found between the prices charged in the five countries where the number of pharmacies is restricted by the State and the dispensing charges are subject to regulation, except that Danish prices are much lower than those charged in any other country. Next in order of cheapness come Russia, Sweden, Austria and Germany, the prices in these four countries being very similar in many instances, while the sum of the prices for the 150 prescriptions is nearly the same in each country. The prices for dispensing in the four countries where there is *libre concurrence* instead of a *monopole* are distinctly higher. Italian charges are somewhat in advance of German, while the prices in Switzerland, France and England are higher still. England, indeed, heads the list, but it is fair to mention that the pharmacy where the prescriptions were "priced" is a well-known establishment in the West-End of London, where the prices in all probability are appreciably higher than the average prices of English dispensing chemists.

It is not surprising that, in countries where the number of pharmacies is restricted by the State, the pharmacists can afford to dispense prescriptions at a lower price than is possible where, as in this country, competition is absolutely unrestricted. In Great Britain, anyone, whether he holds a pharmaceutical qualification or not, may dispense physicians' prescriptions. Even if the medicines contain a scheduled poison, an unqualified person may, by turning hmself into a limited company, joyfully and in defiance of the spirit, as distinct from the letter, of the Pharmacy Act, keep an open shop for the same purpose. Those are the chief injustices which Clause 2 of the Pharmacy Bill proposes to remedy. There are other minor questions, such as alcohol duties, which materially affect the issue. But most important of all of the influences which result in the public being compelled to pay more for its medicines in Great Britain than on the Continent is the "doctors' dispensing" which is so prevalent in this country. It is quite certain that British pharmacists receive, in proportion to their numbers, fewer prescriptions to dispense than do pharmacists abroad. As long as that is the case it will be impossible to derive much instruction from a comparative table such as has been compiled by our industrious *confrère* in Poland.

ABSTRACTS—SCIENTIFIC AND TECHNICAL

A REVIEW OF CURRENT WORK IN PHARMACOPEDICS AND ALLIED SCIENCES

Vegetable Mucilages.

H. Hilger has examined the mucilages of linseed and salep. The former he finds to be a mixture of pentanes and hexanes in about equal proportions. Hydrolysed with 0·5 to 1·0 per cent. sulphuric acid it yielded galactose, glucose, arabinose and xylose, together with a body of acid nature. In composition it corresponded with the formula $2(C_6H_{10}O_5)\cdot 2(C_5H_8O_4)$. Salep mucilage appeared to be a tetra-saccharide of d-mannose, and yielded by hydrolysis only d-mannose.—*Ber. d. Deutsch. Chem. Ges.*, through *Ztschr. f. Unters. Nahrungs. u. Genuss.*, **7**, 614.

Ladanum.

An interesting account of this drug, from which the following details of a recently collected authentic specimen are taken, is contributed by E. Weiss. The drug is collected in a few villages only in Crete by beating the bushes with a sort of rake to which leather straps are attached; the resinous secretion adheres to the straps and can afterwards be removed. A skilful collector can gather in this way about a kilogramme in a day. Microscopical examination of a sample showed the presence of the characteristic secretion hairs of *Cistus creticus*. It yielded 53·69 per cent. of resin, 2·9 per cent. of volatile substances, and 23·6 per cent. of ash. The resin soluble in alcohol yielded an acid number 63·52, ester number, 98·93; and saponification number, 162·45.—*Pharm. Post*, **37**, 277.

A New Substance from Galls.

H. Kunz-Krause and P. Schelle have obtained from galls a new crystalline acid, which possesses interesting properties. It is contained in the residues furnished by the distillation of ethereal extracts after separating gallic acid, ellagic acid, etc. From this residue, glacial acetic acid dissolves the new acid, to which the name cyclogallipharic acid has been given. From the solution crystals are deposited which are purified by recrystallisation from alcohol or petroleum spirit, and decolorisation with animal charcoal. The examination of this substance, for the details of which reference must be made to the original article, showed that it was a monobasic oxycarbonic acid, $C_{21}H_{36}O_3$, which formed an additive compound with two atoms of iodine. It appears to be the first naturally-occurring representative that has been isolated of a new series of bodies, the cyclic fatty acids, and probably yields by its decomposition on the one hand true fats, and on the other aromatic bodies.—*Archiv. d. Pharm.*, **242**, 256.

Detection of Cocos Fat in Lard.

The success that has attended recent attempts to deodorise cocos fat (coco-nut oil) has resulted in the production from it of a vegetable fat, suitable and much used for various culinary purposes and also for adulterating other fats. F. Morrschock has found that its presence in lard can be detected by shaking the suspected sample with twice its volume of 95 per cent. alcohol at 60° C. or thereabout. The alcoholic solution is evaporated, and its refraction, saponification number, and iodine value determined. These figures were found for three samples of genuine lard to be +2·8, +2·7, +3·4; 192·2, 193·2, 194·1; and 69·38, 70·11, and 69·13 respectively. Lard with 10 per cent. of cocos fat yielded −3·4; 221·6 and 46·56; with 5 per cent. −0·1; 206·6 and 56·93 respectively. Hence the method would appear to be well adapted for the detection of this adulteration.—*Zeitschr. f. Unters. Nahrungs. u. Genussm.*, **7**, 586.

Velocity of Ions in Liquid Ammonia Solutions.

E. C. Franklin and H. P. Cady have constructed a form of apparatus by means of which the absolute velocities of certain ions in liquid ammonia have been determined. The velocities of a number of univalent ions in liquid ammonia at −33° are from 2·4 to 2·8 times as great as they are in aqueous solutions at 18°, and are in agreement with the velocities calculated from conductivity measurements by the method of Kohlrausch.—*Journ. Amer. Chem. Soc.*, **26**, 499.

New Variety of Mercury Vapour Electric Lamp.

H. Paweck briefly reviews the progress of the mercury vapour lamp up to the present, and suggests that the extreme greenness of the light can be mitigated by using amalgams, *e.g.*, of potassium, whereby red lines are introduced into the spectrum. The problem of starting the lamp by means of a momentary short circuit has been approached on three lines: (1) by bringing the electrodes together mechanically; (2) by causing a metallic film (when amalgams are used) to separate on the glass when cold; (3) by heating one electrode from outside and thus connecting the two through the condensed mercury. The author proposes a new lamp of the first variety, which is kept rotating whilst in action; the electrodes are in contact when at rest, and are kept asunder by centrifugal force during rotation.—*Zeits. Elektrochem*, **10**, 297, through *Journ. Soc. Chem. Ind.*

A Standard Record Ink.

The following specifications, prepared by B. F. Davenport, have been adopted by the Commonwealth of Massachusetts. The ink must be a gallo tannate of iron ink, not inferior in any essential quality to a typical ink properly prepared according to the following formula, the ingredients being of the quality prescribed by U.S.P., and the percentage of true acid in the tannic acid having been determined by the Loewenthal and Schroeder method. Typical ink:—Dry pure tannic acid, 23·4 parts by weight; crystallised gallic acid, 7·7; ferrous sulphate, 30·0; gum arabic, 10·0; dilute hydrochloric acid, 25·0; phenol, 1·0; and water sufficient to make up the mixture at the temperature of 60° F. to the volume of 1,000 parts by weight of water. The ink must not contain less iron than the typical ink, and must have a specific gravity of 1·035-1·040 at 60° F. A fluid ounce of the ink allowed to stand at rest in a white glass vessel, protected from dust, but freely exposed to the air, in diffused daylight for two weeks, at a temperature of 50°-60° F., must remain as free from deposit as the typical ink under similar conditions. It must be as fluid, flow as well, and develop its colour as quickly as the typical ink, and must not penetrate the paper more readily, nor remain more sticky immediately after drying than the latter. The colour produced when the ink is used upon the standard record paper must, after a week's exposure to diffused daylight, be as intense a black as that produced by the typical ink, and must be equally resistant to the action of light, air, water, or alcohol.—*Journ. Soc. Chem. Ind.*, **23**, 544.

Constituents of American Colophony.

A. Tschirch and B. Studer find the following constituents in American colophony:—α-Abietinic acid, and β-abietinic acid, isomers, having the formula $C_{19}H_{28}O_2$, the former forms an insoluble lead salt, but not the latter. The alpha acid exists to the extent of 30 per cent., the beta acid 22 per cent. Both are soluble in ammonium carbonate solution. Another isomeric acid, γ-abietinic acid, $C_{19}H_{28}O_2$, is not dissolved by ammonium, but is removed by sodium carbonate. Colophony contains about 31 per cent. of this. Besides these acids there is 5 to 6 per cent. of resene and a trace of volatile oil.—*Archiv. der Pharm.*, **241**, 517.

Tests for Anæsthetic Ether.

W. Wobbe suggests the following tests for anæsthetic ether:—Sp. g. 0·71 to 8720 at 15° C. Boiling-point not under 34° C. nor over 35° C. 20 C.c. of the ether when shaken in a glass-stoppered cylinder with 5 C.c. of alkaline silver nitrate solution should give no reaction. 20 C.c. of the ether, when shaken in a stoppered cylinder with 5 C.c. of a freshly prepared potassium ferricyanide and ferric chloride reagent and stood in the dark, should only give a green colour to the watery layer, not blue. The reagent is thus prepared:—Two drops of neutral ferric chloride, sp. g. 1·28, solution are added to 90 C.c. of water, then just sufficient freshly prepared solution of recently fractured crystals of ferricyanide added to impart a wine yellow tint. The volume is then made up to 100 C.c. 20 C.c. of the ether when shaken in a stoppered cylinder with 5 C.c. of potassium iodide and phenolphthalein solution should develop no red tint. The reagent consists of equal parts of 50 per cent. potassium iodide solution and 1 per cent. phenol-phthalein solution. The reaction depends on the liberation of alkali by any hydrogen peroxide which may be present in the ether. 20 C.c. of ether evaporated in a glass capsule should leave neither odour nor residue. If the same amount of ether be evaporated after the addition of 5 drops of water, the residue should affect either red or blue litmus paper. The vapour of pure ether has an alkaline reaction on litmus paper.—*Pharm. Post*, **37**, 63.

Liquid Extracts of Liquorice, B.P. and U.S.P.

P. Guiges has compared the fluid extracts of liquorice prepared according to the respective formulæ of the British and the United States Pharmacopœias, and considers that the latter is decidedly the better preparation. It has a pleasanter odour and taste, and dilutes bright with water, whereas the former is somewhat acrid, and notwithstanding its filtration gives a turbid solution. Moreover the greater strength of the B.P. preparation is only apparent, being due to further concentration. Working by the two processes on equal quantities of root, the B.P. method gave 59·99 Gm. of dried solid matter and 14·16 Gm. of glycyrrhizin from the 500 Gm. of root employed, whereas by the U.S.P. method the solids extracted were 91 Gm. and the glycyrrhizin 31·95 Gm. from the same amount of root. The U.S.P. process is as follows:—"Powdered liquorice root, 1,000 Gm.; solution of ammonia, sp. g. 0·960, 50 C.c.; distilled water and alcohol, 94 per cent., *q.s.* Mix the ammonia with 300 C.c. of the alcohol and 650 C.c. of water. Moisten the powder with 350 C.c. of the mixture, pack in a percolator, and add sufficient menstruum to leave a layer of liquid on top; as soon as percolation commences, close the lower orifice of the percolator, and macerate for forty-eight hours. Continue percolation, using the rest of the menstruum, then a mixture of alcohol, 94 per cent., 300 C.c.; water, 650 C.c.; reserve the first 750 C.c. of percolate; continue percolation to exhaustion; evaporate the second percolate to a soft extract, and dissolve it in the reserved portion; add enough of the alcohol and water menstruum to make the final volume 1,000 C.c."—*Journ. Pharm. Chim.* [6], **19**, 234.

Hyptis Spicata, Poit.

This plant, which is common in Florida, has been examined, but is found to yield only a very small percentage (0·005 per cent.) of an essential oil, which has an odour of mint, and is judged to contain either menthon or pulegon. It is insoluble in 80 per cent. alcohol, has a specific gravity of 0·915, a rotation of — 27° 25′, an acid number of 2·17, and an ester number of 4·35; but the quantity obtained was too small for further investigation.—*Schimmel's Bericht, April*, 1904.

THE STUDENTS' COLUMNS.

THE DISPENSING OF MEDICINES (7).

Emulsions (*continued*).

The most perfect emulsion known—milk—is not now included in the Pharmacopœia; nevertheless, before commenting upon the official representatives of this class of medicinal preparations it will be advantageous to devote a little attention to it, because it represents in the highest degree that which every pharmacist when called upon to prepare an emulsion strives to attain, namely, perfect miscibility of the principal ingredient with the vehicle. In milk we have present butterfat, casein, sugar, and water, and these four may be taken as the typical constituents of an emulsion. The first—viz., butterfat—is the principal ingredient, and is insoluble in the vehicle—viz., the water—but is rendered evenly distributable throughout it by means of the albuminous body casein, which in milk plays the part of emulsifying agent. The sugar present in milk may be taken to represent the flavouring, sweetening, or preserving agent, which is usually required in an emulsion. Comparing now with this model the three official emulsions—viz., Mistura Amygdalæ, Mistura Ammoniaci, and Mistura Olei Ricini—it will be found that the only difference is in the choice of an emulsifying agent. In almonds there is present albuminous matter, just as there is in milk, along with a fixed oil, sugar, gum, etc. The latter two are present, however, in too small a proportion to be serviceable, therefore in the official mixture they are supplemented. In ammoniacum the constituents are volatile oil, resin, and gum, the former two being the principal ingredients and the latter the emulsifying agent. In castor oil mixture, the orange flower and cinnamon fulfil the double function of vehicle and flavouring agent, whilst the emulsifying agent is the mucilage of acacia. The exact part played by each of the components of an emulsion was fully described in the previous article, so it will now be necessary only to comment briefly upon some typical examples, and add practical hints when such are desirable.

Almond.—The first point to be emphasised in the preparation of this emulsion is the careful removal of every particle of the skin or testa. This is best done by soaking the seeds in hot water for a few minutes, by which the adhesiveness of the skin and endopleura to the cotyledons is relaxed, enabling the former to be readily removed. If portions of the skin be left the emulsion will have a more or less brownish tint instead of being milk-white. The shorter time the seeds are in the water the more milk-like will be the product, and for this reason it is advisable to use *hot* water and to dry the seeds by means of a cloth immediately after removing the skin. When sufficient have been skinned and dried they should be placed in a composition mortar, roughly powdered and then thoroughly incorporated with the sugar and gum previously mixed. A quantity of water sufficient to form a paste should then be added, and the mass triturated, with some pressure, until the whole of the seeds have been reduced to a soft, smooth pulp. The remainder of the water is then gradually added, and finally the emulsion should be strained through muslin. This emulsion, which is principally used as a vehicle for cough remedies, does not keep for any length of time, and should always be prepared as required. The official compound powder of almonds is intended to obviate this difficulty, but even it is not altogether satisfactory.

Ammoniacum.—This emulsion is not much used at the present day, though in former times it was in considerable repute as an expectorant in combination with other cough remedies. The main point to be alluded to is the removal of any extraneous matter adhering to the grains or tears. The composition of the tears is volatile oil, resin, and gum, the latter being present in sufficient quantity to emulsify the two former constituents, so no addition of emulsifying agent is required. The tears are reduced to powder and well triturated with the water, as in the case of the almonds. In this instance, instead of straining it is advisable to set aside the emulsion for half an hour or so, and then pour off the emulsion from any deposited matter.

Castor Oil.—In the Addendum to the 1885 Pharmacopœia a castor oil mixture was included, but it differed very considerably from that now official, inasmuch as it was not an emulsion in the ordinary sense of the term. In an emulsion the principal ingredient should not undergo any change in its chemical constitution, such as is the case when castor oil is treated as directed in the 1885 Addendum. There it was directed to agitate the castor oil with solution of potassium hydroxide, whereby the oil was decomposed, and a new body, miscible with water, formed. Chemically, castor oil is a combination of glyceryl and several fatty acids, the principal of which is ricinoleic, and in the above method of preparing castor oil mixture the potassium joins with the ricinoleic acid to form potassium ricinoleate, a substance belonging to the class of chemical compounds known as soaps, whilst the hydroxyl (HO) unites with the detached glyceryl to form the familiar body glycerin. Two objections to this method of rendering castor oil miscible with water may be stated:—1st, the product does not contain castor oil, but potassium ricinoleate; 2nd, it has not been conclusively shown that the latter substance has a therapeutic action identical with that of castor oil. This, the compilers of the 1898 Pharmacopœia evidently recognised, for they reverted to the orthodox method of emulsifying it with mucilage of acacia. In making an emulsion of castor oil or any similar oil, four methods, differing from each other in a slight degree, are in vogue. Theoretically, the results should not differ, but as manipulation plays an important part in the art of emulsifying, they do. The first method is the official one, and consists in using as an emulsifying agent the official mucilage of acacia (made from the *lump* gum); the second is the use of a freshly-prepared mucilage, by mixing *powdered* gum and distilled water in the proper proportions, instead of the official. The third method differs from these two, in that the powdered gum is mixed with the oil previous to it—*i.e.*, the gum—being converted into mucilage, whilst the fourth method differs from the second and third in that a small proportion of powdered gum tragacanth is mixed with the powdered gum acacia. This alteration makes the resulting emulsion more viscid, and is supposed to prevent separation to any great degree. Each of these methods has its supporters, but the student's attention need not be taken up with these rivalries, except in so far as there is something to be learned from them. There is no doubt that, for emulsifying purposes an old or slightly rancid mucilage is inferior to a freshly-prepared mucilage, and for this reason method two is, under certain circumstances, to be preferred to method one. It ought, however, to be impressed upon the student that it is necessary, if method two be followed, that the gum be *entirely* dissolved in the water before any oil is added. It is not enough to merely mix the gum and the water, and then proceed to the addition of the oil. As to the question of mixing the gum with the oil before converting the former into mucilage, several points have to be considered before judgment can be pronounced upon the method. In rubbing the gum and oil together, the particles of gum will be separated and individually receive a coating of oil, the reverse of what takes place when the oil is gradually added to mucilage. This being so, it is manifest that when the water is added it will not at once permeate through the oil film and dissolve the particle of gum, but will do so only slowly, since the oil will act as a partial waterproof coating. Moreover, even when the gum has dissolved there is still a reversal process to accomplish—viz., the breaking up of the oil into minute particles and the giving of a thin coating of mucilage to each of these. Therefore, unless sufficient time be given for this series of operations to take place, before the emulsion is thinned down by the addition of more water, there is an almost certainty that separation will take place to a greater or less extent. In following this method, then, it is necessary that sufficient time be allowed between each addition of water for these changes to take place. By way of practical demonstration of these remarks the student is advised to prepare the following prescriptions, duly noting the various changes which take place during the operations, and comparing the resulting emulsions after they have been kept for a week:—

(*a*)	Castor oil	6 fl. drachms
	Mucilage of acacia	3 fl. drachms
	Distilled water.......................to	2 fl. oz.

Put the mucilage into a mortar, add the oil in small portions, triturating constantly the while, with the occasional addition of a little water to prevent the emulsion becoming too thick.

(*b*)	Castor oil	6 fl. drachms
	Powdered gum acacia	80 grains
	Distilled water ....to	2 fl. oz.

Place the gum in a dry mortar and triturate it with two drachms of water until a mucilage be formed, then proceed as in (*a*).

(*c*) Take the same substances and quantities as in (*b*), but, instead of triturating the gum with water, triturate it with the castor oil; then add, all at once, three drachms of water and triturate until an emulsion be formed, subsequently adding the remainder of the water in small portions and at intervals.

(*d*) Proceed as in (*c*), displacing twenty grains of the acacia gum by five grains of tragacanth gum.

SOME USEFUL FORMULÆ.

BY PROSPER H. MARSDEN, F.C.S.

The following formulæ and notes are submitted in response to the invitation of the Editor of the 'Pharmaceutical Journal Formulary,' that readers should suggest the addition of other formulæ which, by their inclusion in a Compendium of Medicines, may tend to render such a collection of increased practical benefit. Many of the formulæ are in general use at the Liverpool Royal Infirmary, and the whole will doubtless prove of interest to readers of the *Pharmaceutical Journal*:—

Catheter Lubricant, Modified, Krause.

Powdered tragacanth	15·00
Glycerin	50·00
Distilled water	500·00
Phenol	5·00
or	
Salicylic acid	0·50

(This formula, which was obtained from the Hôpital Laboisière, Paris, where the preparation is in use, was given to me November 23, 1903, by Mr. R. A. Bickersteth, F.R.C.S. Mr. Bickersteth tells me that this preparation is good for cystoscopic examinations, as it has not the tendency to blur the image which is noticed with lubricants which contain soap, as that of Guyon.)

Chinosol Catheter Lubricant, L.R.I.

Green soft soap	8 ounces
Glycerin	6 ounces
Water	4 ounces
Warm together, and when mixed add	
Chinosol	8 grains

(This is an excellent lubricant, and has been in use here for the last three and a-half years. It has the advantage of being non-poisonous.)

Collutorium Acidi Carbolici, L.R.I.

(Carbolic Mouth Wash.)

Liquefied carbolic acid	5 minims
Compound tincture of cardamoms	½ drachm
Glycerin	½ drachm
Water ...to	1 pint

Mix.

Emulsio Iodoformi, L.R.I.

Iodoform	44 grains
Rectified spirit	10 minims
Powdered tragacanth	4 grains
Glycerin (by weight)	1 ounce

(This has been used as a surgical application here for the last six months, and has replaced one which was made with starch. The latter being in use for several years, it was abandoned owing to the difficulty of making and its tendency to separation.)

Ether Punch, L.R.I.

Compound spirit of ether	2 drachms
Diluted sulphuric acid	40 minims
Syrup	½ ounce
Water ...to	6 ounces

Mix. One-fourth part for a dose.

Extractum Belæ Liquidum.

The bael should be ordered to be crushed to some definite state of division, say, 20 powder. The omission of this in the formula of the 1885 Pharmacopœia is possibly the cause of the variation of the different liquid extracts of bael upon the market. Messrs. Clay and Abraham make a very good extract of this, which we have used for some time, and it has been found very efficacious in the L.R.I.

Extractum Thymi Glandulæ.

Thymus gland, sliced	1·00
Triturated with	
Glycerin	1 C.c.
Solution of phenol (0·5 per cent.)	1 C.c.

Allow to stand for twenty-four hours and press through fine linen. The finished product contains one part of thymus gland in two fluid parts. (Formula supplied by Dr. C. Balfour Stewart, March 4, 1896.)

Glycerinum Sodii Cinnamatis.

Sodium Cinnamate	5·00
Glycerin	95·00

Rub the salt to a fine powder and incorporate with the glycerin, transfer to a flask, the mouth of which is plugged with cotton wool. Heat upon a sand bath until solution is effected, the temperature required being 180° Centigrade. Transfer to bottles which have been sterilised. (A formula for a 10 per cent. solution in glycerin appeared in the *Lancet*, Vol. II., for 1902. This was made in the same way, but it did not keep well. The above formula is quite satisfactory, and is in use here in the treatment of phthisis, being injected hypodermically, and also given by the mouth in doses of a teaspoonful, by James Barr, M.D.)

Guttæ Pectorales, L.R.I.

Tincture of squill	3 ounces
Tincture of opium	2 ounces
Oil of anise	1 drachm
Spirit of camphor	1 ounce
Benzoic acid	1 drachm

Dissolve the benzoic acid and oil of anise in the tinctures and spirit, and add:—

Acetic acid	4 ounces
Syrup	70 ounces

Mix. ʒi. dose.

Kaiserling's Fluid (for Preserving Anatomical Specimens).

Formol	750
Water	1,000
Potassium acetate	30
Potassium nitrate	10

(Formula supplied to me by Mr. T. C. Litler-Jones, F.R.C.S., March, 1903.)

Lotio Crinalis, Erasmus Wilson.

Ol. amygd.	of each 1 fl. ounce
Liq. ammon.	
Spt. rosmar.	4 fl. ounces
Aq. mellis	2 fl. ounces

Another—

Ol. amygd. dulc.	of each 1 fl. ounce
Spt. ammon. aromat.	
Spt. chloroformi	
Spt. rosmarin	6 ounces
Ol. limonis	20 drops

(Both of these are from copies of original prescriptions of Erasmus Wilson.)

Lotio Crinalis (Kaposi).

Acid. salicylic	3·00
Spt. vini gallic	300·00
Spt. coloniensis	25·00
Glycerin	10·00

To be applied every other day.

(I had this formula from Dr. C. Balfour Stewart, January 26, 1896.)

Lotio Plumbi cum Opio, L.R.I.

Solution of subacetate of lead	½ ounce
Tincture of opium	1 ounce
Water to	1 pint

Mix.

Lotio Rubra, L.R.I.

Sulphate of zinc	40 grains
Compound tincture of lavender	6 drachms
Water to	1 pint

(This lotion is in frequent use, and was originally prepared, I am given to understand, from a prescription of Mr. E. R. Bickersteth, F.R.C.S.)

Lotio Spiritus, L.R.I.

Methylated spirit	5 ounces
Water to	1 pint

Mix.

Mistura Antacida, L.R.I., Lock.

Tincture of henbane	of each 15 minims
Solution of potash	
Spirit of nitrous ether	12½ minims
Camphor water to	½ ounce

Mistura Mentholis, L.R.I.

Menthol	1½ grains
Compound tincture of cardamoms	of each 24 minims
Rectified spirit	
Dissolve, and add—	
Chloroform water to	1 ounce

Mistura "Neurasthenica," L.R.I., Lock.

Tincture of valerian	of each 1 drachm
Tincture of asafetida	
Infusion of calumba	
Peppermint water	

(The name of this might be altered to Mistura Valerianæ Composita.)

Mistura Potassii Iodidi Composita, L.R.I., Lock.

Iodide of potassium	10 grains
Acetate of potassium	15 grains
Aromatic spirit of ammonia	15 minims
Infusion of buchu to	½ ounce

Mix.

Mistura Tonica, L.R.I., Lock.

Solution of strychnine hydrochloride	3 minims
Citrate of iron and quinine	6 grains
Sulphate of magnesium	15 grains
Infusion of Quassia to	½ ounce

Mistura Tonica Acida, L.R.I., Lock.

Diluted nitro-hydrochloric acid	10 minims
Compound infusion of gentian to	1 ounce

Pasta Cubebæ et Copaibæ, L.R.I., Lock.

Powdered cubebs	1½ ounces
Copaiba	½ ounce
Extract of henbane	of each ½ drachm
Camphor	

Treacle, a sufficient quantity to make a stiff paste.

Dose.—½ drachm three times a day.

Pastilli Ammonii Chloridi et Glycyrrhizæ.

Chloride of ammonium	12 grains
Dissolved in	
Water	½ drachm
Added to	
Uncoloured glyco-gelatin (T.H.P.)	126 grains
Liquid extract of liquorice	12 minims
Solution of ammonia	2 or 3 drops

Divide into six pastilles.

Pastilli Codeinæ.

Codeine	3 grains
Rectified spirit	½ drachm
Water	2 drachms
Elixir of saccharin, B.P.C.	½ drachm
Glyco-gelatin, T.H.P.	720 grains

To make thirty pastilles, each of which will contain a tenth of a grain of codeine. (Phosphate might be better used, and the rectified spirit omitted.)

Pastilli Mentholis.

Menthol	1½ grain
Dissolved in	
Rectified spirit	12 minims
Add—	
Water	48 minims
Elixir of saccharin, B.P.C.	24 minims
Glyco-gelatin, T.H.P.	288 grains

Divide into twelve pastilles.

Pilula Extracti Hydrastis Canadensis.

Extract of golden seal	9 drms. 36 grs.

Rub in a heated mortar, and add the following powders, previously mixed:—

Powdered acacia	of each 1 drachm
Powdered liquorice	
Powdered marshmallow	20 grains

Mass and roll into 144 pills, each of which will contain 4 grains of the extract.

Pommade Guyon (a Catheter Lubricant).

Powdered hard soap	of each 33·00
Glycerin	
Distilled water	
Phenol or beta-naphthol	1·00

To be made without the use of heat.

(This formula, in use at the Hôpital Necker, Paris, was given to me by Mr. Bickersteth, November 23, 1903.)

Spiritus Saponis Viridis, L.R.I.

Green soft soap	2 pounds
Methylated spirit	16 fl. ounces

(The original formula for this was given to me by Messrs. Clay and Abraham last year, and is as follows:—℞ Sapo mollis, 24 lb.; spt. vini meth., 1 gal. 44 oz.; ol. lavand., 2 fl. drachms. It is Hebra's preparation, made with methylated spirit.)

Toison's Fluid (for Blood Counts).

Methyl violet (5 B.)	0·025
Sodium chloride	1·000
Sodium sulphate	8·000
Neutral glycerin	30 C.c.
Distilled water	160 C.c.

(Formula supplied to me by Dr. Lionel J. Picton, of St. Bartholomew's Hospital, May 8, 1903.)

Unguentum Zinci Oleatis Compositum.

Ointment of zinc oleate	of each 1 ounce
Hydrous wool fat	
Melt together, and add—	
Liquefied carbolic acid	24 minims
Sweet oil of almonds	½ ounce
Oil of rose geranium	15 minims

(This resembles a proprietary ointment, and is useful for skin irritation, chapped hands, etc.)

CALCIUM GLYCEROPHOSPHATE.[*]

BY H. B. EIGELBERNER.

Glycerophosphoric acid was discovered in 1840 by Pelouse, who obtained it by interaction of anhydrous phosphoric acid and glycerin, the formula being $C_3H_9PO_6$, consisting of a molecule of glycerin and a molecule of phosphoric acid, a molecule of water being set free in the active union.

Glycerin + Phosphoric acid = Glycerophosphoric acid + Water.

$$C_3H_5(OH)_3 + H_3PO_4 = C_3H_9PO_6 + H_2O$$

It was, however, not until 1894 that the salts of the acid were introduced in medicine by Dr. Albert Robin, of Paris. Dr. Robin discovered them in Dr. Brown Sequard's orchitic extract, and declared them to be the active principle of that famous "Elixir of Life." Chemically, they are compounds of various bases with glycerophosphoric acid. The rationale of the use of glycerophosphates is that they contain phosphorus in the same state as it exists in the nerve tissues of the body, and constitutes, therefore, a natural form of administering phosphorus, it being at once assimilated without further change. This is based upon the theory that the lecithin of food is converted into glycerophosphoric acid before assimilation, the theory resting upon the fact that the glycerophosphate salts are found in orchitic extract and in the extract of nerve tissue generally.

A. and L. Lumiere and F. Perrin have succeeded in preparing glycerophosphorous acid by treating a slight excess of glycerin with phosphoric trichloride, keeping the mixture cool. The hydrochloric acid formed is removed from the mixture by means of moist silver oxide, after filtration from the AgCl thus formed, the glycerophosphorous acid is saturated with a base, such as lime, and the excess of glycerin removed by means of alcohol, or the original acid mixture may be directly neutralised with lime, evaporated at a low temperature, and then treated with alcohol, which removes calcium chloride and glycerin, but precipitates calcium glycerophosphite. Free glycerophosphorous acid has not been isolated, since it tends to saponify on evaporating its solutions. ('Proceedings of the American Pharmaceutical Association,' 1902.)

A good method of manufacture for calcium glycerophosphate is that proposed some years since by Portes and Primier in the *Répertoire de Pharmacie*:—

3 kilos phosphoric acid, 60 per cent.
3 kilos 600 Gm. glycerin (sp. gr. 1·24).

Mix together and keep at a temperature of 100-110° C. for six days, agitating three or four times daily. The second day it commences to colour and emit fumes; the fifth day it will have turned brown and ceased to fume; on the seventh day it is allowed to cool, and is then viscous and transparent. After cooling, the free acid is neutralised by mixture of 500 Gm. calcium carbonate in 2 kilos of water, and allowed to settle two or three hours, when more of the chalk mixture is added, and the process repeated until all the acid is saturated, which generally takes about two days. The mixture is filtered, and the filtrate exactly neutralised by means of 90 per cent. alcohol. The precipitate which forms settles very rapidly; after about an hour the supernatant fluid is decanted, the precipitate is washed and drained. It is then re-dissolved in cold water, filtered and evaporated at a low temperature. The salt thus obtained is a white crystalline powder, soluble in 15 parts of cold water, almost insoluble in boiling water, insoluble in alcohol.

The reactions involved in the manufacture of calcium glycerophosphate are represented by the following equations:—

(1) Glycerin + Phosphoric acid = Glycerophosphoric acid + Water

$$C_3H_5(OH)_3 + H_3PO_4 = C_3H_9PO_6 + H_2O$$

(2) Glycerophosphoric acid + Calcium hydroxide + Water = Glycerophosphate of calcium

$$C_3H_9PO_6 + CaOH + H_2O = C_3H_8CaPO_6 + 2H_2O.$$

The theoretical amount of calcium oxide in calcium glycerophosphate is, therefore, about 22·66 per cent.

The estimation of this ingredient (calcium) is the keynote of the examination of calcium glycerophosphate, for if true glycerophosphoric acid is not formed in the first reaction, the free phosphoric acid left uncombined will require a larger percentage of calcium for neutralisation, and will thus be shown by this determination. A sample of an English brand of calcium glycerophosphate examined contained 33·05 per cent. of calcium oxide, and was slightly acid in reaction. This would tend to prove the above assumption.

In estimating the calcium, I followed the usual method as given by Fresenius—precipitating as the oxalate and weighing as the oxide.

A number of samples examined showed:—

Calcium oxide: 21·6 to 22·5 per cent.

Chlorides and sulphates: Traces—small amounts.

Solubility tests: About as given in preceding parts of paper.

Reaction: Slightly acid—to somewhat alkaline.

Physical appearance: From bulky, white powder to small pearly white crystals.

The above examination is not exhaustive, but is rapid, approximately accurate, and enables the pharmacist to arrive quickly at comparative valuations between different samples of calcium glycerophosphates.

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[*] Reprinted from the *American Journal of Pharmacy*, May, 1904.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN.

LIBRARY, MUSEUM, SCHOOL, AND HOUSE COMMITTEE.

At a meeting of this Committee, held on Wednesday, June 8, 1904, the following reports were presented:—

Attendance in Museum.

	Total.	Highest.	Lowest.	Average.
May	508	32	6	21

Attendance in Library.

	Total.	Highest.	Lowest.	Average.
London Library, May	404	28	2	16

Circulation of Books.

	Total.	Town.	Country.	Carriage Paid.
London Library, May	234	129	105	£0 12s. 8½d.
Edinburgh Library, May	312	168	144	8s. 9d.

Donations to the Museum.

Mr. J. Medley Wood, A.L.S., Durban, Natal:—Bark of *Indiya diya*, a Kaffir poison.

Mr. C. A. Cheyne, Richmond, Natal:—Bark and leaves of *Indiya diya*.

Mr. J. W. Ramsden, Herne Hill:—Fruit and powdered fruit of *Capsicum annum* var. *crassum*.

Mr. R. I. Lynch, Botanic Garden, Cambridge:—Flowering plant of the Indian Squill and forty-five specimens of medicinal plants.

Mr. W. J. Doe:—Specimen of daisy with a fasciated flower-stem.

Enquiries.

Eleven specimens of flowering plants, three mosses, two algæ, and seventeen specimens of drugs had been identified for correspondents.

Donations to the Library (London).

American Pharmaceutical Association:—Proceedings, 1903, Vol. 51.

Dr. W. H. Martindale, London:—The Extra Pharmacopœia, Eleventh Edition, 1904.

Mr. R. Bremridge:—Pereira's Materia Medica, First Edition, 1839-40. Two vols.

Professor Dr. H. Thoms, Steglitz-Dahlem:—Arbeiten aus dem Pharmazeutischen Institut der Universität Berlin, 1 Bd., 1904.

Signor G. Dian, Venice:—Cenni storici sulla Farmacia Veneta, Parte 4, 1904.

Mr. W. J. Doe, Wimbledon:—Parker's Indigenous Plants of Lanarkshire, 1831.

Middlesex Hospital:—Reports for 1902.

University of Edinburgh:—Calendar, 1904.

Donation to the Library (Edinburgh).

American Pharmaceutical Association Proceedings, 1903, Vol. 51.

Purchase of Books.

The Committee authorised the purchase of the undermentioned books:—

For the Library in London.

Curie, Radio-active Substances. Second Edition.

For the Library in Edinburgh.

Extra Pharmacopœia. Eleventh Edition.
Squire, Pocket Companion to the British Pharmacopœia.
Pearmain and Moor, Applied Bacteriology.
Watson, Text-book of Physics.

School of Pharmacy Prizes.

The following awards were made at the meeting of the Committee on the 8th inst.:—

Practical Chemistry.

Bronze Medal	Chas. Horne Warner
Certificate of Honour........	George Marie Joseph Cole
Certificate of Honour........	Ellis Waldron Evans

Chemistry.

Bronze Medal	Joseph Maurice Treneer
Certificate of Honour........	George Marie Joseph Cole
Certificate of Honour........	Chas. Horne Warner

Botany.

Bronze Medal	George Marie Joseph Cole
Certificate of Honour........	George Naylor
Certificate of Honour ..Equal	Thos. Edward Tawell Irving Paul Moffatt.

Materia Medica.

Bronze Medal	George Marie Joseph Cole
Certificate of Honour........	Irving Paul Moffatt
Certificate of Honour........	Flora Adelaide Goodwin

Pharmacy.

Silver Medal	George Naylor

PHARMACEUTICAL SOCIETY OF IRELAND.

MONTHLY MEETING OF COUNCIL.

Wednesday, June 1, 1904, at the Society's House, 67, Lower Mount Street, Dublin, the President, Mr. Johnston Montgomery, in the chair.

A letter from the Secretary of the City of Galway Technical Institute applied for the recognition by the Council of that institution's courses of practical chemistry. The application was refused.

Several reports and other matters having been dealt with, the next item on the agenda paper was the question standing over from the last Council meeting as to whether it was advisable to alter the system of voting for members of Council at the annual election.

Mr. Beggs said a recommendation on the subject had come from the annual meeting, and it would be wise on the part of the Council to act on it. He moved:—"That this Council is of opinion that it is advisable to alter the system of voting for members of Council at annual meeting."

The Vice-President said he did not think there was any good reason for altering the present system of voting at all.

The Registrar was asked to read the resolution passed on the subject at the annual meeting, and did so. It was as follows:—"That this meeting requests the Council to take such steps as are necessary to secure absolute secrecy in voting for members of Council at the annual meetings."

The President put Mr. Beggs's motion, which was carried.

Mr. Vincent Johnston moved: "That the date of the examination for the qualification of assistant to a pharmaceutical chemist be changed to the second Mondays of February, May, August and November." At present these examinations were held on the Mondays before the Licence Examinations, in January, April, July, and October, and his object in proposing the change was to secure an opportunity for students who might fail to pass the Licence Examination of going in a month afterwards for the Assistants' Examination while they were fresh from studies.

Dr. Walsh seconded the motion, which was carried unanimously.

Other business having been disposed of, the Council adjourned.

ABERDEEN PHARMACEUTICAL ASSOCIATION.

QUARTERLY MEETING.

Wednesday, June 1, 1904, at Robert Gordon's College, Mr. William Giles, President, in the chair. There was a fairly large attendance of members. Mr. J. F. Tocher, Peterhead, was also present. The result of the Scholarships Competition was announced, and it was decided to award a free scholarship to Mr. Fyfe, assistant to Mr. Charles Simpson; this entitles the recipient to free tuition for one term at the day school.

The arrangements for the picnic were intimated. The outing is to be held at "Clatterin Brigs" on June 29.

Territorial Representation.

Mr. J. F. Tocher's scheme of territorial representation was then discussed very fully by the members present, Messrs. Giles, Craig, Hay, Charles Simpson, Gilbert Simpson, Reid, Ritchie, and Paterson taking part in the discussion. Mr. Tocher replied to some points raised in debate, and the following motion was put to the meeting and agreed to:—

> We, the members of the Aberdeen Pharmaceutical Association, approve of Mr. J. F. Tocher's scheme of territorial representation, and undertake to do all in our power to bring about its realisation and to petition the Pharmaceutical Council in its favour when the occasion arises.

The Scotch Education Bill.

The Chairman reported that he and Mr. Paterson, Treasurer, interviewed Dr. Bryce, M.P. for South Aberdeen, on May 21, with the view of eliciting Dr. Bryce's influence in favour of inserting a clause in the Scotch Education Bill (at present before Parliament) to have part of the moneys proposed to be pooled under that Bill, and to be allocated by the department for educational purposes, set apart for the teaching of subjects in which there are compulsory examinations and which would include pharmaceutical subjects.

The Conference and Federation.

Messrs. Giles and Paterson were appointed delegates to the meeting of the British Pharmaceutical Conference and the Federation of Local Pharmaceutical Associations, to be held in Sheffield.

GENERAL MEDICAL COUNCIL.

MEETING OF EXECUTIVE COMMITTEE.

Tuesday, May 24, 1904, Sir Wm. Turner, President, in the chair.

A communication was read from the Public Dispensers' Association.

A letter was read from the Medico-Political Committee of the British Medical Association, forwarding a communication from the Education Committee of the Borough of Bootle in regard to the giving of a medical certificate by a local chemist and druggist in the case of a girl unable to attend school. This communication ran as follows:—

> Borough of Bootle Education Committee,
> Elementary Education Department,
> Offices: Balliol and King's Roads,
> Bootle, February 18, 1904.
>
> Dear Sir,—In a letter dated June 8 last, I brought under your notice the case of a document purporting to be a medical certificate given by a local chemist and druggist in this district. I have now to bring under your notice a similar case in which Mr. Procter Williams, chemist,* carrying on business at 123, Derby Road, Bootle, has filled up a medical certificate form in respect of a child in this district, which form I enclose.
>
> Yours faithfully,
> J. W. Wilson,
> Secretary for Elementary Education.
>
> The General Secretary,
> British Medical Association.

It was resolved that the attention of the Medico-Political Committee of the British Medical Association be called to Section 37 of the Medical Act, 1858; that they be informed that on the face of it the certificate forwarded to the Council appears to be invalid under that Section, and that the Council has no jurisdiction over chemists who give invalid certificates.

ROYAL INSTITUTION.

EVENING MEETING.

Friday, June 3, 1904, the Duke of Northumberland in the chair. There were also present Lord Kelvin, Sir W. Ramsay, Sir W. Crookes, Dr. J. W. Swan, Professor Dewar, Professor Wynne, Mr. Walter Hills, Mr. Edmund White and many other chemists and pharmacists.

Professor Svante Arrhenius, of Copenhagen, lectured on the

Development of the Theory of Electrolytic Dissociation.

The lecturer, who spoke in English, with a markedly foreign accent, sketched the history of the atomic theory of matter, and alluded to the importance of Dalton's law of multiple proportions and of Avogadro's hypothesis that equal volumes of all gases contained equal numbers of molecules. The theory of electrolytic dissociation was based on certain fundamental researchés conducted some forty years ago on the properties of ammonium chloride, calcium carbonate, and certain other salts, and, as the result of those researches, Grotthus propounded the idea that salts or other electrolytes in aqueous solutions might be partially dissociated into ions when their solutions were submitted to electrolysis. In the case of potassium chloride, by electrolysis in aqueous solution the molecule could be split up, the potassium ion tending to approach the negative electrode and the chlorine ion going to the positive electrode. The free ion of potassium would again combine with a different ion of chlorine situated towards the negative electrode; the molecule would then "turn round" and polarisation would again take place. The molecular conductivity of a salt solution had been found by the lecturer to increase with dilution, but not infinitely. After a time a limit was reached. If it were supposed that all the molecules of a salt in solution took part in the electrolytic dissociation, the molecular conductivity would not increase in that manner. It had, therefore, been concluded that only a portion of the molecules of the salt took part at first in the transport of electricity. The other portion was wholly inactive in this respect, but as the dilution of the solution was increased the inactive molecules were converted into active ones until at extremely high dilutions all became active. Experiment confirmed the supposition that these electrically active molecules were also chemically active, and the lecturer showed how from this point of view the phenomena of neutralisation and reaction-velocity were easily explicable. Pure anhydrous hydrochloric acid was incapable of conducting electricity, and was also without chemical action on oxides and carbonates. It was only when the acid was dissolved with water that it acquired activity. The lecturer had prepared a curve for various electrolytes and inactive substances, the abscissa showing the degree of molecular concentration of the solution, and the ordinate the depression of the freezing point. For non-conductors, such as phenol or cane-sugar, the "curve" was virtually a straight line. For electrolytes, on the other hand, at the higher degrees of molecular concentration there were noticeable dips and irregularities in the curve. The curves for all substances consisting of three ions converged with dilution towards a point "3" on the ordinate, those with two ions to a point "2," and non-electrolytes to a point "1" on the ordinate. The molecules of electrolytes in very dilute solutions being completely dissociated into electrically charged parts or ions, all properties of the solutions might be regarded as the sum of the properties of ions present, and might, therefore, be called additive. This conception was a very far-reaching one. All the properties so far examined of those substances—acids, salts and bases—which played the most important *rôle* in common life could by its help be treated in a very simple way. It had enabled Ostwald to give a rational exposition of the general phenomena of analytical chemistry. Silver nitrate was spoken of as a reagent for chlorides in analytical chemistry. It was better to say that silver ions were a reagent for chlorine ions. Chemical action only took place when the molecules were within measurable degree of being split up into ions. The same conception, again, supplemented by Van 't Hoff's extension of Avogadro's law to dilute solutions, had rendered possible the application of mathematical analysis to chemical phenomena, thus giving to physical chemistry the character of an exact science. The lecturer showed the differences between the spectra of bodies formed by replacing some of the hydrogen atoms of fluorescein, $H_{12}C_{20}O_5$, by potassium and other metals, and the absence of any such difference between the spectra of various metallic permanganates. The two cases, he remarked, were entirely different, as in the latter instance the metallic ions were wholly free from the ions which were responsible for the absorption bands. The theory of dissociation had solved the problems of heterogeneous equilibrium, such as that presented by the "selection" of the proportions of a base by two mixed acids. He had in many such cases calculated the heat of neutralisation and determined the proportions in which combinations took place. Nearly all the results were in accordance with theoretical calculations. Electrolytic dissociation played an important part in toxicology, physiology, seismology (where the effect of water on silicic acid had to be considered) and many other branches of science. In every direction the common tendency of scientific investigation seemed to give an even more preponderating position to electricity, the mightiest agent of nature.

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* The name "Procter Williams" does not appear on the 'Register of Chemists and Druggists, 1904,' so that any person of that name has just as little right to use the title "Chemist" as he has to fill up medical certificates.—Ed. *P.J.*

Exhibition.

In the library, after the lecture, were a number of interesting exhibits, prominent among which were the fine chemicals and fluorescent substances shown by Messrs. Hopkin and Williams, Limited. The chemicals included remarkable specimens of caffeine, quinine, potassium bromide and nitrate, and willemite. Among the salts which were shown fluorescing were calcium sulphide and salicylate, strontium sulphide, uranium phosphate, and uranium ammonium fluoride. Other exhibits were abnormal crystals of salicylic acid, hydroquinone, etc., shown under microscopes by Mr. D. C. White, and a number of natural sugars shown by Dr. Hugo Muller. Among these were inosite, $C_6H_6(OH)_6$, from cochineal; cocosite, $C_6H_{12}O_6$, from cocos palm leaves; sorbin, from the mountain ash; and quercite.

REVIEWS AND NOTICES OF BOOKS.

'Materia Medica, Pharmacology and Therapeutics: Inorganic Substances.' By Charles D. F. Phillips, M.D., LL.D., F.R.S.Edin. Third edition. Pp. xiv. + 922. Price 21s. London: Longmans, Green and Co., 39, Paternoster Row. 1904.

Ten years have elapsed since the previous edition of this text-book was published. The present edition differs considerably from the others, and is, indeed, practically a new book. Much of it has been entirely re-written, this being especially noticeable in the sections of oxygen, nitrous oxide, baths and waters, arsenic, silver, iron and mercury, while observations have been added on such new departures as the use of cacodylates, glycerophosphates, and uranium, antitoxin for diphtheria and tetanus, open air for tuberculosis, radiant heat and light for rheumatism, lupus, etc., as well as accounts of recent work on the physiological action of drugs. The notes on the therapeutic actions of drugs, under the headings of the separate morbid conditions, are supplemented by descriptions of, or references to, "leading cases," of which particulars have been published. The therapeutics and physiology of the book—and that is a very large proportion of the whole—may be absolutely relied on, and must be invaluable to medical practitioners. Some want of exactness has to be noted in the chemical nomenclature employed, as, for example, in the note on Pilula Ferri, while, by two obvious slips, the official ammonium carbonate is stated to be a "compound" of the acid carbonate and "carbonate." The excellent index is a noteworthy feature of an excellent book.

'Radium and All About It.' By S. Bottone. Pp. 96. Price 1s. net. London: Whittaker and Co., 2, White Hart Street, Paternoster Square, E.C. 1904.

'Radium and Other Radio-active Elements.' By Leonard A. Levy and Herbert G. Willis. Pp. 105. Price 2s. 6d. net. London: Percival Marshall and Co., 26-29, Poppin's Court, Fleet Street, E.C. 1904.

In spite of the title of one of the above-mentioned books and of the feast of reason with which the reader of both the books is provided, we are not disposed to think that "all about radium" has as yet been discovered by woman or written of by mortal man. Both the books under notice are written for instruction of the people rather than for chemists or advanced students, but both seem to embody with accuracy the more generally accepted notions concerning radium. The two books are illustrated—Mr. Bottone's with diagrams and Messrs. Levy and Willis's with numerous and excellent photographic plates. Except for the fact that the more expensive work is better bound, and treats of portions of the subject somewhat more fully than the other, it is not easy to draw a distinction between the two.

'Guide to the Analysis of Potable Spirits.' By S. Archibald Vasey, F.I.C. Pp. 87. Price 3s. 6d. net. London: Baillière, Tindall and Cox, 8, Henrietta Street, Covent Garden. 1904.

Public analysts who have had occasion to examine spirits have frequently and unwisely confined their attention to the alcoholic strength of the preparations submitted to them without regard to other constituents which are, in many instances, of far greater importance. The reason for that procedure is to be found in the fact that either standards or analytical methods for determining the essential constituents have frequently been lacking. An important step to supply the deficiency, with regard to brandy at least, was taken when the *Lancet* appointed a "special commissioner" to investigate and report on the production and true nature of that spirit. The manner in which the investigation was carried out compels respect for anything that Mr. Vasey has to say on the chemistry of potable spirits, and ensures for the present volume the close attention of the class for whom it is specially intended. After a consideration of the chemical characteristics of potable spirits, and some brief notes on the materials used in analysis, the author devotes successive chapters to the determination of aldehydes and acids, the higher alcohols, compound ethers, and furfural. Stress is laid on the need that the analyst should cultivate keen senses of taste and smell, which will often assist him in his diagnosis. The book is to be welcomed as filling a gap in the analyst's library, and as tending to secure greater purity in many articles from the consumption of which the public health has not derived universal benefit.

'Fire and Explosion Risks.' By Dr. Von Schwartz. Translated from the revised German edition by Charles T. C. Salter. Pp. 357. Price 16s. net. London: Charles Griffin and Company, Limited, Exeter Street, Strand. 1904.

This is well described as a handbook dealing with the detection, investigation, and prevention of dangers arising from fires and explosions of chemico-technical substances and establishments, and is designed especially for the use of fire insurance officials, fire brigade officers, members of the legal profession, law officers, councillors, factory inspectors, and factory owners. Up to the present time there has scarcely been a single book dealing with fire risks, in the domain of chemical technology, in such a way as to be suitable for all cases. That gap the author attempted, nearly three years ago, to fill, and his book has met with so favourable a reception in Germany as to have warranted an English translation. The chapter most interesting to pharmacists is that which deals with the special dangers to which the establishments of "pharmaceutical chemists and drug-stores" are exposed. The author remarks that risk of fires and explosions in such places has been considerably diminished since the custom has arisen of purchasing most of the preparations ready-made. The sections in which the dangers of various classified materials are discussed are among the most useful portions of a useful book. The work may be considered by some to be a little diffuse, but many hints are given which will be found valuable by manufacturers who employ gas, steam, or electricity as sources of heat and power.

'A Technological and Scientific Dictionary.' Part I. Pp. 64. Price 1s. net. London: George Newnes, Limited, Southampton Street, London, W.C.

This is the first number of a work, which will comprise fifteen parts, to be published monthly. The number of terms defined in the whole work amounts to about 16,000, which includes 4,000 definitions of chemical and physical terms. In addition to these definitions the completed volume will contain about a hundred special articles on technical subjects by some of the best authorities of the day. The publication should prove very handy for reference.

'Golden Rules of Anæsthesia.' By R. J. Probyn-Williams, M.D., Senior Anæsthetist to the London Hospital. Pp. 67. Price 1s. Bristol: John Wright and Co. 1904.

There is no principle enunciated in this pocket volume which is not sound, nor any statement which is not accurate. Dr. Probyn-Williams, of course, does not attempt to write the whole truth about his subject in so small a compass, but he can, at all events, be congratulated on having written nothing but the truth. The reputation of the Golden Rules Series must inevitably be enhanced by this the latest edition to it.

'Proceedings of the American Pharmaceutical Association.' Vol. 51. Pp. 1,103. Price $5.50. Baltimore: 1903.

One-half of this volume is taken up with the minutes of the fifty-first annual meeting of the Association, held at Mackinac Island, Mich., last August, and of the different "sections." The total membership for the year ending with the publication of the proceedings of 1903 was 1,409, that number including ten honorary members. The amount of pharmaceutical research and political work which the Association accomplishes is great, and the 'Proceedings,' which is the prototype of the 'Year-Book of Pharmacy,' embodies much that is of the greatest value to pharmacists. Many of the papers read at the last annual meeting of the Association have already been summarised in this Journal, and need not be further alluded to. The second half of the book is a report on the progress of pharmacy, consisting of abstracts of articles which have appeared in the principal pharmaceutical journals of this and other countries. The abstracts have been admirably made and arranged. One venial slip which occurs many times is the reference to a distinguished English pharmacist and honorary member of the American Pharmaceutical Association by the title "Dr."

'Soda-water Formulary.' Compiled by E. G. Eberle, Ph.G. Pp. 231. Price 1 dollar (cloth), 75c. (paper). Dallas, Texas: Texas Druggist Publishing Company.

This is a handy guide for the modern soda-water dispenser and a compilation of the most reliable formulas for dispensing hot and cold soda. In America the soda-water business has been raised to a fine art, and our cousins "over the herring pond" can give us many valuable lessons in the use of the soda fountain. The volume contains a very large and varied selection of recipes for drinks of every description, as well as a number of very useful hints to the man at the fountain. The compiler, Mr. E. G. Eberle, has done his work well, and has succeeded in putting together a comprehensive volume. A number of interesting articles dealing with the early history of soda-water and the management of the fountain are also included. It is undoubtedly a book which those who wish to cultivate this class of trade will find invaluable.

LEGAL INTELLIGENCE.

Medicine Stamp Duty Acts.

Sales Without Licence and Stamps.

On Wednesday, June 1, 1904, at Liskeard, Wm. Hick, of 4, Cathcart Avenue, Prince Rock, Plymouth, was proceeded against by the Inland Revenue authorities for four offences under the Medicine Stamp Acts, 1802 and 1812.

Two of the charges were for exposing for sale medicines without a licence at Lanteglos-by-Fowey and St. Veep, and for exposing for sale medicines without wrappers denoting the duty, at Lerryn and St. Neots.

Defendant pleaded that he was ignorant of the law appertaining to the sale of medicines.

Evidence was given showing that the defendant offered for sale a medicine known as "Hick's Remedy." Defendant sold the preparation at 1s. 1½d. per bottle, and said the medicine was "good for cattle and human beings." The label on the bottles set forth that the medicine was beneficial for sundry ailments, such as rheumatic gout and toothache.

Defendant was fined 25s. on each charge and costs.

High Court of Justice: Chancery Division.

A Mineral Water Action.

On Thursday and Friday, June 2 and 3, 1904, Mr. Justice Warrington heard an action in which Messrs. Schweppes, Limited, sought an injunction against Mrs. Gibbens, of Plymouth, restraining her from passing off, or enabling or assisting others to pass off, any soda water or other aërated water not manufactured by the plaintiffs as aërated water of the plaintiffs' manufacture.

Mr. Russell, K.C., Mr. H. Terrell, K.C., and Mr. Sebastian appeared for the plaintiffs, and Mr. Rowden, K.C., and Mr. Mundy for the defendant.

In opening the case counsel said that the plaintiffs had for some years past adopted and used a distinctive label for soda water. The present company was registered on May 6, 1897, and was a reconstruction of a former company, J. Schweppes and Co., which was formed in 1886. The defendant, Mrs. Gibbens, had recently adopted for use upon her soda water bottles a label which the plaintiffs said was so very similar in get-up to the label they had been using since 1897 as to be likely to lead to the deception of persons who wished to purchase the soda water of the plaintiffs. He did not say that the immediate purchaser from Schweppes was likely to be deceived, he admitted that that was not at all likely, but the case he wished to put before the Court was the probability of deception of the ultimate purchaser. The defendant was equally liable if she put into the hands of a retailer a weapon of fraud. Originally the plaintiffs had a chocolate label with red and white letters, but that they were advised they could not claim a monopoly of, and they determined, therefore, to distinguish their label by introducing into it a red medallion with their trade-mark—a fountain—in the centre. Notice of the introduction of that label was sent to all their customers.

Evidence on behalf of the plaintiffs was given by the general manager of the company, Mr. Harris, manager at Plymouth, and other witnesses. Mr. Harris was cross-examined as to the labels of certain other firms which now or previously had been printed in white letters on a chocolate and red background. On each of Schweppes' bottles of soda water there was a cork label and a neck label. On defendant's bottles there was no neck label on the large size and no cork label on the small size.

Without calling upon counsel for the defendant, his Lordship came to the conclusion that, looking at the two labels, there was no intention to deceive, nor was the defendant's label calculated to deceive. The action was accordingly dismissed with costs.

A similar action of "Schweppes, Limited, *v.* W. Biscombe and Sons," was dismissed with costs without being gone into.

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Hæmatogen Trade Mark.

On Wednesday, June 8, 1904, before Mr. Justice Warrington, the action of Adolf Hommel (trading as Nicolay and Co.) *v.* Gebruder Bauer and Co., of Mincing Lane, London, came on for trial. Plaintiff claimed an injunction to restrain the defendants, their servants and agents, from offering or exposing or advertising for sale, or procuring to be sold, any medical preparation not manufactured by or for the plaintiff under the name of "Hæmatogen," or under any name so arranged or contrived as by colourable imitation of the said name or otherwise to be calculated to represent or lead to the belief that such preparation was the plaintiff's; also from passing off, or enabling or assisting others to pass off, any such preparation as of a preparation of the plaintiff, and from in any manner infringing the plaintiff's registered trade mark 222761. Plaintiff also asked for an order for delivery up of infringing goods and damages and costs. Mr. H. Terrell, K.C., and Mr. Sebastian appeared for the plaintiff, and Mr. Norton, K.C., and Mr. F. Watt represented the defendants.

Mr. Terrell said plaintiff claimed an injunction to restrain defendants from infringing plaintiff's trade mark, and also to restrain them from passing off goods not of the plaintiff's as and for the plaintiff's goods. The defendants have a cross motion to rectify the register of trade marks by expunging plaintiff's trade mark therefrom. Plaintiff was a Swiss doctor practising at Zurich, Switzerland, and had for some years past carried on business in this country as Nicolay and Co., as manufacturers of and dealers in a drug or preparation called hæmoglobin. That was made from ox blood, and had been known to chemists and the medical profession for years. It was made in a powder, and when mixed with glycerin and spirit in various proportions it was much used in the medical profession. Various preparations of it had been manufactured here and in Germany and sold under various names. Plaintiff made a preparation of it which he had always sold under the trade mark of hæmatogen. He first sold it in Germany in 1890. In 1893 he sold small quantities in this country until 1899, when he registered hæmatogen as his trade mark, and appointed agents to push the sale. There was no trace of any hæmatogen being sold in this country except plaintiff's until 1902, and plaintiff had spent £30,000 in advertising. His trade had become very large, as his preparation was much recommended. He first learned that the defendants, who were the London agents of a German firm named Kohrs and Co., were infringing his trade mark through his agents calling on Messrs. Maw, Son and Thompson, who informed him that defendants were offering them a preparation which they called hæmatogen, and which they said that some manufacturing chemists in Hamburg could manufacture much cheaper than the plaintiff. The defendants now said registration had been wrongfully obtained, because the word hæmatogen was not invented by the plaintiff. It was not an invented or distinctive word; it was in common use in Germany and elsewhere, and preparations so called were sold by various firms; it was an English word meaning a preparation from blood, or was an English word with a slight change of termination. Plaintiff entirely disputed all this, and said he was entitled to the sole use of the word commercially.

Evidence was called for the plaintiff, and the case was adjourned.

On Thursday, June 9, the hearing was resumed. Dr. Otto Hehner was called and examined at some length by Mr. Terrell. He produced certificates of analysis of Hommel's hæmatogen and of the preparation which had been sold by the defendants. The latter preparation contained a smaller proportion of albuminous constituents and five times as much alcohol as the other.

In cross-examination, Dr. Hehner was shown numerous books from the Library of the Pharmaceutical Society and elsewhere, in which the word "hæmatogen" had been used prior to its registration as a trade mark in this country. A copy of the *Pharmaceutical Journal* of February 27, 1897—one of the "special issues"—which contained a reference to Hertel's hæmatogen, was put in.

Mr. Robert Leng, of Messrs. Maw, Son and Sons; Mr. Julius Link; and Mr. W. J. Patey, of Messrs. Roberts and Co., New Bond Street, gave evidence as to obtaining goods from the defendants under the name of hæmatogen, but not made by the plaintiffs.

Dr. Walsh, Dr. Murrell, Dr. Younger and Dr. Bernard Abrahams were also examined, and cross-examined by Mr. Norton, K.C., whose efforts were mainly devoted to showing that the word was commonly used in text-books, especially of physiology and materia medica, without reference to Hommel's preparation.

Mr. Terrell, K.C., handed Dr. Walsh a copy of the tenth edition of Martindale's 'Extra Pharmacopœia,' which made no mention of any hæmatogen other than Hommel's, and Dr. Walsh stated that the book was on every consultant's table. Squire's 'Companion' he described as a standard work, chiefly used by pharmacists. He had not found any reference to hæmatogen there.

Dr. Murrell, in cross-examination, was asked to look at Remington's 'Practice of Pharmacy' and Lescher's 'Recent Materia Medica,' both of which referred to hæmatogen as if it were a non-proprietary preparation. In Lescher's work, published in 1897, hæmatogen was described as "a soft yellow powder, containing 7 per cent. of iron, soluble in alkaline fluids. Ferruginous tonic in anæmia, etc." Some laughter was caused when Dr. Murrell was asked a question with reference to the use of the word in trade circulars. Dr. Murrell replied that he always put such circulars in the waste-paper basket, and the fact that "hæmatogen" was mentioned in a trade-circular did not imply that it was known to the medical profession. Dr. Murrell admitted that in Whitla's 'Materia Medica and Therapeutics,' which was a well-known book, a substance quite distinct from Hommel's preparation was spoken of as "hæmatogen." Asked how frequently he prescribed the drug at Westminster Hospital, witness replied that on one day, if he thought of it, he might prescribe hæmatogen half-a-dozen times, and, on another day, if he were thinking of something else, he might not prescribe it at all.

Sir Thomas Robinson, of Dublin, and Mr. Pickering, of the firm of Messrs. F. Newbery and Sons, gave evidence to the effect that the firms with which they are connected are asked for hæmatogen, and always sell the plaintiff's preparation. Sir Thomas Robinson said that the firm of Hayes, Conyngham, and Robinson, Limited, had purchased about £245 worth of Hommel's hæmatogen during the last three years.

Dr. Septimus Sunderland and Dr. George Carpenter also gave evidence.

Mr. W. W. Thomas, manager to the Foreign Chemists, Limited, said he always understood hæmatogen to refer to Hommel's drug.

Dr. Adolf Hommel, the plaintiff, then gave evidence in German, through an interpreter. Since 1890 the sales of hæmatogen were of the total value of some £600,000. That would represent some seven million bottles. In the United Kingdom the sales had realised £21,000. On advertisements in this country he had spent £10,000, and he had received 1,500 testimonials from medical men in this country. His application for the registration of the word as a trade mark had twice been refused in Germany, on the ground that the word was a common merchandise term. His application for the registration of the word in England was dated May 4, 1899.

Cross-examined by Mr. Norton, K.C.: He did not claim to have invented the word hæmatogen, but it was suggested to him by a friend who was a philologist and medical man. As a substantive, applied to a medicinal substance, the word was new when he began to use it. It had been used as an adjective, however, before then.

The cross-examination of Dr. Hommel had not concluded when the Court rose.

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Brompton County Court.

Cashing Cheques for Customers.

On Tuesday, June 7, 1904, before Deputy Judge Clement Lloyd, Mr. John Wormall Shaw, chemist (trading as Gamble and Co.), 4, Edwardes Terrace Kensington, W., brought an action against Mr. Robert W. Withers-Lee, an artist, 35a, Addison Road, Kensington, claiming £24 19s. 8d. in respect of drugs, etc., supplied, and alleged presentation of a cheque which proved to be worthless.

Mr. Wootten, counsel, appearing for the plaintiff, said he understood that the dispute was mainly in regard to the cheque. It appeared that, one evening in December last, the defendant, who had been a customer for a long time, came to plaintiff's shop and asked the assistant in charge whether plaintiff could cash a cheque for him. The cheque was made payable to a Mr. Sievier, who had recently gained notoriety in connection with some legal proceedings, and the cheque purported to have been drawn by a Mr. J. M. G. Colman. The assistant took the cheque to Mr. Shaw, who was at the back of the shop, and returned, pointing out that the cheque required endorsement. The defendant, it appeared, then called Mr. Sievier into the shop, and when he had endorsed the cheque the assistant cashed it. Subsequently it was found that the cheque had been taken from a cheque book which formed part of the proceeds of a burglary, and that "J. M. G. Colman," if such a person existed at all, had no account at the bank.

Mr. Frederick Hicks, the plaintiff's managing assistant, bore out counsel's opening statement.

The Defendant stated that Mr. Sievier wanted to pay him thirty shillings which he owed, and asked whether he (defendant) could cash the cheque. Mr. Sievier assured him that the drawer of the cheque was "the mustard man." Defendant explained that it was not convenient for him just then to cash the cheque, but suggested that his chemist might do so. He denied, however, having guaranteed the genuineness of the cheque.

In cross-examination defendant admitted that he asked plaintiff's assistant to cash the cheque for him, not for Mr. Sievier.

His Honour found for the plaintiff for the amount claimed.

POISONING CASES AND INQUESTS.

The deaths from poisoning recorded during the seven days ended Wednesday, June 8, 1904, numbered ten, thus:—

Poison.	Accident.	Suicide.
Ammonia	—	1
Carbolic Acid	—	2
Chloroform	1	—
Cocaine	1	—
Hydrochloric Acid	—	1
Laudanum	—	1
Lead	1	—
Phosphorus Paste	—	1
Ptomaine	1	—
Total	4	6

Ammonia.—An old woman of Oldham poisoned herself with ammonia.

Carbolic Acid.—A Norfolk shoe operator and a private in the Royal Field Artillery committed suicide by drinking carbolic acid.

Chloroform.—A man who had been stabbed was carried to the London Hospital, where chloroform was administered with fatal results.

Cocaine.—A Fellow of the Royal College of Surgeons died in the London Temperance Hospital from the effects of an overdose of cocaine.

Hydrochloric Acid.—At Manchester, a married woman committed suicide by drinking spirit of salt.

Laudanum.—A woman, of Consett, committed suicide by taking this poison. The Coroner made a misstatement when he remarked that the sale of carbolic acid and laudanum were unrestricted.

Lead.—An employee at a coach works died from the effects of lead poisoning.

Phosphorus Paste.—A woman committed suicide by taking phosphorus paste, which a daughter aged ten years obtained for her at an oil shop. The jury expressed the opinion that there should be restrictions on the sale of poisons of this kind.

Ptomaine.—After eating meat pie, a Leeds mechanic expired, death being due to ptomaine-poisoning.

Attempts at Suicide have been made with phosphorus paste, laudanum (3), oxalic acid (3), salts of lemon.

SCHOOL AND COLLEGE NEWS.

Metropolitan College v. London College.—This cricket match was played at Nunhead on Saturday last, and ended, after an exciting contest, in a win for the "Metros" by two runs. London won the toss, and elected to bat. A promise of a fair score was shown, but the last four batsmen were disposed of without scoring, Palmer, bowling splendidly, doing the hat trick and taking seven wickets for 18 runs; they were all out for 42 runs. The "Metros," on going in to bat, fared very badly, and could do little against the bowling of Clark and Hardbottle. They had nine wickets down for 29, but, thanks to some vigorous hitting by Dixon and Chard, the last wicket turned an almost certain defeat into victory, and the innings ended with the score at 44. Time permitting, "London" batted a second time, and did better, thanks to a good innings of 41 by Hoskings (who went in fourth and was last out), and they scored 67. Tomlinson, the "Metros" captain, bowled very successfully, doing the hat trick and taking four wickets for 13 runs.

PATENTS AND TRADE MARKS.*

New Patent Applications.

APPARATUS FOR ADMINISTRATION OF ANAESTHETICS (No. 15,149 of 1903).—H. E. Edwards and The Dental Manufacturing Co., Limited, both of 6, Lexington Street, Golden Square, London. Relates to an ordinary apparatus for the administration of an anæsthetic, such as nitrous oxide gas, comprising a headpiece with air admission and regulating valves, to which is attached a graduated tube containing a quantity of another anæsthetic, such, for instance, as chloride of ethyl. It has been found of advantage, when using anæsthetics, to be able to inject into the bag containing the gas a quantity of another anæsthetic, preferably in liquid form. To this end the graduated tube above-mentioned is screwed to the ordinary apparatus just above the gas-bag, and is fitted with a stopcock at its lower end. When it is desired to add the second anæsthetic the said stopcock is opened and the contents of the tube or cylinder flow into the gas-bag. The said gas-bag may contain a wire cage or the like, adapted to contain lint for absorbing the liquid, and assisting its diffusion. As an alternative a connection may be attached to the bottom of the rubber gas-bag adapted to be secured to a vessel or tube in which the required quantity of the second anæsthetic may be contained, and out of which it can be forced, when required, into the bag by compressing a flexible ball, or by means of a piston in a tube, or other suitable device.

MANUFACTURE OF ORTHOTOLUENESULPHONIC ACID (No. 16,299 of 1903).—O. Imray, Birkbeck Bank Chambers, Southampton Buildings, London. (Communicated by Fabriques de Produits Chimiques de Thann and de Mulhouse, Thann, Alsace, Germany.) Relates to an improvement upon the same inventor's British patent No. 14,390 of 1901, and consists in the addition of a smaller quantity of water in order to cause the orthotoluenesulphonic acid to separate than that mentioned in the previous specification, the proportion being such that cooling to a low temperature is avoided, and the separation occurs at or about the ordinary temperature. Example:—400 parts of toluene are poured into 1,435 parts of sulphuric acid monohydrate (sulphuric acid of approximately 100 per cent. strength) at 16-17° C. In about ten hours sulphonation is complete, 300 parts of water are added, and the liquid left to crystallise. 675 parts of paratoluenesulphonic acid are obtained. To the acid liquid separated from the crystals are added 80 parts of water, whereupon the orthotoluenesulphonic acid crystallises, the yield being 390 parts.

TREATMENT OF ALKALI CHROMATES FOR THE PRODUCTION OF BICHROMATES AND ALKALI THEREFROM (No. 17,588 of 1903).—G. W. Johnson, 47, Lincoln's Inn Fields, London. (Communicated by the Chemische Fabrik Griesheim Elektron, Frankfort-on-the-Main, Germany.) Relates to the conversion of alkali chromates into bichromates and the simultaneous production of alkali by introducing a saturated solution of an alkali chromate into the two compartments of an electrolytic cell, separated from each other by a diaphragm, employing, as electrodes, an anode not attacked by the solution and a cathode which will not reduce the alkali chromate, so that on the said solution being electrolysed with an electric current of low voltage by heating the bath to a temperature of from 80-90° C., caustic alkali is obtained in the cathode compartment according to the following equation:—$K_2 + 2H_2O = 2KOH + H_2$, and a pure solution of bichromate is obtained in the anode compartment according to the equation $K_2CrO_4 + CrO_4 = K_2Cr_2O_7 + O$.

Note.—Opposition to the grant of above Patents must be filed at the Patent Office on or before July 18, 1904.

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New Trade Mark Applications.

"**CHROMALO**" ("Chrome" disclaimed), for chemical substances used in manufactures, photography or philosophical research, and anti-corrosives, for Cotterell Bros., Limited, 11, Clare Street, Bristol. 263,101.

DEVICE OF CHINESE LANTERN, for chemical substances used in manufactures, philosophical research or photography, and anti-corrosives, by Wilkinson, Heywood and Clark, Limited, 7, Caledonian Road, N. 262,769.

"**TURBOLINE**," for a disinfecting fluid, by H. J. Glanville, Railway Arches, Ronel Road, Bermondsey, S.E. 262,289.

"**FORMICAL**" ("Formic" disclaimed), for chemical substances used for agricultural, horticultural, veterinary and sanitary purposes, by R. W. Carle, 153, Water Street, New York, U.S.A. 262,493.

DOUBLE-HEADED FIGURE, for medicinal powders for human use, by W. Burke, Kilbane, County Clare, Ireland. 262,076.

"**MENSTRONIC**," for medicated tablets for human use, by A. Riess, 148 and 149, Aldersgate Street, E.C. 262,916.

"**FORMAWN**," for chemical substances prepared for use in medicine and pharmacy, instruments, apparatus and contrivances not medicated, for surgical or curative purposes, or in relation to the health of men or animals, by K. A. Lingner, 26, Southwark Bridge Road, London. 263,068-9.

"**ABUR**," for instruments, apparatus and contrivances, not medicated, for surgical or curative purposes, or in relation to the health of men or animals, by W. J. Teufel, 51, Neckarstrasse, Stuttgart, Germany. 263,013.

"**PRODEW**," for a rubber trough, being an apparatus for useful purposes for the preservation of the teeth and gums, by P. Edgelow, 8, Abercorn Place, St. John's Wood, N.W. 263,056.

"**ELIDA**" and "**ULIDA**," for perfumery, etc., by G. Schicht, Ober-Sedlitz, Aussig, Austria. 262,131 and 262,135.

"**FUO**," for perfumery, etc., by Alsing and Co., Limited, 110, Cannon Street, London. 263,009.

Note.—Opposition to the registration of above trade-marks must be filed at the Patent Office on or before July 8, 1904.

Fucol.—A patent has been taken out by Norrenberg for the preparation of a substitute for cod-liver oil from seaweed. Seaweeds rich in iodine are roasted, by which an empyreumatic oil is formed; the torrified material is then extracted with refined edible oils, which dissolve the iodine-containing empyreumatic matter. This product is fucol. It is an oil with an olive-green colour and a pleasant coffee-like flavour. It may be taken exactly like cod-liver oil, either alone, or medicated with creosote, iodine, ferrous iodide, or other drugs. It is easily emulsified. If 1 C.c. of fucol be dissolved in 1 C.c. of chloroform and treated with one drop of strong sulphuric acid the mixture develops a fine green coloration on agitation.—*Pharm. Centralh.*, **45**, 33.

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* These abridgments of new patent applications and particulars of new applications for trade marks have been specially compiled from official sources, for the *Pharmaceutical Journal*, by Mr. Reginald W. Barker, agent for procuring patents and registering trade marks and designs, 56, Ludgate Hill, London, E.C., from whom any information on the subjects may be obtained. Mr. Barker will also send copies of his 'Trade Mark Notes' and 'Patent Notes for Inventors' free on application.

AMERICAN NOTES.

(*From Our Special Correspondent.*)

The Patent Medicine Curse.

I am wondering if the *Ladies' Home Journal* has any circulation in Great Britain. If it has, doubtless English chemists are already familiar with the terrible blast which Editor Bok gave the patent medicine industry in the May issue. "The Patent Medicine Curse" was the title of his article, and he declared that this evil was fraught with greater danger for the people of this country than either the liquor or narcotic curses. A list of forty or fifty leading patent medicines was given, and the percentage of alcohol stated in each case. A well-known proprietary was declared to contain, not only a large percentage of alcohol, but dangerous amounts of opium and digitalis also. The manufacturers insist that all three substances are absent from the product, and they have brought a suit for 200,000dols. against the *Ladies' Home Journal*. The *Journal* has offered to make a short editorial retraction or apology, but the manufacturers refuse to accept the proposition. It looks like war to the knife.

A Pharmacy Act for the Indian Territory.

The United States proper comprises fifty-two states and territories. All of these commonwealths, with the single exception of Indian territory, have been provided with pharmacy laws, and now the final step in the process is taken by the recent action of the National Congress in giving this territory a statute also. The enactment of the measure is chiefly important for the reason that it entirely completes the movement for State pharmaceutical legislation which began in this country thirty or forty years ago. The Indian territory law is, however, interesting because of its merits alone. One peculiar provision is that which will compel a candidate for registration as a pharmacist to sign an affidavit indicating that he is not addicted habitually to the use of liquors or narcotics. To swear falsely on this point will constitute perjury, and will render the candidate subject to a penalty of 200dols. for the first offence. The Board of Pharmacy is to be composed of five members, appointed by the Chief Justice of the Territory, and a requisite for the position is that a man must have practised pharmacy not less than ten years. Annual re-registration at 2·00dols. is provided for. In country towns of fewer than 1,000 inhabitants grocers and other merchants are permitted to sell certain medicines at the pleasure of the State Board of Pharmacy. Of course, all pharmacists now in business will not be affected by the statute; it will concern those only who have yet to embark in the calling. A rigid examination must be passed by the candidate, or, in lieu of this, the diploma of an accredited college will be accepted.

The Metric System and the U.S.P.

I think I mentioned in a previous letter that the advisability of using alternative weights and measures in the forthcoming edition of the U.S. Pharmacopœia was being quite generally discussed on this side of the water. The example of the B.P. in giving quantities both in the metric and in the ordinary systems of weight and measure has been frequently cited, and the opinion has been freely expressed that the Pharmacopœia would make a serious mistake to continue its dependence upon the metric system alone. The fact is that not more than 5 or 6 per cent. of druggists use the metric system in their pharmaceutical operations; or, indeed, have a set of metric weights in the store. The action of the pharmacopœial authorities in ruling out every other system but the metric has, therefore, resulted in making the U.S.P. more or less obsolete, and in enhancing the popularity of the various commentaries and dispensatories. Dr. H. C. Wood, President of the Pharmacopœial Convention, has issued a public statement in which he takes the ground that since the Pharmacopœial Convention voted to retain the metric system the Committee of Revision has no authority or jurisdiction in the premises. But will it affect the retention of the metric system if another system is added to it? Furthermore, the Committee of Revision should not be surrounded with too many limitations if it is to exercise its functions wisely and properly. Just what will be the outcome of the whole question it is too early to predict.

The Law as to Price Protection.

A spectre which the drug trade of the country thought it had buried effectively a year ago has again risen to haunt the minds of jobbers and retailers. My British readers are doubtless familiar with the history of the case brought some years ago by John D. Park and Sons against members of the National Wholesale Druggists' Association. Briefly, the facts are these: Park was a wholesale cutter; under the operations of the so-called rebate and tripartite plans, he was refused supplies by certain patent medicine proprietors; he brought a suit promptly against the members of the jobbers' association on the ground that the latter had instigated the action of the proprietors; the suit was carried through several courts, and a decision was finally rendered last year by the Court of Appeals of New York State. Park was beaten. The court decided that the manufacturer of a patented, trade-marked, or copyrighted article had the right to dictate the conditions under which that article should be sold—a right consequent upon the legal protection given by the Government. Since then Park has done a good deal of thinking, and he has now brought another suit against a dozen of the leading wholesale druggists in New York City. He hopes to bring charges which were not at issue in the previous trials, and to take another tack generally. Of course, a great deal of interest is being felt all over the country in the case. The future of the tripartite plan of distributing proprietary articles—a plan which means much for the welfare of the retail drug trade—is more or less wrapped up in the result.

The Trade Stamp Evil.

I think I have indicated in a previous letter what a pest the American trading stamp has come to be. Dealers give these out with all purchases of a stated amount, and then accept them as payment for "premiums" of various sorts. The use of trading stamps really amounts to a cutting of prices, and anarchy and chaos almost inevitably result from their employment. I speak of them again at this time only to report the gratifying fact that three State legislatures have recently enacted quite rigid anti-trading stamp laws—the legislatures of New York, Maryland and Minnesota. All three measures are practically identical. They do not directly prohibit the use of stamps—a thing that has been proved unconstitutional—but they reach the same end indirectly by providing that all trading stamps must be honoured for their full cash value in money. The scheme of the trading stamp companies is in every instance to give "premiums"—articles which cost the company only about one-third of what the supposed face value of the stamps indicate. To have to honour the stamps in cash will, therefore, put a burden upon the companies which will practically compel them to cease operations—or at least to limit them materially.

MISCELLANEOUS NEWS.

Divisional Secretaries and other Members of the Pharmaceutical Society are requested to assist the Editor by sending local newspapers containing items of interest to chemists and druggists.

The Food and Drugs Act Inspector has lately been busy amongst the chemists of the Hartlepools district, samples having been purchased of camphorated oil, chlorodyne lozenges, and lime water.

Transfer of Wine Licence.—The Southport Bench have transferred the medicated wine licence attached to the chemist's business at Coronation Walk, Southport, from Mr. J. B. Foggitt to Mr. James Bell Wilson.

Theft from a Chemist's Shop.—A dock labourer named Chas. Miller was sentenced to seven days' hard labour at Grimsby on June 2 for stealing a tooth-brush from the shop of Mr. Chas. Dewing, chemist and druggist, Old Market Place, Grimsby. He committed the theft whilst some ointment was being prepared for him.

Great Yarmouth Pharmaceutical Association.—The usual monthly meeting was held at 156, King Street, on Thursday, June 2, Mr. J. S. Shearman in the chair. The secretary's arrangements for the excursion to Potter Heigham on June 9 were approved. Several matters of purely local interest were discussed at some length, and the session was finally adjourned until October 6.

Deceased Chemists' Estates.—The value of the estate of the late Mr. Edward Allison, of the firm of Messrs. E. and H. Allison, wholesale chemists, of Hull, has been proved at £1,275 gross.—The estate of the late Mr. Geo. Bargh Owen, chemist and druggist, of 51, Crescent Road, Sheffield, and formerly of the Broad Street Stores, and of 6, Stepney Street, Park, Sheffield, has been valued at £1,494 gross, the net personalty amounting to £489.

An Adrenaline Action.—In the Tribunal of Commerce, Brussels, recently, an action was heard in which Messrs. Comar et Cie. sued Messrs. Parke, Davis and Co. for damages to the amount of 25,000 francs by reason of the publication of a circular wherein, it was alleged, the defendants wrongfully claimed the exclusive ownership of the word "adrenaline." Plaintiffs stated that they had duly filed a trade-mark containing the word "adrenaline" prior to the registration of the word by Messrs. Parke, Davis and Co. The Court dismissed the action, with costs against the plaintiffs.

Chemists' Assistants' Association.—At a council meeting held at 73, Newman Street, W., on Thursday, June 2, 1904, the following gentlemen were elected to hold office for the next session:—President, R. E. Lownsbrough; Hon. Vice-President, A. B. Britton; Vice-Presidents, W. Matthews and G. E. Town; Hon. Treasurer, C. J. Strother; Hon. Secretaries, A. G. C. Paterson and E. Williamson; Recorders (Chemistry) W. Garsed, (Pharmacy) W. Matthews; Auditors, C. Morley and C. E. F. Vallet. Messrs. C. J. Strother, W. Matthews and J. Arrowsmith were appointed delegates to the British Pharmaceutical Conference.

Royal Institution.—A general meeting of the members of the Royal Institution was held on the 6th instant. Mr. Richard Bagot, Mr. W. Carrington, Mr. E. G. Fellows, Mr. W. R. Freeman, Mr. R. F. Nicholson, and the Hon. C. A. Parsons, F.R.S., were elected members. The thanks of the members were returned to Dr. Andrew Carnegie for his donation of £1,200 to enable Professor Dewar and Mr. R. A. Hadfield to prosecute their joint investigation on the physical properties of steel and other alloys at low temperatures; and to Dr. Frank McClean for his donation of £100 to the Research Fund of the Royal Institution.

British Mosses.—A new edition of the 'Students' Handbook of British Mosses' will be issued on June 18, the first edition, published in 1896, being already nearly exhausted. The new edition contains sixty more pages, and descriptions of some thirty new British species that have been detected in this country since the last edition was published. Considerable alterations and many additions have been made in the notes on many genera, such as *Sphagnum*, *Weissia*, *Pottia*, and the Harpidioid section of *Hypnum*. The new species are illustrated on five plates. The price remains the same—18s. 6d. net—and the work is published by V. T. Sumfield, Station Street, Eastbourne.

Drug Inspection in Middlesex and London.—The annual report, issued last week, on the administration of the Sale of Food and Drugs Acts in the County of Middlesex shows that during 1903 103 samples of drugs were submitted to the Public Analyst. Of these all were genuine and in accordance with the requirements of the B.P., except three samples of magnesia and one sample of compound powder of jalap. Lambeth's public analyst, in his report for the past quarter, states that he examined three samples of tartaric acid, all of which were genuine. Dr. Stevenson, public analyst of St. Pancras, is to examine 250 additional samples per annum at 10s. each. Previously 500 samples a year were taken.

The Departmental Committee appointed by the Board of Agriculture and Fisheries to inquire into the working of the Fertilisers and Feeding Stuffs Act, 1893, held sittings on June 2, 3, and 6. The members present were:—Lord Burghclere (in the chair), Dr. T. E. Thorpe, F.R.S., Mr. J. W. Clark, K.C., Mr. A. K. Loyd, K.C., M.P., Mr. R. Burnard, Mr. A. M. Gordon, Mr. I. Pearson and Mr. J. W. Spear, M.P. A number of witnesses gave evidence, including Mr. Alexander Cross, M.P., who is well fitted to give evidence on this subject. In August of last year the firm of Alexander Cross and Sons, Limited, Glasgow, was fined at Greenock Sheriff Court for an offence under the Fertilisers and Feeding Stuffs Act.

Alleged False Pretences.—At Hertford, last week, Henry Hiron, of London, was charged with obtaining by false pretences goods to the value of £2 2s. from Messrs. Brown and Co., Limited, manufacturing chemists, of Manchester. The evidence showed that on April 23 the accused was engaged as traveller for the prosecutors at a commission of 10 per cent. on all orders. Three days later defendant sent an order for some ammonia, soap and other articles to be forwarded to H. Loder, Loder's Stores, 29, Railway Street, Hertford. The order was executed, but it was subsequently discovered that there was no such place as Loder's Stores. The goods were found locked up in a store which had been rented by the accused under the name of Loder. Accused stated that he received the order for the goods from a friend of his named Stone, who traded under the name of Loder. The Bench committed the accused for trial at the Assizes.

Pharmaceutical Appeal Cases.—We understand that Messrs. Thompson and Capper have entered an appeal against the judgment of the late Mr. Justice Byrne in the action for "passing-off" brought against them last year by Messrs. Burroughs Wellcome and Co. It will be remembered that Messrs. Burroughs Wellcome and Co. succeeded in the Chancery Division in obtaining an injunction against Messrs. Thompson and Capper, as well as in defending their title to the exclusive use of the word "tabloid" as a trade-mark. Mr. Justice Byrne's decision on the latter point has already been confirmed by the Court of Appeal, and it is against the other portion of the judgment that an appeal will be heard during the present sittings.—Another appeal from the Chancery Division which is on the list for hearing is one entered by Messrs. Christy and Co. against the decision in favour of Messrs. Tipper and Son given by Mr. Justice Joyce, and ordering the erasure from the 'Register of Trade-Marks' of the word "Absorbine," used in respect of an ointment and other veterinary medicines.

A Garden Party at the Botanic Gardens.—The Mayor of St. Pancras (Alderman T. H. W. Idris, L.C.C.), who is also President of the British Pharmaceutical Conference, gave a garden party in the Royal Botanic Gardens, Regent's Park, on Saturday, June 4, to some two thousand guests. The company included, in addition to a number of members of Parliament—among them Mr. Thomas Lough—and several gentlemen prominent in the municipal life of London, Mr. Albert Cooper, Mr. and Mrs. Charles Umney, Mr. and Mrs. J. C. Umney, Mrs. R. A. Robinson, Mr. and Mrs. Leo Atkinson, Mr. W. Adpar Jones, Mr. F. Ransom, Professor H. G. and Mrs. Greenish, Mr. I. Bourdas, Miss Alice Bourdas, and Mrs. Isaiah Bourdas, Mr. and Mrs. Watson-Will, Mr. E. R. Marsh, Mr. P. MacEwan, Mr. W. P. Want, Mr. and Mrs. John Humphrey, Mr. F. C. Goodall, and Mr. Richard Robinson, jun. Mr. and Mrs. Idris were busily engaged in receiving their guests for upwards of an hour and a-half. Several scenes from "The Comedy of Errors" were performed by Mr. Ben Greet's Company on a piece of rising ground near the lake on the eastern side of the gardens. The band of the Coldstream Guards played musical selections, and other entertainments were provided.

Battersea Council and the Chemists' Defence Association.—On April 26 the Town Clerk of Battersea received a letter, dated the previous day, from the Chemists' Defence Association, Limited, in which a protest was entered against the reiteration in public of a statement made by the Public Analyst, and reflecting on Mr. S. V. Brook, of Grayshott Road, Wandsworth, who was recently prosecuted by the Council in respect of the sale of a sample of camphorated oil. The prosecution was unsuccessful, and three analysts who had examined the oil for the defence had certified that the sample answered in every respect the requirements of the British Pharmacopœia. In spite of that, the Public Analyst had subsequently reported that, although the case was dismissed, the oil was unsatisfactory. The communication was referred, in the usual course, to the Public Health Committee. At the meeting of the Council on Wednesday last, this Committee submitted their report as follows:—"We have considered a letter from the Chemists' Defence Association, Limited, relative to the recent proceedings taken against Mr. S. V. Brook in respect of a sample of camphorated oil, and to the report of the Public Analyst thereon submitted to the Council on April 13, and have made no order thereon." The report was adopted.

PERSONALITIES, BUSINESS CHANGES, &c.

Mr. John Walton has sold the South Margate Pharmacy, and is about to open a business in the Broadway, Broadstairs.

Mr. G. M. Perkins, M.P.S., has purchased the business of the late Mr. Verdon, chemist and druggist, of High Street, Knighton.

Mr. J. G. Robinson has purchased the business carried on for many years by Mr. G. A. Watt at 20, Lynn Street, West Hartlepool.

Mr. Martindale has secured the contract for the supply of drugs for one year to the West-End Hospital for Diseases of the Nervous System, Welbeck Street, London, W.

Mr. G. A. Watt, L.D.S., having disposed of his chemist's business, 20, Lynn Street, West Hartlepool, has removed his dental practice to his new residence, 2, Grange Road, West Hartlepool.

Mr. Thos. J. Swain is now representing Messrs. Ayrton, Saunders and Kemp, Limited, in South Africa, and has a full range of all the firm's samples on view at his offices, namely, Exley's Buildings, Burg Street, Cape Town, S.A. Mr. Swain's G.P.O. Box is No. 1,456 and his telegraphic address, "Swagent," Cape Town.

Mr. Henry Tinker, M.P.S., of 241, Stockport Road, Manchester, has sold the retail business at the above address to Mr. Libbis Napier Burch, M.P.S., of Victoria Pharmacy, High Street, C.-on-M., Manchester, who will now continue both establishments. The proprietary rights, manufacture and sale of Tinker's Dog Mixture and Clarke's Essence of Rennet are retained by Mr. Tinker, and have been transferred to Burlington Street Drug Mills, Ashton-under-Lyne.

Mr. J. L. Smith, chemist and druggist, of Manchester and Salford, who is a Past Master of the Albert Victor Lodge of Freemasons, and has been a brother in the craft for over twenty years, is the principal founder, and will be the first W.M. of a new lodge to be consecrated by Bro. C. R. N. Beswicke-Royds, the Worshipful Dep. Prov. Grand Master of the East Lancashire Province, on Thursday, June 16, the Provincial Grand Master, Lord Stanley, being unable to leave his Parliamentary duties to perform the ceremony. The new lodge is to be called "The Maritime Lodge," for which a warrant from the Grand Lodge of England has been granted. The consecration will take place in the Ordsall Hall, Salford, at 2.30 p.m.

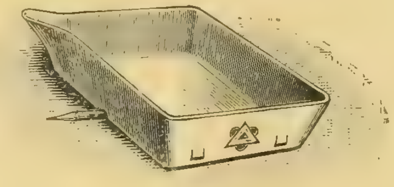
Mr. George Williams Parker, M.R.C.P., Lond. and Edin., M.R.C.S., L.S.A., ex-F.L.S., who has recently been elected a corresponding member of the Pharmaceutical Society of Great Britain, was born at Calcutta, India, on March 30, 1848. He went to England to be educated at an early age, was educated at Brighton, then at Bedford Grammar School, and finally entered St. Thomas's Hospital as a medical student. After qualifying, he went out at once to Madagascar to start a medical mission in the interior for the London Missionary Society. After working there for two years, at the Queen's urgent wish he was transferred to Antanànarivo, the Hova capital, as Court physician. Here he had an extensive and heavy practice for six years. At the end of this time he was forced to return to England by ill-health, being overworked through a serious epidemic that broke out in two successive years. After a short rest in England, Dr. Parker went out to fill a Government post in the Hawaiian Islands, being first stationed at Honolulu, the capital, and later at Waialua, on the same island; but the sudden death of an only brother brought him back to England once more, where he practised as a physician at Christchurch, in Hampshire, and later at Hove, in Sussex, and London, where his wife died of cancer. The doctor and his son have now gone into the interior of British Guiana to do scientific work there in any way possible. At various times he has been elected corresponding member of the Society of Arts and Sciences, and also of the Société d'Acclimation, both of Mauritius, and also later F.L.S. He has sent to England several collections of plants, medicinal plants, and native medicines from Madagascar; also a fine collection of the more minute and microscopic shells of the Hawaiian Islands, which, along with his ores and minerals from Madagascar, is now open to the public for study at Hove (Public Library Buildings), under the title of the "Parker Scientific Collection," and to this fresh additions from Guiana will constantly be made. Dr. Parker has written several scientific papers and two or three books, but his latest work has been to compile, for the use of botanists at Kew Herbarium, a list of 'Plants of British Guiana and the Adjacent Countries,' a manuscript work that in time may form the basis of a much-needed "Flora Guianensis."

TRADE NOTES.

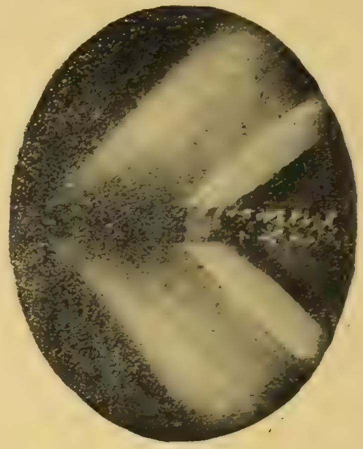
Martindale's Price List.—In the June price list issued by W. Martindale, New Cavendish Street, London, W., an inset has been introduced giving a few leading lines to attract the attention of general, ophthalmic and dental surgeons. An added page gives the names of agents in foreign countries, and attention is directed to the fact that the specialties of the house are being placed on the P.A.T.A. list. It may also be mentioned that an arrangement has been made with Messrs. Oppenheimer and Co. to hold a stock of their leading lines.

The Odol "Phrase" Competition.—A proof of the widespread interest taken in journalistic competitions was afforded by the recent offer of a first prize of £25 by the proprietors of the well-known dentifrice and mouth wash, Odol, for a phrase which would correctly and tersely describe the advantages of their preparation. Considerably over a hundred thousand suggestions were received from about twenty thousand contestants. The first prize was awarded to Mr. F. F. Loyd, of Wellington College, Berks; the second prize to Mrs. K. Davidson, of Bridgend, South Wales, and the third to Mr. J. R. Earnshaw, of 3, Tanglin Villas, Chaldon Road, Caterham.

A New Rocking Dish has just been put on the market by Messrs. Evans Sons Lescher and Webb, Limited. By placing a lead pencil in the grooves, which are let into the ridges underneath, the dish can be steadily and evenly rocked. This is a very excellent article, and one which is sure to recommend itself to the photographer. For further particulars apply to the firm at 56, Hanover Square, Liverpool.



One-millionth Part of a Second Exposure.—The accompanying picture is reproduced from a photograph of a rifle shot, travelling at the rate of 30,000 feet per second, taken on Dr. Schleussner's "Special Rapid Observatory Plate." The exposure was one-millionth part of a second, and was made by means of the electric spark. This specimen demonstrates the high degree of perfection which characterises Dr. Schleussner's plates. These are of five kinds, namely:—Ordinary plates, possessing extreme sensitiveness, purity and evenness of emulsion; viridin plates, yellow and green-sensitive, with diminished sensitiveness to blue, specially serviceable for rapid orthochromatic work without a screen; orthochromatic plates, for screen work, rendering all the colours correctly in tone; special rapid plates, for observatories, stellar photography, for very rapid exposures and for scientific work, micro-photography, etc.; Roentgen plates, specially prepared for X-ray work. For fuller particulars readers should apply to Messrs. T. Christy and Co., Old Swan Lane, E.C.



COMPANY INTELLIGENCE.

Virol, Limited.—The report of the directors of this company shows that the net profits have risen from £3,214 to £4,826, and after writing £4,376 off advertising account, there is a small sum over to reinforce the carry forward. There is no distribution on the company's capital of £63,900, but the steady growth of the business leads the directors to believe that the company will shortly enter the list of dividend-paying enterprises.

Homocea, Limited.—The report of Homocea, Limited, for the year ended March 31 last, was submitted at the meeting held on June 9. The report stated that after payment of salaries and working expenses, together with advertising charges incurred during the year, and a considerable sum for the necessary legal and other expenses in connection with the reduction of capital, there remained £1,204. A full dividend for the year 1903-4 on the preference shares was declared and paid on February 1, and the directors proposed to pay an interim dividend of 3 per cent. on the preference shares for the year 1904-5 on July 1 next.

George K. Harrison, Limited.—Capital, £70,000, in £1 shares. Object, to acquire the business of fire-brick manufacturers and colliery proprietors carried on by G. K. Harrison at Lye, Worcester, and at Brettell Lane and elsewhere in the parishes of Brierley Hill and Kingswinford, Staffordshire, and to carry on the said business and that of manufacturers of and dealers in all kinds of bricks, pots, crucibles, manufacturing chemists, etc.

MARKET REPORT.

The Drug Sales.

London, Thursday, June 9, 1904.

A month having elapsed since the last drug auctions, the offerings at the sales held to-day were heavy, consisting of old and new goods comprised in seventeen catalogues. One would have thought that after the long interval buyers would have come forward more readily, but this was not the case, and the proceedings were even more dismal and duller than those preceding the holiday. On the whole, prices tended lower all round. Perhaps the most interesting feature of the sales was the drop in Menthol; twenty cases of Kobayashi were offered without reserve and sold at 14s. 3d. to 15s., being a considerable reduction on the price asked in the private market. Ipecacuanha was in rather small supply, and was knocked down after fair competition at prices slightly below those which have recently been paid in the private market. For fair to good Mattogrosso 4s. 5d. to 4s. 8d. was paid (part being firmly held for 5s.), and for fair Minas 4s. 5d. Cartagena was bought in at 4s. 9d. Eighteen cases Japanese Refined Camphor (¼, ½, and 1 oz.) tablets sold without reserve at 2s. and 2s. 1d. Gum Benjamin was in fair supply, but was not in equal demand. Two cases of Siam Gum Benjamin sold at £16 for medium bold almond, part shivery block. A small quantity of Sumatra sold at £5 and £5 2s. 6d. Ten cases Kobayashi Peppermint Oil sold without reserve at 5s. 3d.. All varieties of Aloes were in fair supply. Curacoa sold at 23s. for dark liver, and 26s. for fair liver; Socotrine was disposed of without reserve at 30s. Cape sold at prices varying from 38s. 6d. for black hard to 41s. for good hard bright. Zanzibar was disposed of without reserve at a low figure for very ordinary. The Senna disposed of fetched full prices, but only common sold. Cardamoms were in good supply, but sales were made with difficulty. The lots which sold were knocked down at about 2d. cheaper all round. Flat cultivated Calisaya Bark sold at 1s. for first-class damaged, and 10½d. for second-class damaged. Twenty-four serons dull, coarse Huanoco sold at 9d. to 9¾d. Coca Leaves sold at 1s. 1d. to 1s. 2d. for good green, 1s. to 1s. 1d. for fair green, and 10½d. for brown green. Cascarilla Bark: Two bales sold without reserve for 39s. per cwt., and 5 bales bright siftings at 35s.; small bright quillings bought in at 55s. Two tins of Spanish Saffron found buyers at 28s. per lb.; this is lower than the price asked privately for B.P. Wax sold as follows:—Jamaica, £7 5s. to £7 7s. 6d. Zanzibar, £6 12s. 6d. to £7 2s. 6d.; Calcutta, £6 10s.; Chilian, £7 5s.; Bombay, £5 17s. 6d. Four cases Eucalyptus Oil (Magnet brand) sold at 1s. 2d. Five bottles of Oil of Neroli sold at 3s. 9d. per oz, and the same number at 3s. 6d. A case containing 40 lb. Gum Opoponax sold at 3s. 7d. for fine Gum, after competition. Tonquin Beans sold at 1s. 3d. for fair frosted Para. For bright, clear liquid Balsam Copaiba 1s. 5d. was paid. Cinnamon Bark Oil sold without reserve at 8½d. to 10d. for fair. Rhubarb was in fair supply. China flat high-dried sold at 9d. to 10¼d. Some Shenshi sold at 1s. 6d., 1s. 8d., and 1s. 11d., according to quality. Jamaica Sarsaparilla sold up to 1s. 1d. for fair fibrous root, and Lima at 10d. for fairly good. Good Barbadoes Tamarinds fetched 9s. 6d. Madras Scablac sold at £7 10s. to £8. Honey was in good supply and sold according to quality at steady rates. Japanese Isinglass sold at 1s. and 1s. 1d. for strips. Lime Oil was slightly dearer at 1s. 7d. One lot Nux Vomica sold at 8s. 6d. for bright Madras. The above are the principal items which found buyers. The greater part of the offerings were held.

General Markets.

ARROWROOT.—There was small demand for St. Vincent at the Spice sales on Wednesday, and 90 barrels only sold at 1⅝d. to 1¾d. for manufacturing and 3d. for Rex.

BORACIC ACID.—Crystals, £1 2s. 6d.; powder, £1 4s. 6d.

CAMPHOR.—*Vide* sales.

CARBOLIC ACID.—Crystals, 39-40°, 6¾d.

CASTOR OIL.—Belgian 1sts, £19 15s.

CHLORAL HYDRATE.—The quotation is 3s. 3d. per lb. in bulk packages.

CHLOROFORM.—1s. 7d. to 1s. 9d. is the price quoted for the B.P. article.

CITRIC ACID.—The quotation is 1s. 0¼d. per lb.

CLOVES.—At the Spice sales 30 bales good bright Zanzibar were bought in at 8½d. Privately, Zanzibar are dearer and more business is doing; on the spot 8⅜d. has been paid for barely fair.

COCAINE—Is firm at 12s. 8d. to 13s. 3d. per oz. for the Hydrochloride, according to quantity.

CODEINE.—8s. 4d. per oz. is quoted for the pure alkaloid.

COD-LIVER OIL—Remains quiet, and the position is virtually unchanged.

CREAM OF TARTAR.—The quotation for 98 per cent. foreign powder is 87s.

GINGER.—A very large quantity of Calicut and Cochin was offered at the Spice sales, but only a small proportion sold at rather lower prices without reserve.

GLYCERIN.—1·260 chemically pure, in tins and cases, is quoted 67s. to 69s. 6d. per cwt., according to quantity, the lower figure being for five-ton lots.

IODIDES.—Sodium Iodide, 11s. 10d. to 12s. 1d.; Potassium Iodide, 10s. 3d. to 10s. 9d.

LITHIA SALTS.—It is rumoured that Lithia is being produced in this country. Should this prove to be correct, it may mean further cutting of the already considerably reduced prices of Lithia Salts.

MENTHOL—Lower, *vide* sales.

MERCURIALS.—The revised prices are as follow:—Calomel, 2s. 7d.; Corrosive Sublimate, 2s. 3d.; Red Precipitate, 2s. 10d.; White Precipitate, 2s. 10½d.; Mercuric Sulphate, 2s. 3d.

MORPHINE.—The quotations are now as follow:—Muriate (powder), 4s. 3d.; crystal, 4s. 5d.; Pure Alkaloid, 5s. 4d.; Acetate, 4s. 3d.

NUTMEGS.—Penang were slow of sale on Wednesday. Of West Indian, 94 packages offered and sold at about steady prices.

OLIVE OIL.—Spanish, £31 10s.

OTTO OF ROSES.—There is no definite news to hand concerning the distillation.

PEPPERMINT OIL—Is very quiet, and nominally unchanged for American.

PIMENTO.—Ordinary to fair sold at 3d. to 3⅛d. at the Spice sales.

QUICKSILVER.—£8. The following is abstracted from Mr. A. S. Pickering's monthly statement.—Imports: May, 1904, 5,694 bottles; May, 1903, 5,153 bottles; January-May, 1904, 26,863 bottles; January-May, 1903, 26,590 bottles. Exports: May, 1904, 1,430 bottles; May, 1903, 2,294 bottles; January-May, 1904, 8,285 bottles; January-May, 1903, 11,223 bottles.

QUININE—Is a very quiet market, and the position unchanged from last week.

SANTONIN.—The quotations are 26s. to 27s. 3d. per lb., the lower price being for 2 cwts. in one delivery.

SHELLAC.—The spot market is tending lower.

THE TRADE OF THE UNITED KINGDOM WITH SOME FOREIGN COUNTRIES.—The following table shows the value of certain classes of articles (of interest to British chemical manufacturers) imported into Great Britain from certain foreign countries, and exported from the United Kingdom to certain foreign countries during the years 1902 and 1903:—

Imports from Various Countries to Great Britain.				Exports from the U.K. to Various Countries.		
Country.	Article.	1902.	1903.	Article.	1902.	1903.
		£	£		£	£
Holland	Chemical Manufactures and Products	355,055	360,668	Chemical Manufactures and Products	163,688	175,119
	Drugs	89,152	56,810	Soap	33,360	38,310
Belgium	Chemical Manufactures and Products	162,981	169,904	Chemical Manufactures and Products	116,641	130,617
	Drugs	33,576	41,035	Soap	58,792	72,532
	Castor Oil	47,727	35,810			
France	Chemical Manufactures and Products	374,378	402,109	Chemical Manufactures and Products	543,317	628,219
	Drugs	88,953	66,061	Medicines and Drugs	25,962	38,277
	Castor oil	65,047	32,630			
	Perfumed Spirits	84,095	82,637			
Russia	Drugs	6,651	7,760	Chemical Manufactures and Products	156,913	132,581
Sweden	Chemical Manufactures and Products	26,071	30,333	Chemical Manufactures and Products	90,348	88,638
Norway	Drugs	24,227	9,272	Chemical Manufactures and Products	50,590	43,811
	Chemical Manufactures and Products	9,688	22,956			
Denmark	Chemical Manufactures and Products	5,692	7,702	Chemical Manufactures and Products	33,315	32,962
Germany	Chemical Manufactures and Products	601,569	599,780	Chemical Manufactures and Products	239,497	252,380
	Drugs (including Quinine)	157,241	81,836	Drugs and Medicines	76,815	76,445
	Methylic Alcohol	13,113	10,573			
	Perfumery	4,015	6,070			
Portugal	Chemical Manufactures and Products	10,694	20,400	Chemical Manufactures and Products	94,623	130,396
				Medicine and Drugs	3,464	3,375
Spain	Chemical Manufactures and Products	39,911	31,543	Chemical Manufactures and Products	236,746	240,659
	Drugs of all Sorts	3,920	5,462	Drugs and Medicines	15,415	14,811
Italy	Chemical Manufactures and Products	234,152	226,293	Chemical Manufactures and Products	486,822	554,669
	Drugs of all Sorts	27,103	19.160	Drugs and Medicines	12,634	16,649
China	Drugs	50,468	27,586	Chemical Manufactures and Products	55,247	80,093
				Soap	89,465	99,454
Japan	Chemical Manufactures and Products	4,466	13,302	Chemical Manufactures and Products	232,323	212,814
	Drugs	79,122	146,690	Medicines and Drugs	13,261	9,251
United States of America	Chemical Manufactures and Products	962,112	953,215	Chemical Manufactures and Products	792,466	763,051
	Drugs	246,050	246,255	Soap	50,146	53,618

COD-LIVER OIL.—As a supplement to the report of the season's fishing at Lofoden, which was published in the *Pharmaceutical Journal* on May 14, below appears the result of the fishing at Finmarken. In Finmarken, where the fishing has been carried on for more than two months, the returns were up to 21st of last month 5½ million fish, with a production of about 2,800 barrels steam-refined oil. The liver is small and meagre, and yields only about 25 per cent. of oil. During the last weeks fishing has been often interrupted by stormy weather. The subjoined list, according to Messrs. Isdahl and Co., gives the returns of the Finmarken fishery compared with previous years:—

	Codfish caught. Millions.	Production of C. L. Oil. Barrels.
1904 May 21st	5·5	2,824
1903 " 23rd	4·4	251
1902 " 24th	4·8	1,351
1901 " 25th	4·7	1,250
1900 " 26th	6·0	2,024

The aggregate yield of the cod-fisheries for the whole country up to 21st inst. amounts to:—

42·8 million fish and 12,770 bbls. steam-refined oil
as against: 42·3 " id. " 2,300 " id. in 1903
41·2 " id. " 18,770 " id. in 1902
and 35·2 " id. " 28,210 " id. in 1901

BRITISH TRADE IN MAY, 1904.

The total value of goods imported into the United Kingdom during the month of May, 1904, was £44,780,098, an increase of £2,864,992 on May, 1903. The total value of our exports (including re-exports) during the same period was £29,917,775, a decrease of £352,804 on May, 1903. The total value of "Chemicals, Drugs, Dyes, and Colours" imported into the United Kingdom during the period under consideration was £902,190, being an increase of £113,418 on May, 1903. The exports of goods included under this heading are valued at £1,229,174 (adecrease of £28,081), and the re-exports at £126,479 (a decrease of £11,764).

The following table shows the increase or decrease of the imports and exports of articles of interest to chemists during last month, compared with the corresponding month of the preceding year:—

IMPORTS.

Article.	Quantities.		Value.	
	Increase.	Decrease.	Increase.	Decrease.
Mineral Water	—	69,168 doz. bottles	—	£6,088
Ginger	—	72 cwts.	—	7,612
Coco-Nut Oil	—	18,954 "	—	28,111
Olive Oil	—	132 tons	—	3,086
Turpentine	9,826 cwts.	—	£22,999	—
Gum Arabic	—	3,878 cwts.	—	4,151
Soda Compounds	—	1,157 "	—	1,042
Borax	10,048 cwts.	—	3,455	—
Glycerin	2,060 "	—	3,834	—
Peruvian Bark	—	1,487 cwts.	—	2,792
Quinine and Quinine Salts	67,740 ozs.	—	3,707	—
Unenumerated Drugs and Medicines	—	—	—	14,654
Soap and Soap Powder	—	1,698 cwts.	—	8,832

EXPORTS.

Article.	Quantities.		Value.	
	Increase.	Decrease.	Increase.	Decrease.
Aerated Waters	7,020 doz. bots.	—	£1,240	—
Scientific Instruments and Apparatus (other than electrical)	—	—	—	£2,760
Glycerin	4,183 cwts.	—	£10,515	—
Medicine (comprising drugs and medical preparations)	—	—	—	£8,720
Soda Compounds	—	14,521 cwts.	—	£11,619
Soap	—	2,183 cwts.	—	£85

NOTES IN PARLIAMENT.

Anti-typhoid Inoculation.

Mr. Arnold Forster, Secretary for War, stated in reply to Mr. E. Wason on Monday last that the committee appointed by the College of Physicians to consider and report on the safety and prophylactic value of Dr. A. E. Wright's anti-typhoid inoculation had made their report. But the whole question of anti-typhoid inoculation was being considered by a body of experts, who had the report just referred to before them.

The Chartered Societies Bill.

The second reading of this measure has been deferred till Thursday, June 16.

Iodine Making in Ireland.

In answer to a question by Mr. Briggs, Mr. Wyndham has stated that the loan made by the Congested Districts Board in aid of the manufacture of iodine in Ireland amounts to £450.

Laboratory Reports on Indian Products.

From a reply made by Mr. Brodrick to Sir M. Bhownaggree on Tuesday last, it appears that the present annual grant from India for the maintenance of the Indian section of the Imperial Institute is £1,525, and that this includes a sum of £200 as a contribution to the Research Department of the Institute in return for laboratory reports on Indian products. The work, says Mr. Brodrick, is done on behalf and at the instance of the Government of India, and is important and valuable.

The Shops Bill.

Mr. Galloway, on behalf of Sir Frederick Banbury, asked the Home Secretary on Monday last whether he would postpone the Committee stage of the Shop Hours Bill until the opinion of the small shopkeepers on the measure could be ascertained. Amidst approving cheers from many members on both sides of the House, Mr. Akers-Douglas replied that he did not think that there was sufficient reason for taking this course. The whole matter, and, indeed, proposals very similar to those in the Bill, had engaged public attention for a long time now, and the small shopkeepers had had full opportunity of expressing their views. In particular, the Select Committee of the House of Lords in 1901 took evidence on this point, and reported that the small shopkeepers were not less anxious than other classes of shopkeepers for legislation that would enable them to shorten their hours of labour.

Phosphorus Poisoning.

The Home Secretary was, on Wednesday last, asked by Mr. Crooks whether his attention had been called to a case of death from phosphorus poisoning that occurred at the Poplar and Stepney Sick Asylum, due to a recent attack of phossy jaw; and, if so, what steps he intends to take in view of the fact that the patent used by Messrs. Bryant and May is stated to be innocuous. From the reply of Mr. Akers-Douglas it appears that the case was reported to the Factory Department and carefully investigated by the district and medical inspectors of factories, as well as by the certifying surgeon. There seemed to be no doubt that the case was one of phosphorus necrosis, but nothing was elicited by the inquiry or at the inquest showing how or when the disease was contracted. The woman died on May 19, 1904, and it appeared that she had not worked at Bryant and May's factory since the autumn of 1902, except for one short period of three days. There did not appear to be any further action that the Home Office could take. Mr. Crooks observed that the woman worked at the factory altogether for four years. The Home Secretary answered that that might be so, but there was a considerable period between her working there and the outbreak of the disease.

The Congestion of Business.

The congestion of Parliamentary business is becoming sufficiently grave to make it certain that the Pharmacy Bill introduced by Mr. Lough will not reach its second reading this session, and that the Poisons Bill of the Government (promised for introduction after Easter, but, up to the time of this note being written, still in one of the pigeon-holes of the Privy Council Office) will make no real progress, even if it is brought in at all. The Government are already admitting their inability to get through with measures of their own, which are fairly well advanced. Thus, writing in reply to Mr. Channing in reference to the Prevention of Corruption (Illicit Trade Commissions) Bill, Mr. Balfour says that he should be glad to see the Bill passed, but, he adds, "The state of public business does not enable me at present to make any definite arrangement as to taking the further stages of the measure." What Mr. Balfour cannot "at present" do may at once be written down as sure to be an impossible thing later on.

LETTERS TO THE EDITOR.

All Communications for the *Pharmaceutical Journal* must be addressed to the Editor, 17, Bloomsbury Square, London, W.C., and, if intended for publication in the current week's issue, should reach the Office not later than Wednesday, unless specially arranged for in advance. The matter should be written clearly and concisely on one side of the paper only and must be authenticated by the names and addresses of the writers, as no notice can be taken of anonymous letters. Articles submitted for the Editor's approval should be accompanied by stamped addressed envelopes, otherwise no guarantee can be given that they will be returned if not found suitable. Reprints of articles cannot be supplied unless the authors communicate with the Editor before publication. The right to reproduce all original matter and illustrations published in the Journal is strictly reserved.

The Preservation of Chloroform.

I am sorry to have ascribed the recommendation of lime as a preservative of chloroform to Mr. David Brown instead of to Dr. D. Newman and Professor Ramsay, owing to a too brief abstract in my Pharmacopœia. Reference to Mr. Brown's original paper is convincing as to the unsuitability of lime for the purpose.

Chesterfield, June 3, 1904. F. A. Upsher Smith.

Union and Active Resistance.

The thanks of chemists generally are due to Mr. G. J. Knight for endeavouring to raise a discussion at the last annual meeting on subjects of vital interest to the "duly qualified," and it is greatly to be regretted that nobody present ventured to second, or enlarge upon, his suggestions. Criticism is our friend, and to be encouraged. The record created by the President is to be deprecated, although it doubtless is an indication of that gentleman's oratorical power. After reading the report of the meeting in the Journal, what struck me forcibly was that however well things have been done in the past, with an increased army of members we should do better still. That means more money to handle and consequent increased power. How to get more members, then, is a vital question, and the answer is: "Do something that will appeal to every individual as being in his interest," for we are mostly selfish, more or less. The issue of the 'P.J.F.' has been a step in the right direction, and has had valuable result; but we want something lasting in effect. Were it, then, feasible to take active measures, such as Mr. Knight suggests, or others, regarding limited companies of unqualified persons this might well, I submit, be considered by the Council. A great deal more money should, I think, be devoted to asserting our rights, in bringing to book our numerous offenders, and in educating parliamentary and other magnates respecting pharmacy laws, etc. The Council, having decided as to what could with advantage be done in this direction with an augmented income, might perhaps issue a circular to every qualified chemist (whether in business or not), stating its proposals for the benefit of the profession, and that, as money is required to achieve its object, urging all to join the Society and become participators in the fight. Union is strength, and by striking hard one object at a time, success will no doubt be the result.

Twickenham, June 4, 1904. H. Machin.

A Concentration Problem.

I have had the following prescription purchased of me for analysis under the Sale of Food and Drugs Act:—

℞ Dec. Aloes Co. B.P. .... ʒvi.
M. ft. mist. Sig.—A tablespoonful twice a day.

I dispensed it with dec. aloes co. conc. (1 to 3), ʒiss. (without shaking stock bottle), and aq. dest., ad ʒvi., and would be glad to hear if there are any published reports upon the relative value of fresh and concentrated decoctions of commerce, or upon the varying capacity of ordinary dispensing bottles which would affect the result, if percentage of alcohol or extractive matter had to be taken into consideration. Theoretically it appears impossible to concentrate decoction to four times its strength as for B.P. quantity (50 ounces), 60 ounces of tinc. card. co. (60 per cent. alcohol), are equal to about 40 ounces 90 per cent. alcohol, leaving only about 11 ounces (allowing for contraction) for other ingredients, and not admitting of sufficient water to allow of mixing the extracts.

June 8, 1904. "Aloes" (112/32).

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REPLIES TO CORRESPONDENTS.

Information required by readers will be published in this column as early as possible, but the Editor cannot undertake to reply by post, even though stamped addressed envelopes accompany the queries. Replies will, in all cases, be referred to the sender's initials, and the registered number added in each instance should be quoted in any subsequent communication on the same subject. When formulæ are given without definite weights and measures, it should be understood that the solids are to be weighed and liquids measured. Plants for recognition should be addressed to the "Curator, 17, Bloomsbury Square, London, W.C.," accompanied by a stamped, directed envelope for reply. No notice can be taken of anonymous communications.

Mortar (T. B.—9/6).—It does not appear to possess any special value.

Prosecution (I. D. A.—112/33).—Judgment has not yet been delivered in the case in question.

Indiarubber Goods (T. S.—112/34).—We have not got the addresses of any makers, but are making inquiries for you.

Dispensers Abroad (H. B.—112/26).—We do not know of any such agents, and can only recommend you to advertise.

Labels (M. M.—112/31).—The label for the ointment may be held to incur liability because of the name, but the foot powder does not appear to be liable to duty.

College of Pharmacy (C. J. C.—9/40).—There is no college of pharmacy in Hull. You will find a list of such institutions in the 'Pharmaceutical Journal Formulary.'

Flavouring Tobacco (W. R.—112/30).—There does not appear to be any recent work on the subject, and we are unable to suggest where the information can be obtained.

Dobell's Solution (I. B.—112/27).—The solution usually consists of phenol, borax, sodium bicarbonate, glycerin and distilled water. We do not know of a formula containing sodium chloride as an ingredient.

Information Wanted.

Dodd's Kidney Pills (W. H.—112/25).—London address of proprietors wanted.

Address (C. F. J.—112/28).—Address of Messrs. Abraham and Parkinson, manufacturers of bottles and blown tubes, wanted.

MARRIAGE.

Mason—Corke.—On June 1, at Christ Church, Tunbridge Wells, by the Rev. C. E. Story, M.A., Hugh, fourth son of A. J. Mason, The Broadway, Bexley Heath, to Hannah Frances, youngest daughter of O. T. Corke. "Dalesmere," Madeira Park, Tunbridge Wells.

DEATHS.

Jenner.—On June 2, at St. Thomas's Hospital, London, Louis L. Jenner, M.B.Oxon., of the Lister Institute of Preventive Medicine, fourth son of the late Sir William Jenner, Bart., G.C.B., and of the Dowager Lady Jenner, of Greenwood, Bishop's Waltham, Hants. Aged 38. Dr. Jenner worked as a private student, under Professor Collie, in the Chemical Laboratories of the School of Pharmacy during part of the years 1900 and 1901. He was very popular with those of the students of that year with whom he came in contact.

Young.—On June 3, at Downderry, Cornwall, Richard Young, Chemist and Druggist, of The Parade, Liskeard. Aged 58. Mr. Young was for nine years a member of the Liskeard Town Council and one of the founders of the Mercantile Association. He was born at Milverton, Somerset, in 1846, and after passing the Minor he spent a few years in London. In 1871 Mr. Young took over the business of Mr. W. H. Wearing on The Parade, Liskeard, with which his name and that of his son has since been associated.

PUBLICATIONS RECEIVED.

Toxikologisch oder Forensisch Wichtige Pflanzen und Vegetabilische Droguen. By Dr. Wilhelm Mitlacher. Pp. 200. Price 6m. Vienna: Urban and Schwarzenberg, I., Maximilianstrasse, 4. 1904. From the Publishers.

The Photo-Miniature, April, 1904. Vol. VI., No. 61. Pp. 1-64. Price 6d. London: Dawbarn and Ward, Limited, 6, Farringdon Avenue, E.C., 1904. This, the first issue of a new volume, has been considerably enlarged. It contains an illustrated article by Mr. A. Horsley Hinton on "Methods of Control in Pictorial Photography," as well as notes and comments on various subjects.

Calendar for the Week (June 12—18, 1904).

Days of		Events of the Week.	Sun	
M	W		Rises	Sets
12	S	**Second Sunday after Trinity.**	3.45	8.14
13	M		3.45	8.15
14	Tu	Royal Photographic Society, 66, Russell Square, London, at 8 p.m.—"A New Principle in Photographic Lens Construction." By Conrad Beck.	3.44	8.16
15	W	Leeds and District Chemists' Association.—Annual Picnic.	3.44	8.16
		London Chemists' Association, Holborn Viaduct Hotel, E.C., at 3.45 p.m.—General Meeting.		
16	Th	Leicester and Leicestershire Chemists' Association at 2.30 p.m.—Cricket Match.	3.44	8.16
		Linnean Society, Burlington House, London, at 8 p.m.—Ordinary Meeting.		
		Optical Society, 20, Hanover Square, London, at 8 p.m.—"Stereoscopic Living Pictures," with demonstrations. By Theodore Brown.		
17	F	Edinburgh Chemists', Assistants', and Apprentices' Association.—Botanical Excursion to Colinton at 8.30 p.m.	3.44	8.17
18	S		3.44	8.18

LETTERS, NEWSPAPERS, QUERIES, and other COMMUNICATIONS have been received from Messrs. Allen, Austen, Bawcutt, Black, Blyth, Brown, Bush, Correy, Druce, Gessner, Hagg, Hall, Jesper, Lewis, Lucas, Lyon, Machin, McWalter, Martindale, Mason, Matz, Merrett, Mundell, Palmer, Parker, Pollard, Roberts, Rutter, Soulsby, Thomson, Wathes, Wrathall.

Telegrams "PHARMACEUTICAL JOURNAL LONDON"
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The Pharmaceutical Journal Office,

17, Bloomsbury Square, London, W.C.
Thursday, June 16, 1904.

Mr. Elias Bremridge, who was for twenty-seven years Secretary and Registrar of the Pharmaceutical Society, died on Wednesday, June 15, at the age of ninety-three. A portrait and short biography will be found at page 824.

Two Chemists and Druggists, Mr. W. S. Glyn-Jones and Mr. W. M. Freeman, were called to the Bar at the Middle Temple yesterday evening, and are now barristers-at-law. Members of the calling which they have just left will unite in offering hearty congratulations.

Dr. Koch, who has been interviewed by a correspondent of the *Daily Chronicle*, has pointed out that the Royal Commission on Tuberculosis, whose report was summarised at page 767 of our issue of June 4, has not proved that men can be infected by tuberculosis of bovine origin. That is the most important question which the Commission should have attempted to solve.

Excursions are the order of the day among local associations, whose members have, for the time being, laid on one side matters of a less attractive nature. The Brighton Association has given a dinner in honour of its President, Mr. W. H. Gibson, to whom was presented a handsome silver bowl and an illuminated address, bearing the names of forty-three members of the Association.

A Minister of Commerce and Industry, with a salary of £5,000 per annum, may at a not very distant date take the place of the President of the Board of Trade, whose salary is £2,000. These are the principal recommendations contained in the report of a Departmental Committee. Business men have long been in favour of some radical change in the constitution and functions of the Board of Trade, and it will come as a disappointment to them that the most serious reform suggested is merely a change of title carrying an increase of salary.

The word "Hæmatogen" has been ordered, by Mr. Justice Warrington, to be struck off the Register of Trade Marks. His Lordship (who refused to suspend the removal of the mark from the Register) found there was abundant evidence that the word had been in use in England prior to its being "invented" by Adolf Hommel; moreover, it was admitted by all the witnesses that hæmatogen meant a blood-former, and was, therefore, a descriptive word. With regard to the question of "passing-off," judgment was also given for defendants.

Chemists who have been Unsuccessfully Prosecuted under the Sale of Food and Drugs Acts, and have been put to considerable expense in defending their cases, will be pleased to learn that the London Chemists' Association has had the matter under consideration. It has been decided to write to the Local Government Board, pointing out that it is unfair that defendants should have to bear costs when cases are dismissed. It has happened more than once that chemists have had to suffer annoyance and expense through the blunders of incompetent analysts, and it is time this state of affairs was put an end to.

One Portion of the Duty-Free Alcohol Problem seems to be much nearer solution than it was six months back. An announcement appeared in a lay contemporary this week to the effect that the Chancellor of the Exchequer had come to the conclusion that the present regulations concerning the production of alcohol for manufacturing purposes were of an unduly restrictive character. From inquiries made it would seem that the move contemplated is the removal of the 5d. per gallon differential duty paid on foreign spirit. Should this be the case it would undoubtedly be a great boon to automobilists, but it is difficult to see how the chemical manufacturer is to be benefited unless he uses denatured spirit.

The Idea of a Parliamentary Secretary for Public Health has not met with the approval of the Committee appointed to consider the reform of the Board of Trade and Local Government Board. The suggestion, it will be remembered, came from Sir Michael Foster, who advocated the proposal on the ground that the work of the Public Health Department of the Local Government Board was so heavy that the staff had not time to "look adequately ahead." The Committee considers that questions connected with such an office would not be sufficiently numerous to occupy the time of an additional Parliamentary Secretary, so that the old and not altogether satisfactory arrangement will be continued.

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PHARMACISTS AND NEW REMEDIES.

New remedies for old diseases are a trap for the unwary physician and a bewilderment to the dispensing chemist. Every medical man on the Register knows what it is to receive, by nearly every post on nearly every day, pamphlets and circulars and price-lists and samples advertising some new concoction to be used in the treatment of disease. The ill wind doubtless benefits the makers of waste-paper baskets, for the majority of physicians are too wise to experiment on their patients with proprietary medicines of which they know nothing. But there are some medical men who take pride that they are in touch with the "progressive spirit of the age" and are the ready dupes of every nostrum-monger whose circulars they receive. To such, a timely warning has been addressed by one of the best-known physicians in the country, Sir Dyce Duckworth. In a paper published in the *British Medical Journal*, Sir Dyce Duckworth describes as a "mischievous element in our modern system of therapeutics, the perpetual pursuit of novelties, an untiring effort to produce new remedies, the enjoining new methods of dietary, and with all this, the inevitable loss of any well-acquired principles of treatment as founded on the long experience of others, or of personal experience laboriously acquired for oneself."

Reproof for the physician is followed by a word of praise for the pharmacist. "The untidy, inadequate and inappropriate prescriptions which are now commonly written readily display the imperfect knowledge respecting our best remedies which is widely spread. They not

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seldom excite the contempt and pity of the well-trained pharmaceutical chemists of to-day, as I well know, and we cannot rest content to merit such opprobrium from that quarter." The statement is true enough. But, we would ask, are pharmacists doing all that is possible to discourage inappropriate prescribing? Do they not sometimes conceal, under the mask of silence, their contempt and pity, and proceed to make up the preparations ordered? Many physicians, and especially young physicians, are, it must be admitted, unwilling to accept in a humble and contrite spirit a lesson in prescribing from a dispenser when that lesson consists merely of a more or less verbose condemnation of their favourite "synthetic" remedy or proprietary nostrum. But if the condemnation is supported by proof, such as is given by a quantitative analysis, that the remedy is nothing more than an expensive combination of drugs which have been in the British Pharmacopœia, it may be for thirty years, or if the pharmacist is able, as he should be, to support his statements by any well-reasoned application of the principles of chemistry and physiology, the prescriber may probably be found willing to learn. If so, the result is good for all parties. The physician learns something of his business, and acquires a respect for the pharmacist; the pharmacist has the satisfaction of dispensing his own drugs, which he knows to be of good quality; and the patient is not subjected to experiments founded on ignorance or to treatment based on the "passionate pursuit of novelties."

We have hinted that a pharmacist should be able to offer advice with regard to prescriptions and prescribed medicines. This must not be taken to imply that a pharmacist should attempt diagnosis. But it does necessitate an acquaintance with the principles of human physiology as well as a sound knowledge of chemistry and pharmacy. Physiology is not a subject which is likely to be introduced into the syllabus of the examinations of the Pharmaceutical Society. For all that, any pharmacist who takes up the study of physiology will find it very instructive, and will learn to have a more intelligent appreciation of his responsibilities as a dispenser. There can be no objection, even from the most jealous member of the profession of medicine, to a dispenser knowing something of the action of drugs on the human system, so long as that knowledge is not misapplied. Physiological knowledge would assuredly add to the value of a pharmacist as an individual with a scientific training. It would increase his ability to help the physician by criticisms, or, to use a less offensive word, by suggestions; and it would of necessity earn for pharmacy some of that respect which Sir Dyce Duckworth evidently holds, though unfortunately it seems to be wanting on the part of many medical men.

SCHOOL OF PHARMACY PRIZE DISTRIBUTION.

Members and Student-Associates of the Pharmaceutical Society and others interested in pharmaceutical education are invited to attend the distribution of prizes won during the past session of the School of Pharmacy, on Wednesday, June 29. The President will take the chair in the Lecture Theatre, at 17, Bloomsbury Square, at 3 p.m., and after the proceedings tea will be served in the Examination Hall.

BOARD OF TRADE REFORM!

Perhaps there is no other country of any commercial importance where the relationship existing between State and trade is more distant than it is in Great Britain. One has to go to the Far East, to a heathen land, to find an analogy to that relationship, or, rather, to that estrangement. In China, according to the commercial attaché to the Legation at Peking, "native trade is left to the management of those engaged therein"; and much the same thing might be said of this country. It has long been urged that the Government, through a department, should be in closer touch with trade interests; and when Mr. Balfour appointed a Departmental Committee to consider what reforms might be desirable with reference to the constitution and functions of the Board of Trade and the Local Government Board, it was thought that this was a step towards a very desirable end. Those who had hoped for anything practical from this direction, however, must have suffered disappointment on learning the nature of the Committee's recommendations, which were published early this week.

The greater part of the report deals with the salaries of officials, which the Committee recommends should be very handsomely increased all round. As regards the suggested "Minister of Commerce," from whom so much was to be expected, the Committee seems to have been in a satirical mood. It says, in what appears to be an off-hand sort of way, "In order to indicate more clearly the functions of the Board of Trade it might be deemed desirable to give to its head the title of 'Minister of Commerce and Industry.'" In other words, the idea seems to have been "call him what you like, a rose by any other name would have just as many thorns." On two occasions the Minister for Foreign Affairs has put His Majesty's representatives abroad to the trouble of procuring precise information concerning the constitution and functions of the Ministries of Commerce in the countries in which they reside. And it was thought that, with these details before them, the Committee intended to recommend something on the lines of what existed in other countries where the commerce of the nation is not left entirely in the hands of interested private individuals.

A lesson might have been taken from our competitor Germany, where the functions of the Ministry of Commerce and Industry comprise the control of "all matters affecting handicrafts." Moreover, in that country there is attached to the Ministry, as a consultative body, the Technical Committee for Industry, which has carefully to study the scientific progress of industries, and to communicate the results to the Minister together with its opinion on them. Or, Austria-Hungary might have served as an example. There the Chambers of Commerce are frequently consulted by the Minister of Commerce, and are encouraged to make suggestions as to the way in which the wishes of the commercial and industrial classes may be met. In addition to this, all legislative measures, in which questions relating to industry and commerce are involved, are drafted and presented to Parliament by the Minister of Commerce. The United States has only quite recently established a department of commerce and labour, while France found out the value of a ministry of commerce many years before. Japan, too, could teach us something in this respect, but Mr. Balfour's committee has refused to learn, possibly possessed of the belief that what is good enough for China is good enough at home.

ALCOHOL DUTY: CONCESSIONS CONTEMPLATED.

An announcement which will be of special interest to automobilists, and, incidentally, to manufacturing chemists, appeared in the *Daily Telegraph* of Tuesday last. The paragraph ran as follows:—"It is understood the Chancellor of the Exchequer has come to the conclusion that the present regulations concerning the production of alcohol for manufacturing purposes are of an unduly restrictive character, and is disposed to place British industry more nearly on a level with that of the Continent in the use of spirit as a motive power. One of the most important objects to which alcohol can be applied is the propulsion of motor-cars, and automobilists are eager to get a plentiful supply in view of the increasing scarcity of petrol." Inquiry goes to show that there is some ground for this statement; in fact, the only surprise one can feel is that the Chancellor of the Exchequer did not come to the same conclusion at a somewhat earlier date. One blushes to think how many years Mr. Tyrer and others have been striving to show his predecessors in office the incalculable injury which has been done to British manufacturers by reason of the unequal conditions under which they worked in comparison with foreigners.

Even now, however, it is to be feared that it is rather the claims of motorists than those of chemical manufacturers which have reached the ears of Mr. Austen Chamberlain. Some time back, as readers are probably aware, the Joint Committee of the Chemical Section of the Chamber of Commerce, and the Society of Chemical Industry (of which Mr. J C. Umney is the able Chairman) invited to their Committee members representing the Automobile Club, recognising how important was the demand for a cheaper source of power than is at present available. Moreover, they saw the desirability of obtaining a source of power for which they would not necessarily depend on foreign supplies, as they have to do in the case of petrol. As far as our information goes, it would seem that the Chancellor of the Exchequer contemplates the removal of part of the fivepence per gallon differential duty on foreign spirit, and although this is very well as far as it goes, it will be of little or no use to manufacturing chemists, unless, of course, they make use of denatured spirit; on the other hand, it will, of course, be a great boon to the motor-car industry and to motive-power generally. It may be within the recollection of readers that a rebate of threepence is already given on the exportation of methylated spirit, and there seems little reason why what is given to the foreigner should be denied the Britisher. It is more than likely that English distillers may view with some amount of apprehension the possibility of a removal of their fivepence per gallon differential duty, but it is certain that this will be compensated for by the increased demand for spirit which is bound to follow when the price is reduced. Nor is the Chancellor of the Exchequer likely to suffer. For there can be no doubt that the increased uses which will be found for spirit would more than make up for the loss caused by the decreased duty.

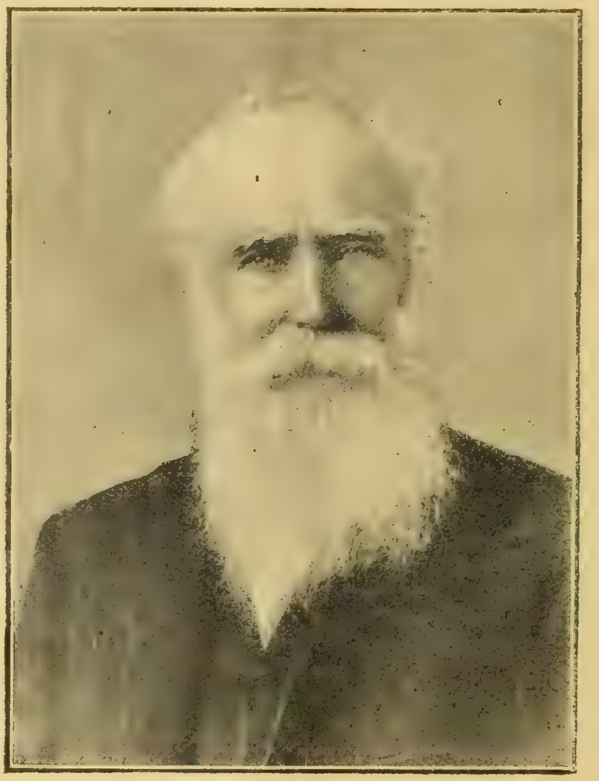
In Germany the use of alcohol for lamps, as well as for other motor-power, is very considerable, and there seems no reason why its use in this respect should not be extended in our own country. As a result of this, it is only natural to suppose that an impetus would be given to agriculturists, and that large areas would be taken up for the cultivation of potatoes for the production of an alcohol which is quite good enough for use for motor power. As already pointed out, this alleged contemplated move on the part of the Chancellor is likely to give little or no satisfaction to the British chemical manufacturer; but in the hope that what is proposed will be only a foretaste of better things to come it will perhaps be advisable to refrain from further comment.

CALLED TO THE BAR.

The "call to the bar" of two chemists and druggists at the same time is an event without precedent in the history of the two professions, but, for that very reason, an event of more than usual interest. Some weeks ago the success of Mr. W. S. Glyn-Jones and Mr. W. M. Freeman in the final examination of the Council of Legal Education was chronicled in the *Pharmaceutical Journal.* Those gentlemen, who have "kept terms" by attending the prescribed number of dinners in the Hall of their Inn, were formally called to the Bar at the Middle Temple on Wednesday, June 15. The ceremony of "call" is somewhat disappointing in its simplicity, and is not attended by the observance of any mediæval rite. The procession into Hall of the Masters of the Bench, headed by the Treasurer, which always precedes dinner at the Middle Temple, is for the occasion lengthened. The students to be called, each wearing the wig, gown, and bands of a barrister, follow the "benchers" into the Hall. The "benchers" and the "budding barristers" stand in two rows, facing each other on either side of a table on which is a small book. The names of the candidates are called in order, the names of those who, like Mr. Glyn-Jones, have obtained certificates of honour, being called first, and, as his name is called, each candidate steps forward and signs the book. When all have signed, the Treasurer gives a short address, congratulating the new barristers. With that the ceremony ends, visitors leave the gallery, and dinner begins. Barristers and students, as always, dine in "messes" of four, and on "call-night" the new barristers occupy the first place at each mess and entertain three of their fellow-members of the Inn. Some barristers attend the Lord Chief Justice's Court on the morning after their "call" and there sign a vellum-book, but this formality is not always insisted on. On Wednesday thirty-one students were called at the Middle Temple, Mr. Glyn-Jones being the second on the list, in view of his certificate of honour and first-class at the final examination. Among the visitors present in the gallery, behind the handsome oak screen, made of wood from the ships of the Spanish Armada, were several pharmaceutical friends of Mr. Glyn-Jones. After dinner was over some of these returned to the Hall to congratulate Mr. Glyn-Jones and to witness the revelry which succeeds the dinner.

ELIAS BREMRIDGE.

The chances of life deny to some men the opportunity to realise the ambition which all should have—to confer real and sensible benefits on all those who follow the same calling as themselves, to inspire thousands of their fellows with noble ideals, to assist in a material degree the progress of their country's civilisation. To others such opportunities may, indeed, come, but only to pass unheeded. To few is it given to achieve even a tenth part of that which Elias Bremridge achieved during the twenty-seven years of his tenure of office as Secretary and Registrar of the Pharmaceutical Society of Great Britain. His death, which occurred on Wednesday, the 15th inst., after a short illness, will arouse in the minds of all who knew his worth—that is, of all who knew the man—feelings of the most grateful and affectionate remembrance. In many English public schools the Latin thanksgiving is offered each year on the anniversary of the foundation: *Gratias tibi agimus pro fundatore nostro, cœterisque benefactoribus nostris.* We venture to say that if the chemists and druggists of Great Britain had any such thanksgiving in their liturgy the name of Elias Bremridge would be found in the foremost place among the "benefactors" of the institution which he assisted Jacob Bell to found in 1841.



ELIAS BREMRIDGE.

Elias Bremridge was born on December 27, 1810, at Whetstone. He came of a long line of yeomen, who for centuries farmed their own land at Bremridge, in the parish of Sandford. The legal documents relating to the estate give a clear history of the family from the year 1218, when the holder of the land was Robert Bremdrig. In the Doomsday Book, the name is spelt Bremerige. The father of Mr. Elias Bremridge was the last of the family, in the direct line born on the estate, which shortly after went out of the family, and a few years ago became absorbed by purchase in the estate of Sir John Davey, the owner of the adjoining property. Elias Bremridge was the youngest of a large family, and, owing to his delicate health, it was decided he should follow an indoor occupation, hence his pharmaceutical career. Apprenticed to Mr. William Froome, of Exeter, he became a founder of the Pharmaceutical Society in 1841. For some years he was in business as a chemist; and on the retirement of Mr. Smith from the office of Secretary of the Pharmaceutical Society in March, 1857, Elias Bremridge was appointed in his place. After his resignation, he continued to live in London, and for the most part enjoyed good health. Last Sunday week he had a stroke, and he passed away peacefully on the evening of Wednesday, June 15. Mr. Bremridge was twice married; he leaves one son, Mr. Richard Bremridge, the present Secretary and Registrar of the Pharmaceutical Society, and two daughters. The funeral will take place at 12.0 noon on Saturday, the 18th inst., at Norbiton. No flowers, by request.

To obtain a conception, inadequate as it would be, of Elias Bremridge's services to pharmacy, the chemist of the twentieth century must carry his mind back to the beginning of the year 1857. The Pharmaceutical Society numbered 2,162 members and 274 associates. In 1856 the income of the Benevolent Fund from subscriptions was £46 6s. In the same year forty-one candidates passed the Minor and twenty-seven the Major Examination. The Pharmacy Act of 1852, which was then the only Act imposing any limits whatever on the exercise of the profession of pharmacy, contained nothing to restrict the exercise of the duties of a chemist or the sale of poisons to examined or registered persons. Turning for a moment to Elias Bremridge's last year of office as Secretary and Registrar, 1883, we find that there were 2,623 members and 2,005 associates of the Society; the income of the Benevolent Fund from subscriptions and donations was £1,922 1s. 8d.; 294 candidates passed the Minor, fifty-five the Major, and seven the "Modified" Examination. The Pharmacy Act of 1868 had been passed; and exemption from jury service of pharmaceutical chemists had been secured by the Juries Act of 1862. All of these developments, more especially the growth of the Benevolent Fund and the exemption from jury service, were in great measure, if not wholly, owing to the untiring energy and whole-hearted devotion of the Secretary.

The office staff of the Society was so small as to render it necessary that the Secretary should himself attend to details and routine work. But Elias Bremridge found time for the initiation and development of larger projects of reform, always with the object of raising the status and adding to the privileges of registered chemists, or of increasing the usefulness and influence of the Pharmaceutical Society. *Si monumentum requiris, circumspice.* The Pharmaceutical Society stands as a monument to Elias Bremridge in the sight of all who are willing to look around. Equally lasting, and, we are assured, equally a satisfaction to the great Secretary in his declining years, was the grateful and affectionate regard in which his name has been, and ever will be, held by the pharmacists of Great Britain.

ABSTRACTS—SCIENTIFIC AND TECHNICAL

A REVIEW OF CURRENT WORK IN PHARMACOPEDICS AND ALLIED SCIENCES

Constitution of Ammonium Compounds.

An interesting paper dealing with the constitution of ammonium compounds is contributed by Dr. J. C. Cain. To take examples, the author's suggested formulæ for ammonium chloride and ammonium hydrate are $H_3N=ClH$ and $H_3N=OH_2$, in which the chlorine and oxygen are respectively trivalent and tetravalent. The conception involved in this new formulation explains a large number of well-known facts in a very satisfactory manner. It accounts for the difference between solutions of ammonia and of the alkaline hydroxides, and for the existence of isomeric quaternary ammonium salts. By means of it the formation of metal-ammonia compounds and of diazonium salts, the reduction of diazonium derivatives to hydrazine, and the process of diazotisation are all capable of simple representation.—*Memoirs and Proc.*, Manchester Literary and Philosoph. Soc., **48**, No. 14, through *Nature.*

An Oxidising Bacterium: its Action on Alcohol and Glycerin.

While examining a wine vinegar R. Sazerac obtained cultures which, after a short time, reduced the cupro-potassic reagent. The microbial growth contained a microbe very different in form and in the appearance of its cultures from the *Mycoderma aceti* and the bacterium of sorbose. When carefully isolated on plates of glycerinated gelose at 2 per cent., it constantly gave, with glycerin broth, homogeneous cultures possessing this reducing power at ordinary temperatures. This microbe is fairly large, and is easily stained with the basic aniline colours, but not by Gram. It will not grow in meat broth, nor on potato, but grows well on glycerin gelose. The author has proved that it is capable of rapidly oxidising glycerin, transforming it into dioxyacetone.—*Bull. Soc. Chem. de Paris*, **29**, 16, through *Chem. News*.

Valuation of Aloes.

A. Tschirch gives the following method for the valuation of aloes:—5 Gm. of the sample is macerated in a 50 C.c. flask with 5 C.c. of methyl alcohol for twelve hours; it is then warmed to 50-60° C., and treated with 30 C.c. of chloroform. After thorough agitation it is set aside, and the yellow chloroform solution separated from the insoluble resinoid matter by filtration into a tared Erlenmeyer's flask. The solvent is then distilled off, and the recovered chloroform again used to extract the resin; this is repeated four times in all. Finally, the chloroform is distilled off, and the residue dried to constant weight and weighed. This residue should be yellow in colour, and give distinct crystals of aloin when recrystallised from methyl alcohol. Cape aloes gave 86·8 and 81·2 per cent. of chloroform residue, Uganda aloes 81·2 per cent., fresh Barbados aloes 72·4 per cent., old Barbados aloes 62·8 per cent., Curaçao aloes 66·6 per cent., and Socotrine aloes 36·6 per cent. These results indicate that the selection of Cape aloes as the official drug in the German Pharmacopœia is justified, since it contains less inert resin than the other kinds. It is suggested that in those pharmacopœias in which Cape aloes is official it should be required to give not less than 80 per cent. of chloroform-soluble matter.—*Pharm. Post*, **37**, 265.

Oil of Pimento.

Hitherto the known constituents of this oil have included eugenol and an undetermined sesquiterpene. Messrs. Schimmel now state that in addition to eugenol it contains cineol, phellandrene, caryophyllene, methyl-eugenol, and palmitic acid.—*Schimmel's Bericht, April*, 1904.

Gynocardin, a New Cyanogetic Glucoside.

F. B. Power and F. H. Gornall, in the course of an examination of the seeds of *Gynocardia odorata* (R.Br.), observed that when these were bruised and brought into water a strong odour of hydrogen cyanide was developed. This is due to the presence of a cyanogenetic glucoside, which the authors have isolated in a crystalline state, and designate gynocardin. It is very soluble in water, less freely in alcohol, and crystallises from these solvents in colourless needles which melt at 161-162° with slight decomposition, and have $[\alpha]_D^{19^\circ} + 37{\cdot}1^\circ$; it gave on analysis the following percentages:—C = 48·0; H = 5·8; N = 4·3. Its constitution is being determined.—*Proc. Chem. Soc.*, **20**, 137.

Detection of Arsenic in Beer.

W. Thomson suggests a simplification and improvement of the electrolytic apparatus recommended by the Royal Commission on Arsenical Poisoning for the detection and determination of arsenic in beer. He disputes the statement of the Commission that the addition of amyl alcohol, to prevent frothing, does not interfere with the result of analysis. He finds that in using 25 C.c. of beer, as recommended by the Committee, and completely destroying the organic matter, a very faint mirror is produced with those containing 1-100th of a grain per gallon, but when the beer is used direct with amyl alcohol no mirror at all is produced, and therefore this direct method fails to detect an amount considerably greater than that which the Committee regards as sufficient to condemn the sample.—*Manchester Memoirs*, **48**, 17.

Incompatibility of Gum Acacia Due to its Oxydase.

E. Bourquelot points out that the fact that gum acacia contains an active oxidising ferment renders it unsuitable for use in many pharmaceutical preparations, and that, in spite of its wide use as an excipient, it is possible that certain active ingredients may become profoundly altered in its presence. Nor is gum acacia the only gum which contains this ferment; myrrh, frankincense, and bdellium also contain an oxydase. Although Goettling called attention to the fact, as long ago as 1809, that mucilage of acacia caused the development of a blue colour with guaiacum mixture, the true explanation was not then known, and the importance of the bearing of subsequent discoveries appears to have been overlooked. Among the substances enumerated as being incompatible with gum acacia are, pyrogallol, morphine, vanillin, ordinary phenol, cresylol, ortho- and meta-xylol, thymol, carvol, α and β-naphthol, pyrocatechol, guaiacol, acetylguaiacol veratrol, creosol, eugenol, acetyleugenol, methyaniline, ethylaniline, paratoluidine, crude aniline, xylidines, α-naphthylamine, veratryamine, pyramidon, apomorphine, eserine, adrenaline, isobarbaloin, caffeotannic acid, gallic acid and tannin. It will be seen that this list comprises several bodies of constant use in medicine. Para-xylenol, hydroquinine, resorcin, anisol, and phenethol do not appear to be affected. Nor is the action confined to chemical substances; gum acacia is incompatible with the following galenicals—all bodies containing phenols, such as coal tar preparations, creosote, lysol, and creolin compounds; all the opium and Calabar bean products; suprarenal extract, all aloetic preparations, and all substances flavoured with vanillin; tannin containing extracts such as those of rhatany, catechu, and rhubarb; fluid extract of *Viburnum prunifolium*, and kola preparations. Obviously, in cases where mucilage of acacia is concerned, this oxidising action may be eliminated by heating the liquid to 100° C., and thus destroying the ferment. The importance of the subject from a medico-pharmaceutical point of view is considerable, since in many cases the process of oxidation must profoundly modify the therapeutic action of the drug.—*Journ. Pharm. Chim.* [6], **19**, 473, 524.

THE STUDENTS' COLUMNS.

THE SOLUTION OF LIQUIDS.

ONE of the first definitions which the student of chemistry finds himself called upon to understand is the definition of a chemical compound as distinct from a mechanical mixture. It is not proposed here to enter into that question, nor to attempt any explanation of the rather difficult theory of solution. The student is asked, however, to consider briefly some of the properties of liquids, particularly with respect to their behaviour towards one another when mixed. A solution has been defined by Ostwald as a homogeneous mixture which cannot be separated into its constituent parts by mechanical means. Another definition runs as follows:—Solution is the union of a liquid with another liquid, a solid or a gas, the combination being so intimate that gravity has not the power of separating the heavier from the lighter material, but not so intimate as to cause change in colour, odour or taste, unless chemical combination as well as solution takes place. It will be remembered that the two great classes of fluids are liquids and gases. Now, while gases mingle with one another in all proportions to form homogeneous mixtures, except when they unite to form chemical compounds, this is not the case with liquids. Pairs of liquids may be divided into three classes according to their behaviour towards one another. Some liquids, such as alcohol and water, will mix in all proportions; which is the solvent and which the solute it is difficult to say, but that is for our purpose unimportant. Although a solution of alcohol and water cannot be made to separate by mechanical means, separation is readily affected by chemical means, for example, by the addition of a considerable quantity of potassium carbonate, or of other salts which are very soluble in water and almost insoluble in alcohol. The affinity of water for the salt is so much greater than the affinity between the salt and the alcohol as to cause precipitation of the alcohol from the solution. It must be noted that the rectified spirit of the British Pharmacopœia is a solution of alcohol and water; and a slight variation in the percentage of water materially influences the results obtained with the spirit, both by influencing its combining power and by interfering with the normal result of "salting out."

One notable effect of solution is change of temperature. Many solids on dissolving lower the temperature; of those ammonium chloride and potassium bromide are good examples. Gases, on the other hand, usually raise the temperature of the liquid in which they are dissolved. In the solution of liquids there is a rise in temperature if condensation takes place, such, for example, as in the solution of alcohol in water or sulphuric acid in water. Several phenomena are to be noticed when strong alcohol is added to water; in addition to the rising temperature, there is a considerable contraction in volume, which becomes still more pronounced when the solution has been cooled to the ordinary temperature. On mixing the liquids minute bubbles of gas often form, giving a milky appearance. That must not, however, be mistaken for the turbidity referred to in the official monograph on rectified spirit, as indicating the presence of oily or resinous substances. The milkiness due to bubbles of gas quickly disappears, since the gas soon rises to the surface. The evolution of the gas is due to the fact that air is more soluble in alcohol than in water.

The second class consists of those pairs of liquids which, although dissolving in one another, do not so dissolve in all proportions. Good examples of this may be seen in the preparation of spirit of chloroform, and in the results of agitating ether with water. Chloroform is very soluble in rectified spirit, yet not soluble in all proportions, and only slightly soluble in water. The student who has dispensed an aqueous mixture containing a considerable proportion of spirit of chloroform will be aware of the danger of the chloroform being precipitated, especially when salts in solution are present. The solubility of ether in water, like that of water in ether, is small. For that reason it becomes possible to use ether and water together in the assay of alkaloidal drugs and galenicals, but for the same reason—that ether is partially soluble in water—it is necessary to exercise particular care in order, as far as may be, to avoid solution of the one liquid in the other when shaking the "separator."

The solubility of one liquid in another is in many cases increased by heat; this is the case with castor oil and rectified spirit, or with chloroform and spirit. Fifty volumes of castor oil mixed with fifty volumes of rectified spirit do not form a complete solution at 15·5° C., but if the temperature be slightly raised, they combine perfectly, and on cooling separate again into 12 parts of spirit containing very little oil and 88 parts of a heavier solution in which is most of the oil.

Another example of the second class of liquids is to be found in the behaviour of essential oils to water. The solubility of the oils appears to be increased by distilling them with water, but possibly there is some difference between the composition of the oil dissolved by the distillation and that of the oil dissolved by agitation. Certainly, there is a difference between the aromas of the "waters" prepared in those two ways. The constituents of essential oils are mostly bodies of which the boiling point is considerably higher than that of water, and it might be expected that at the boiling point of water, 100° C., very little or none of the oil would come over with the steam. Essential oils, however, are so slightly soluble in water that distillation may be said to follow the laws applying to the distillation of a "mixture" of immiscible fluids. The third class of liquids comprises those which exert no mutual solvent action, such as olive oil and water, but, strictly speaking, very few liquids belong to this class.

The student is recommended to put as many as possible of the above statements to a practical test, and to note the result of adding alcohol to a tube containing oil and water, and of adding water to a tube containing alcohol and oil. Several experiments on salting out also suggest themselves. In fact, the whole subject lends itself to experiments which a chemists' apprentice may advantageously devise and conduct for himself in the pharmacy without special apparatus. Reference may be made to Lectures 3 and 4 in Proctor's 'Practical Pharmacy,' also to the B.P. monograph on rectified spirit.

THE PHYSIOLOGICAL ACTION OF THE ALKALOIDS OF JABORANDI LEAVES.[*]

BY C. R. MARSHALL.

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These physiological investigations were made in conjunction with the chemical investigation of Jowett. He has shown[†] that jaborandi leaves contain three alkaloids—pilocarpine, iso-pilocarpine, and pilocarpidine—and no others. Pilocarpidine is only found to a slight extent in jaborandi (*Pilocarpus jaborandi*). Iso-pilocarpine occurs along with pilocarpine in *P. microphyllus* also. The two last-named alkaloids are stereo-isomers, and consist chemically of a methylglyoxaline group united to a homopilopic radicle.

Previously the three alkaloids, pilocarpidine, pilocarpine, and jaborine, were believed to exist in this drug; jaborine having an action antagonistic to pilocarpine. Pilocarpine was further thought to be a betaine compound of trimethylamine and β-pyridine-α-lactic acid, and its constitution was said to have been established by partial synthesis.

The physiological experiments were mainly directed to the determination of the relative activity of the different alkaloids and the presence of a substance possessing an atropine action. Unless otherwise stated, the alkaloids were used in the form of salts—almost invariably the nitrate—but the dose given was calculated according to the amount of base, not of salt, present. Generally, solutions of the salt containing 1 per cent. of the alkaloid were made by dissolving the corresponding amount of salt in previously boiled distilled water. From these the dilute solutions were prepared by adding the proper amount of 0·6 per cent. NaCl for frogs, or 0·9 per cent. NaCl for mammals. The 1 per cent. solutions were administered as such without addition of NaCl.

Summary of Results.

The more important results of the research may be summarised as follows:—

(1) Jaborandi leaves contain three alkaloids—pilocarpine, iso-pilocarpine, and pilocarpidine. Iso-pilocarpine only occurs in small quantity. Pilocarpidine only in small amounts in *Pilocarpus jaborandi*, Holmes (Jowett).

(2) No substance corresponding to jaborine has been found in the leaves either chemically (Jowett) or physiologically; but a substance possessing an atropine-like action is present in the jaborine of Merck, which, however, consists mainly of pilocarpine or iso-pilocarpine.

(3) Pilocarpine acts upon the so-called nerve-endings in the heart, and its action is comparable in nearly all points with that obtained by electrical stimulation of the vagi.

(4) Small doses of pilocarpine increase the sensitiveness of the vagus to electrical stimulation. Large doses if injected during electrical stimulation of the vagus are practically without action.

(5) A small dose of atropine is able to counteract for a definite time an excessive amount of pilocarpine. With efficient doses a proportion of 1 of atropine in 40 of pilocarpine can be demonstrated; with large doses 1 of atropine in over 1,000 pilocarpine can be detected.

(6) The antagonism of pilocarpine and atropine is physiological.

(7) Iso-pilocarpine acts like a weak pilocarpine. In efficient doses it is about six times weaker. In large doses it is at least twenty times weaker.

(8) Pilocarpidine acts like iso-pilocarpine, but is much weaker.

(9) The homo-pilopic portion of the pilocarpine molecule acts at least as an interacting or haptophore group. Solutions containing the hyproxyacid corresponding to the lactone-pilocarpine are inactive. The influence of the glyoxaline part of the molecule has not yet been determined.

ASSAY OF SIMPLE DRUGS: NUX VOMICA, IGNATIUS BEAN, IPECACUANHA AND CINCHONA.[*]

BY E. LÉGER.

Nux Vomica.

First Process.—The moisture having been determined at 100° C. in a small portion of the powdered drug, the equivalent of 12 Gm. of the dry material is weighed off and placed in a stoppered, wide-mouth flask, with a mixture of chloroform, 20 C.c., and ether, sp. g. 0·721, 100 C.c. After five minutes' agitation 5 C.c. of a mixture of equal parts of solution of ammonia and water is added. The stopper is then tied down with a piece of linen and the whole allowed to macerate for three hours with occasional agitation. After settling, 80 C.c. of the liquid, equivalent to 8 Gm. of the original powder, is filtered off through a covered funnel; this filtrate is transferred to a separator and shaken out successively with 25, 15 and 10 C.c. of a mixture of hydrochloric acid, 2 C.c., and water, 48 C.c. These acid solutions, collected in a second separator, are rendered alkaline with ammonia and shaken out with 50 C.c. of the ether-chloroform solvent. The aqueous layer is transferred to the first separator, previously emptied, and again shaken out with another 50 C.c. of the solvent. The two ether-chloroform solutions are bulked, washed by shaking out with 2 C.c. of water, and distilled, in two portions, from a small, conical, tared flask, the residue dried to constancy at 100° and weighed; the weight multiplied by 12·5 gives the percentage of total alkaloids in the dry drug; this should be about 2·5 per cent.

Second Process.—Modified Prollius's fluid (solution of ammonia, 4 C.c., absolute alcohol, 16 C.c., ether, sp. g. 0·721, 130 C.c.) may be substituted for the above ether-chloroform solvent. For the equivalent of 12 Gm. of the dry powder 180 C.c. of this is employed. After macerating for twelve hours, 150 C.c. of the liquid is filtered off, and distilled in two portions in a small flask, and final drying effected by heating in the stove at 100° C. with the flask inclined, for fifteen minutes the last traces of solvent being removed by a current of air. The dry residue is treated with 12 C.c. of a mixture of hydrochloric acid, 1 C.c., in water, 14 C.c., the flask being closed with a rubber cork and warmed on the water-bath and well shaken. The bases are thus dissolved by the acid while the fatty matter, on cooling, adheres to the sides of the flask. When cold, the liquid is passed through a small filter, 10 C.c. of the filtrate taken and treated as described under cinchona, Process 4, below. The weight of alkaloids obtained multiplied by 12 gives the percentage.

Ignatius Bean.

A quantity of the powdered drug, equivalent to 12 Gm. of the dry material, is treated by first process given above for nux vomica. The beans are sometimes richer than nux vomica, G. Sandor having found them to contain 3·1 to 3·2 per cent. of total alkaloids.

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[*] Abstract of a paper printed in the *Journal of Physiology*, May 3, 1904.

[†] *Pharmaceutical Journal* [4], **12**, 798, **13**, 597.

[*] *Journ. Pharm. Chim.* [6], **19**, 479.

Ipecacuanha.

First Process.—Similar to the first process for nux vomica, but adding solution of ammonia, 2 C.c., and water, 8 C.c., to the first ether-chloroform maceration liquid, and macerating for one hour only; 10 C.c. of water is then added to aggregate the powdered drug, and 100 C.c. of filtrate, corresponding to 10 Gm. of the original dry drug, is collected. The process is then continued precisely as directed for nux vomica. The weight of alkaloids multiplied by 10 gives the percentage, which should not be below 2 per cent.

Second Process.—Precisely similar to the second process for nux vomica.

Cinchona.

First Process.—Similar to the second process for nux vomica, except that the assay is performed with the equivalent of 6 Gm. of dry bark, which is macerated for twelve hours with 150 C.c. of the Prollius's fluid; 120 C.c. of filtrate is then collected, corresponding to 5 Gm. of bark. The process is completed as described below under Process 4. The weight of total alkaloids obtained multiplied by 24 gives the percentage.

Second Process.—The equivalent of 6 Gm. of dry powder is macerated with 120 C.c. of chloroform and 5 C.c. of solution of ammonia for four hours; 100 C.c. of filtrate, equivalent to 5 Gm. of dry bark, is then collected, and treated as described under Process 4.

Third Process.—The same quantity of powdered bark is mixed with calcined magnesia, 2 Gm., and a mixture of caustic soda, 1 C.c., with water, 3 C.c. The moist powder is introduced into a flask, and, after standing for two hours, 150 C.c. of chloroform is added and the total weight taken, then the whole heated under a reflux condenser for one hour. The flask is again weighed and made up to its original weight by the addition of more chloroform. After mixing, 120 C.c. of filtrate is collected (equivalent to 5 Gm. of powdered dry bark), and treated as described under Process 4.

Fourth Process.—This is practically Portes's modification of Prollius's method. A weight of powdered bark equivalent to 6 Gm. of dry material is introduced into a wide-mouth stoppered flask with 6 C.c. of solution of ammonia and 24 C.c. of alcohol (90 per cent.). After macerating for one hour, with occasional agitation, 120 C.c. of ether, sp. g. 0·721, is added, and the mixture thoroughly agitated; the stopper being tied down, the whole is macerated, with frequent agitation, for six hours; 120 C.c. of filtrate is then collected from a covered funnel, corresponding to 4·8 Gm. of dry material. This is distilled off in several small portions in a small flask. The thoroughly dry residue is taken up in 12 C.c. of a mixture of hydrochloric acid, 1 C.c., and water, 14 C.c. Solution of the alkaloids is facilitated by the introduction of a few grains of retort carbon or pumice stone. When solution is complete 10 C.c. of filtrate is collected through a small filter, and shaken out in a separator with 20 C.c. of chloroform and 4 C.c. of a mixture of equal volumes of solution of ammonia and water. The chloroformic alkaloidal solution is run out into another separator, and the aqueous layer again shaken out twice with two more 20 C.c. of chloroform. The bulked chloroformic extracts are washed by agitation with 2 C.c. of water, then filtered off and distilled, in small portions at a time, from a small tared flask. The residue is dried to constancy at 100° C. and weighed. The weight multiplied by 25 gives the percentage of total alkaloids. With the same rich succirubra bark the first process gave 7·44 per cent.; the second, 7·96 per cent.; the third, 7·40 per cent.; and the fourth, 8·36 per cent. of total alkaloid. The last method is, therefore, to be preferred.

MEDIÆVAL MEDICINE IN EAST ANGLIA.[*]

BY C. B. PLOWRIGHT, M.D., F.R.C.S. (HON.).

Survivals of Saxon Medicine.

Among our Saxon ancestors—from whom many of us here derive our surnames as well as our fair hair—medicine was at low ebb. The herbal of Apuleius, the writing of Sextus Placidus, and a portion of Dioscorides exist in Anglo-Saxon. These, as well as three Leech books, have been translated from an Anglo-Saxon MS. of the tenth century. In them we find a mass of superstition and absurdity. The most diverse properties are assigned to plants now regarded as inert. For instance, the common betony (*Betonica officinalis*) is credited with being of use in no less than twenty-nine different ailments, such as the prevention of frightful visions and dreams, sore eyes, constipation, vomiting, adder bite, gout, etc. Vervain (*Verbena officinalis*), or, as the Saxons called it, "ashthroat," is recommended as a charm, the dried root being tied round the neck for strumous ulceration. This is a common Norfolk plant, and its use as a charm for strumous ulcers still survives. In the same work we learn that "for oppressed hard-drawn breathing, a fox's lung sodden and put into sweetened wine and administered wonderfully healeth," which credence still survives in the "syrup of foxes' lungs," so commonly given to the children of the poor. This syrup as now supplied by chemists, needless to say, contains nothing of the fox, which was at one time replaced by lung-wort (*Pulmonaria officinalis*), but even that has disappeared from its composition. We do find, however, that colchicum autumnale is recommended for "sore of joints," and in the Leech book warm "henbane juice dripped into the ear" for earache, but these are almost the only rational remedies in the book.

Survivals of Arabian Medicine.

At the time our ancestors were living in thatched mud huts under the Saxon kings, the great Arabian University at Cordova was at its zenith. We hardly appreciate how much medicine owes to the Arabian schools. Of these there were two more or less antagonistic, the Western and the Eastern. The latter had its centre at Bagdad in the time of Haroun el Raschid of 'Arabian Nights' fame—although there were schools at Damascus and elsewhere. To these belonged Rhazes, the first writer to differentiate smallpox from measles, and Avicenna, whose works were translated into Latin and formed for many centuries the text-book of medicine. Both these were Persians by birth. To the former we owe hiera picra pills and to the latter our present Pil. Aloës c. Myrrhâ.

The Western or Hispano-Moorish school had centres at Seville, Cordova and Granada. At El Zahra, near Cordova, Abulcasis was born. He wrote a medical encyclopædia—*Altasrif*—the surgical portion of which was for several centuries the text-book of surgery in Europe. Avenzoar was considered to show more practical knowledge in his writings than Avicenna. He was the first to recommend rectal feeding for stricture of the œsophagus. Averroes of Cordova, his contemporary, was an eminent physician, as well as the founder of the Averroist school of philosophy. Both these writers were followers of Galen and Hippocrates, and lived in the twelfth century.

The Arabians were great pharmacists, and introduced from the East several valuable medicines, such as opium, camphor and the pomegranate. The first 'London Pharmacopœia' was largely based upon a treatise on the subject by Meusa the younger, of Damascus. It is to him we owe the Syrupus

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[*] Part of an address delivered before the West Norfolk Division of the British Medical Association. Reprinted from the *British Medical Journal*

Rosæ B.P., Pil. Aloës et Assaf. B.P., Diachylon Plaster and Basilicon Ointment.

To show the influence the Arabians had upon pharmacy witness the number of pharmaceutical terms derived from their language still in use: Alcohol, alkali, alembic, amber, ambergris, attar, camphor, chemistry, civet, elixir, jar, lemon, lime, mattress, musk, naphtha, opium, orange, saffron, syrup, tamarind. So that when we speak of a syrup jar or camphor julep we are using the language of our Arabian predecessors. The signs ℈, ʒ and ℥ have the same origin.

Survivals from the first 'London Pharmacopœia' (1618).

These are too many for enumeration. Some have come down almost unchanged—for example, Aqua Cinnamomi, Oxymel Scillæ, Vinum Antimoniale, etc.; while others have had their names changed and their compositions modified; for example, Pil. Cochiæ is now Pil. Colocynth, Comp. Pil. Ruffi is now Pil. Aloes c. Myrrhâ, Ung. Basilcon Flav. is Ung. Resinæ, etc. Some very remarkable survivals from this Pharmacopœia are still in use among the poor. Of these the Oil of Swallows (Oleum Hyrundinum) is one; this was originally made by boiling young swallows in oil with certain herbs, wine and May butter. It is used externally in rheumatism, in the hope that the stiffened and distorted joints of the sufferer may become as lithesome as those of a swallow. Oil of John, or Oil of St. John's Wort as it should be called, probably owed its place in the Pharmacopœia in the first instance to the beautiful red colour the yellow flowers of *Hypericum perforatum* impart to oil.

Oil of worms, Oleum Catellorum, was made by boiling earth worms, live puppies and Venice turpentine in oil. It is interesting to the surgeon because it was with this oil that Ambrose Parey dressed the gunshot wounds received by the French soldiers during the Continental wars of the sixteenth century. Prior to this all gunshot wounds were cauterised either by the actual cautery or boiling oil.

Several of the syrups survive, as those of orange, lemon, poppy, rhubarb and squill. In fact, syrups were much used in bygone times. It was about this period that certain Dutch artificers settled in Lambeth, and manufactured those interesting blue Delft pharmacy pots that are still to be seen in some old country surgeries. Delft or faience ware is made of a soft earth covered with a thick tin glaze. The latter varies from white to greenish. Some consider the colour of the glaze to be an indication of the pottery at which the ware was made—pure white at Lambeth, bluish or greenish at Bristol, Leeds or Liverpool.

These pharmaceutical vessels vary in form as they were intended for oils, syrups, conserves, ointments, pills, etc. They are found not only in England, but also in the Netherlands, in France, Italy and Spain, differing somewhat in form and composition.

Survivals of Astrology.

Considering the close connection this subject had with medicine in bygone days the survivals are comparatively few. In common with all professional men we still put the crossed ℞ at the top of our prescriptions—a survival of the time when the planet Jupiter was the "Great Benefic," and when it was all important to have him "well placed" in the "decumbature" or horoscope constructed for the time the physician first saw the patient. We speak of lunatics or moon-struck people, and some consider the waxing and waning of the moon influence the condition of such patients. We further speak sometimes of the "moon getting on its back," a sad and serious portent for the afflicted. The temperaments have retained their association with the planetary influences, inasmuch as we say a man is mercurial, jovial, saturnine or martial. We speak, too, of venereal diseases.

Survivals of Alchemy.

These are fewer still. We, like other people, call the metal mercury, and the caustic "lunar," but we have practically ceased to designate the preparations of lead, saturnine, or those of iron, martial, as the last generation did. There is, however, a secret remedy still, I believe, called solar elixir. Dissolved gold *aurum potabile* was thought by the alchemists to be the elixir vitæ; the idea probably survives in the double chloride of gold and sodium.

Domestic Remedies.

Domestic remedies still in use are many, but decreasing. Some of the more important may be enumerated:—

Black beer	internally	for bruises.
Dutch drops	externally	,, cuts, internally for gravel.
Cow-dung poultices	,,	,, boils, whitlows, and suppuration generally.
Barberry bark	internally	,, jaundice.
Celandine	,,	,, ,,
Rosemary	externally	as a hair wash.
Houseleek	,,	with cream, for erysipelas.
Sage	internally	for sore throat.
Nettle tea	,,	,, urticaria.
Dock tea	,,	,, acne.
Twitch tea	,,	,, vesical irritation.
Parsley tea	,,	,, ,, ,,
Venice turpentine	,,	,, kidney discomfort.
Lily leaves	externally	,, cuts.
Agrimony tea	,,	,, (?)
Pile wort	,,	,, piles.
Syrup of foxes' lungs	internally	,, coughs.
Cochineal	,,	with potassii subcarb., for whooping-cough.
Saffron tea	,,	for measles.
Puff ball	externally	as a hæmostatic.
Bramble leaves	internally	for diarrhœa and piles.
Plantain leaves	externally	fresh for cuts.
Viper fat	,,	for viper bite.
Eel fat	,,	,, deafness.
Poppy-head tea	internally	,, catarrh.
Tansey tea	,,	as a stomachic.
Balm tea	,,	for fever.
Snails	,,	,, phthisis, externally for weak muscles.
Elderberry wine	,,	,, catarrh.

Certain of the foregoing owe their origin to the "doctrine of signatures"—that is, to some resemblance, fancied or otherwise, to the disease for which they were employed. The barberry (*Berberis vulgaris*) has a yellow bark and the celandine (*Chelidonium majus*) a yellow juice; therefore they are good for the yellow disease—jaundice. The sting of the nettle (*Urtica dioica*) produces a rash resembling urticaria, therefore nettle tea is good for that disease. Hæmorrhoids resemble the little tubers of *Ranunculus ficaria*, therefore they are indicated in this disease. The fox is a good runner and "long-winded," so his lungs are good for shortness of breath and coughs.

Dutch drops and black beer are foreign remedies; the former, a very typical survival of the past, comes from Haarlem, the latter from the Baltic ports.

The use of the cow-dung poultice, although not readily acknowledged, is common enough; testimony is strong in favour of the relief to pain it affords and the rapid maturation it causes when applied to a boil. The only feasible explanation apparent is that, being a highly septic application, it acts as the septic tank does upon sewage—the saprophytic organisms destroy the pathogenic.

Few farmhouses are without a dried puff-ball (*Lycoperdon giganteum*) for use in case any member of the family cuts himself—a hæmostatic which, once fairly introduced into a wound, effectually prevents union by first intention.

THE MANUFACTURE OF TABLETS.*

BY "SPECIALIST."

The tablet is at present the most popular form of medicinal preparation. It possesses advantages over the older forms, in that it is more palatable, as it may be coated with sugar or chocolate, and a large amount of extract may be administered in this way in a concentrated form. Tablets may be either compressed—that is, machine-made—or in the form of tablet triturates—that is, moulded by hand in a form.

Granulation.

In the manufacture of compressed tablets the preparation of the granulation is a most important factor, and consists of three distinct processes—first, reducing the ingredients to a fine powder; second, wetting and sieving; third, drying and grinding or resieving. All powders containing woody or cellular fibre—as ipecac, rhubarb, or slippery elm—should be sifted through a sieve from 80 to 100 mesh. This removes coarse particles, which would otherwise give a mottled appearance to the finished tablet. Powders of resin-like origin, as podophyllin, jalap, or scammony, should be pulverised. Chemicals of a flaky nature, as salicylate of soda, should be reduced to a Number 60 powder before mixing with other ingredients.

The finer the powders before wetting the smoother will be the surface of the finished tablet. If balsams are used, as balsam copaiba, it should be evaporated to a brittle extract with the addition of 25 per cent. of magnesia, and, after cooling, it may be ground to a fine powder. If powders are to be mixed with extracts, the finer the powder the better is the colour of the extract disseminated. Salts possessing a definite crystal, as salol, or quinine bisulphate, should be reduced to a Number 40 powder, thus pulverising the crystals and making the mixing more complete. Camphor monobromate is difficult to pulverise, owing to its oily nature. By dampening with alcohol in which it is soluble it may be quickly reduced to a fine powder.

Mixing and Wetting

Thorough mixing is essential not only to the safety of the patient, but insures better results, especially when highly coloured extracts are contained in the formula, because the latter are in this way more evenly disseminated through the powder. Violent cardiac alkaloids or corrosive poisons should be most carefully triturated before mixing and wetting. During the mixing process machines with spiral worms or paddle-blades are used on large quantities of material.

After mixing is the time to add the proper binding material to hold the ingredients together. As a rule, the cohesive power of the material should be slightly greater than the adhesive, but the tablet must be soft enough to dissolve in the juices of the stomach and yet withstand the strain of compressing and coating. This binding material is known as the excipient, and may be either sugar of milk, starch, dextrin, cane sugar, acacia, glucose, or a solution of gum or shellac. Tablets intended for use as lozenges, or to dissolve to a thin wafer in the mouth should contain at least half their weight of equal parts of acacia and tragacanth. Drugs of a fibrous nature, as ipecac, cardamom, or ginger, take from 5 to 10 per cent. yellow dextrin. Salts of a heavy specific gravity, as bismuth subnitrate, calomel, or corrosive sublimate, take sugar of milk as a binder. Where the material is of a light or feathery nature, as the cinchona alkaloids and benzoic acid, acacia is advantageous.

The menstruum plays an important part in the wetting process. It should possess a slight solvent action upon the ingredients used, but not too great, as in that case it will mass the powders and prevent the formation of a granule. Water, alcohol, proof-spirit, ether, chloroform, and benzine are more commonly used. Too much wetting makes the powders sticky, masses them, and causes clogging in the meshes of the sieve. Too little wetting does not make a good granule, or dissolves the excipients among the material, and the granules are soft, and powder on grinding.

Sieving.

To give the wet powders form, shape, and individuality sieving is indispensable. The finer the sieve used the smaller the granule resulting and less powder in grinding. The sieves generally used are Numbers 12, 10, 8, and 5, depending upon the nature of the material and the amount of moisture in the mixture. For example, bismuth subnitrate being a heavy salt, can be made very wet with water and forced through a Number 10 sieve, while charcoal, on being wet with glucose, is sticky, and requires a coarse sieve.

Drying.

Some salts require quick drying at a medium temperature, others slow drying at a low temperature. Salol melts at 109° F., being decomposed into phenol and salicylic acid; hence, to preserve its therapeutic properties, it should be dried by cold air, or at a very low temperature. Beta-naphthol is decomposed by excessive heat. Excessive heat volatilises all salts of benzoic acid, decomposing the latter into hippuric acid. Sulfonal, trional, and phenacetin and other coal tar products turn yellow with undue exposure to heat. Excessive heat decomposes the chlorophyll of green extracts, turning them brown, as is the case with belladonna, hyoscyamus, buchu, and corn-silk. Iodides or alkaline carbonates, when combined with green extracts, require a medium heat and constant stirring. Extracts of brown colour as aconite or drosera, if exposed to excessive heat, will lose their colour.

Granulations containing extracts of any colour should be spread in thin layers, otherwise the colour will be driven to the top of the layers, leaving the lower portion colourless, and giving a mottled appearance to the surface of the tablet. Prolonged or excessive heat discolours bismuth subnitrate, sodium bicarbonate, acetanilid, sodium salicylate and many other coal tar preparations.

Grinding.

The degree of fineness required is of great importance. Tablets cannot be made from fine powders, as they feed unevenly and clog the shoe of the machine, giving rise to binding, rough edges, and varying weights. Coarse granules feed more evenly and require less attention in compressing. Tablets made from coarse granules disintegrate more readily than those made from fine ones. A moderate degree of coarseness, ranging from a Number 12 to a Number 20 powder should be adopted as a standard. The granules must be dry, for moisture causes the drug mills to clog, and more or less powder results. Dry mills of all kinds are on the market, but none are perfect. Mead and Co., of Detroit, and Hance Bros. and White, of Philadelphia, offer mills that give satisfactory results. A good drug-mill should possess four qualities:—First, it should grind without powdering; second, grind uniformly; third, simplicity of construction, enabling quick cleaning and less liability to get out of repair; fourth, it should grind any kind of material.

Incompatibility.

A knowledge of the conditions under which chemical reactions take place is essential not only to preserve the medicinal value of the tablet, but to preserve its appearance against discoloration. Heat, light, and moisture favour chemical changes, and must be carefully avoided. When salts of an incompatible nature are to be compounded, separate granulations should be made of each ingredient, and then mixed only when dry, and, after compression, placed in dry and airtight bottles. Sodium bicarbonate reacts with calomel, saccharine and rhubarb; salol with camphor or thymol; caffeine citrate or muriate with acetanilid and antipyrine. Tannic acid or substances containing it are incompatible with alkaloids or metallic salts, especially those of iron. Salicylic acid and its salts react with salts of iron, ferric salicylate resulting and turning the powders pink. Strychnine sulphate is decomposed by potassium bromide, strychnine being formed and a brown colour resulting. Chloral and alkalies form chloroform. Corrosive mercuric chloride is incompatible with most metallic substances, metallic mercury resulting and black discoloration forming. Exposure to light decomposes santonin into santonic acid, the former turning yellow.

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* Reprinted from the *Pharmaceutical Era*, June 2, 1904.

Manipulation in Special Cases.

Salts having a definite crystalline form, as cocaine muriate, sodium succinate, chloral hydrate, sodium chloride, potassium iodide, or chlorate, need no preparation, but may be run in the granular state. Combinations of tannic acid with alum, or boric acid, should be granulated with alcohol; sugar of milk or sodium bicarbonate, with 2 to 5 per cent. of acacia with water as menstruum; sodium salicylate, with 10 per cent. cane sugar and 1 per cent. acacia; acetanilid, salol, phenacetine, with 25 per cent. starch paste.

Acids benzoic, boric and salicylic should be treated with 10 per cent. cane sugar and 2 per cent. acacia. Charcoal and similar spongy bodies must be in a fine powder, and should be granulated with 20 per cent. of cane sugar and dilute solution of glucose. Effervescent mixtures should be granulated with alcohol or else separately with water and mixed only in a dry condition. The latter is a much cheaper method. Solid extracts should be softened by gentle heat and the addition of water and granulated with starch, sugar of milk, and a small amount of acacia. If they are of an oily nature 2 to 5 per cent. of calcined magnesia should be added. Fluid extracts should be evaporated to a syrupy consistence and then treated the same as solid extracts.

Hygroscopic or deliquescent salts should be dried out to constant weights and then wet up with 10 per cent. acacia, the loss in weight being replaced by an equal amount of sugar of milk. Scale preparations should be pulverised and treated the same as powdered drugs. Substances rich in oxygen, as chlorates, permanganates, picrates, nitrates, and bichromates should not be mixed with charcoal, sulphur, or iodine, for fear of forming explosive compounds; neither should they be heated directly or subjected to trituration.

A tablet containing 2 grains quinine sulphate should have $\frac{1}{4}$ grain excipient, and should weigh $2\frac{1}{4}$ grains; 5 grains of cinchonidia sulphate, $\frac{1}{2}$ grain excipient, and weigh $5\frac{1}{2}$ grains; Dover's powder, $2\frac{1}{2}$ grains, $\frac{1}{2}$ grain excipient, and weigh 3 grains; 1 grain of acetanilid, 3/5 grain excipient, and weigh 1 3/5 grains; 1 grain of powdered cubebs, buchu, or digitalis, $\frac{1}{2}$ grain excipient, and weigh $1\frac{1}{2}$ grains. A tablet containing 5 grains of pepsin or pancreatin requires 1 grain of excipient, and should weigh 6 grains; tincture of aconite root, 1 grain of excipient, and should weigh 1 grain. A 5-grain tablet of damiana extract should contain $2\frac{1}{4}$ grains excipient, and weigh $7\frac{1}{4}$ grains.

The tablet maker should carefully study his formula and regulate the kind and amount of excipient used to give the tablet firmness and solubility, and yet keep it as small as possible. Large tablets are unpalatable, and do not take with the public.

CONSTITUENTS OF CHAULMOOGRA SEEDS.[*]

BY F. B. POWER AND F. H. GORNALL.

The seeds which afford the chaulmoogra oil of commerce are derived from *Taraktogenos Kurzii* (King), a native of Burmah, and not, as has until quite recently been assumed, from *Gynocardia odorata* (R.Br.). The oil has previously been examined by Moss ('Year-Book of Pharmacy,' 1879, 523-533), Petit (*J. Pharm. Chim.*, 1892, **26**, 445), and more recently by Schindelmeiser (*Ber. deutsch. pharm. Ges.*, 1904, **14**, 164), but their results differ in many respects from those obtained by the present authors, which are as follow:—The seeds of *Taraktogenos Kurzii* (King) contain a hydrolytic enzyme, and also an unstable cyanogen compound, which reacts with the enzyme when the seeds are crushed, giving rise to hydrogen cyanide. Numerous attempts were made to isolate this compound, but without success. Further experiments will be made in this direction.

On expression, the seeds yielded 30·9 per cent. of a fatty oil, which had the following constants:—m. p. 22-23°; sp. gr. 0·951 at 25° and 0·940 at 45°; $[\alpha]_D^{15^\circ} + 52^\circ$; acid value 23·9; saponification value 213; iodine value 103·2.

On hydrolysis, the fatty oil yielded glycerol, a very small amount of phytosterol, $C_{26}H_{43}\cdot OH$ (m. p. 132°), and a mixture of fatty acids (m. p. 44-45°; $[\alpha]_D + 52·6°$ in chloroform; acid value 215; iodine value 103·2), which consisted chiefly of several homologous acids belonging to a series $C_nH_{2n-4}O_2$ containing a closed ring and one ethylenic linking, no member of which has hitherto been isolated from a fatty oil. The highest of these homologues present, which was isolated in a pure condition, separates from most of the usual organic solvents in glistening leaflets (m. p. 68°; b. p. 247-248°/20 Mm., $[\alpha]_D + 56°$), has the formula $C_{18}H_{32}O_2$, and is designated chaulmoogric acid. It combines with only two atomic proportions of bromine or iodine. Palmitic acid also was identified, and there is reason for assuming the presence of a near homologue or homologues of chaulmoogric acid, but belonging to the series having the general formula $C_nH_{2n-4}O_2$ with two ethylenic linkings. Undecylic acid and hydroxy-acids were proved to be absent, and an individual acid corresponding with hypogæic acid could not be isolated. The "gynocardic acid" of all previous investigators is believed to be a mixture of several substances.

The "press-cake" yielded, besides formic and acetic acids and a very small amount of volatile esters having the characteristic odour of the seeds, an appreciable amount of a neutral oily substance, $C_{18}H_{32}O_2$ (b. p. 214-215°/18 Mm., sp. gr., 0·9066 at 16°/16°, $[\alpha]_D + 42·4°$), which is isomeric with chaulmoogric acid.

Constitution of Chaulmoogric Acid.

With the object of ultimately determining the constitution of chaulmoogric acid, $C_{18}H_{32}O_2$, a number of its derivatives have been prepared and studied.

Methyl chaulmoograte, $C_{17}H_{31}\cdot CO_2Me$ (m. p. 22°, b. p. 227° corr./20 Mm., sp. gr. 0·9119 at 25°/25°, $[\alpha]_D^{15^\circ} + 50^\circ$ in chloroform), was prepared by the interaction of the acid, methyl alcohol, and hydrogen chloride. Ethyl chaulmoograte, $C_{17}H_{31}\cdot CO_2Et$, a colourless oil (b. p. 230° corr./20 Mm., sp. gr., 0·9079 at 15°/16°, $[\alpha]_D^{20^\circ} + 50·7^\circ$), was prepared in like manner, Chaulmoogramide, $C_{17}H_{31}\cdot CO\cdot NH_2$ (m. p. 106°, $[\alpha]_D^{27^\circ}$ + 57·3 in chloroform), was obtained according to Aschan's method (*Ber.*, 1898, **31**, 2344). Bromodihydrochaulmoogric acid, $C_{17}H_{32}Br\cdot CO_2H$ (m. p. 36-38°; optically inactive), is formed when chaulmoogric acid is treated with hydrogen bromide in glacial acetic acid.

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[*] Abstract of a paper read before the Chemical Society on Wednesday, June 2, 1904. Reprinted from the *Proceedings of the Chemical Society*.

Ethyl chaulmoograte absorbs two atomic proportions of bromine in the cold, forming ethyl dibromodihydrochaulmoograte, $C_{17}H_{31}Br_2{\cdot}CO_2Et$, which is an oil.

When chaulmoogric acid is treated with sodium in boiling amyl alcohol, the ethylenic linking is not resolved, but there were obtained, after fractional distillation of the product, chaulmoogryl alcohol, $C_{18}H_{33}{\cdot}OH$ (m. p. 36°, $[\alpha]_D + 58{\cdot}4$) and chaulmoogryl chaulmoograte, $C_{17}H_{31}{\cdot}CO_2{\cdot}C_{18}H_{33}$ (m. p, 42°), together with unchanged chaulmoogric acid.

The saturated acid, dihydrochaulmoogric acid, $C_{17}H_{33}{\cdot}CO_2H$ (m. p. 71-72°, b. p. 248°/20 Mm.; opically inactive), is formed, however, on reducing bromodihydrochaulmoogric acid with zinc dust and alcohol, or chaulmoogric acid with hydriodic acid and phosphorus. By the latter process, a hydrocarbon, chaulmoogrene, $C_{18}H_{34}$ (b. p. 193-194°/20 Mm.), is also formed. Methyl dihydrochaulmoograte, $C_{17}H_{33}{\cdot}CO_2Me$ (m. p. 26-27°, b. p. 222-223°/20 Mm.), was prepared from the corresponding acid.

Chaulmoogric acid is not attacked by fused caustic alkalis even at 300°. When chaulmoogric acid was oxidised with cold permanganate (1 atom oxygen), dihydroxydihydrochaulmoogric acid, $C_{17}H_{31}(OH)_2{\cdot}CO_2H$ (m. p. 102°), was produced, but when the amount of permanganate was equivalent to 4-5 atomic proportions of oxygen, formic acid and two dibasic acids were obtained, the latter having the formulæ $C_{15}H_{28}(CO_2H)_2$ and $C_{15}H_{28}O(CO_2H)_2$ (m. p. 128°). The ethyl esters of these acids were described.

The molecular magnetic rotation of ethyl chaulmoograte very closely approximates to the calculated value for an unsaturated ester of the formula $C_{20}H_{36}O_2$, having a closed ring and one ethylenic linking, the latter being contained in an allyl group. This conclusion, based on the magnetic rotation, is in harmony with the results obtained by the oxidation of the acid.

The further investigation of chaulmoogric acid is proceeding.

GAS TESTING IN THE METROPOLIS.

In January last, a Departmental Committee was appointed by the President of the Board of Trade to inquire and report as to the statutory requirements relating to the illuminating power and purity of gas supplied by the Metropolitan gas companies, and as to the methods now adopted for testing the same, and whether any alteration is desirable in such requirements or methods, and, if so, whether any consequential alteration should be made in the standard price of gas. The Committee, which consisted of Lord Rayleigh (Chairman), Sir W. de W. Abney, Dr. Farquharson, M.P., Mr. W. King, and Mr. J. Fletcher Moulton, M.P., has now issued its report. The Committee's recommendations include the following:—

(*a*) That the standard burner to be used for testing the illuminating power of all qualities of gas should remain, as at present, the Sugg's London (No. 1) Argand burner, and that the chimney to be used therewith should be of uniform size—namely, six inches long and one and seven-eighths inches internal diameter.

(*b*) That for the purpose of determining the nominal illuminating power of gas of any quality the gas should be burnt in the standard burner at the rate of five cubic feet an hour.

(*c*) That provision should be made for official testing of illuminating power in a flat flame burner, of a kind to be prescribed by the gas referees, and that the result of such tests be recorded and notified to the various authorities and companies concerned and to the Board of Trade.

(*d*) That official tests of the calorific power of the gas supplied by each company should also be made, recorded and notified as above.

(*e*) That the existing statutory provision, which requires the gas to be wholly free from sulphuretted hydrogen (which is, in fact, impracticable), should be modified, and that for the future the test which the gas should be required to pass should not be more severe than that specified in the schedule to the Gasworks Clauses Act, 1871.

(*f*) That the obligation placed upon the companies with regard to the removal of the sulphur impurities (other than sulphuretted hydrogen) should be abolished, but that testing for information only should continue to be made in such manner and to such extent as may be prescribed by the gas referees.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN.

NORTH BRITISH BRANCH.

The following members of the Pharmaceutical Society are candidates for the Executive of the North British Branch. Seventeen are to be elected, and the result of the election is to be announced on Friday, June 17.

1. Anderson, James, 36, Home Street, Edinburgh.
*2. Boa, Peter, 119, George Street, Edinburgh.
3. Clark, Alexander John, 94, Morningside Road, Edinburgh.
*4. Cowie, William Beaverly, 26, Clyde Street, Edinburgh.
*5. Cummings, William, 49, Reform Street, Dundee.
6. Currie, Archibald, 162, Ferry Road, Leith.
*7. Doig, William, 9, High Street, Dundee.
*8. Dott, David Brown, 93, Abbeyhill, Edinburgh.
*9. Fisher, John Hutchison, 74, High Street, Dunfermline.
*10. Giles, William, 123, Crown Street, Aberdeen.
*11. Gilmour, James Pinkerton, 312, Cathcart Road, Glasgow.
*12. Kerr, Charles, 56, Nethergate, Dundee.
13. M'Cutcheon, Alexander, 16, Leven Street, Edinburgh.
*14. Mitchell, Donald, 30, Union Street, Inverness.
15. Mitchell, Patrick, 6, Church Street, Dumbarton.
*16. Naysmith, Andrew, 154, High Street, Arbroath.
*17. Nesbit, James, 236, High Street, Portobello.
18. Russell, James Anderson, 3, Grey Place, Greenock.
*19. Spence, Alexander, 135, High Street, Linlithgow.
*20. Strachan, Alexander, 138, Rosemount Place, Aberdeen.
*21. Tocher, John, 84, High Street, Dumfries.
22. Watson, David, 41, Sinclair Drive, Langside, Glasgow.
*23. Wilson, William Potter, 36, High Street, Haddington.

The names marked with an asterisk are those of members of the retiring Executive, who are eligible for re-election.

PHARMACEUTICAL SOCIETY OF IRELAND.

JULY EXAMINATIONS.

Applications for the respective examinations should be lodged with the Registrar by eleven o'clock a.m. on the following dates:—Thursday, 23rd inst., for the Preliminary Examination; Tuesday, 28th inst., for the Registered Druggist Examination; and Wednesday, 29th inst., for the Pharmaceutical Licence Examination.

GLASGOW AND EDINBURGH CHEMISTS' ASSOCIATIONS.

ANNUAL JOINT EXCURSION.

On Tuesday, June 7, 1904, the first annual joint excursion of the Glasgow and West of Scotland Pharmaceutical Association and the Edinburgh Chemists' Association took place in excellent weather to Lanark and the Falls of Clyde. Nearly 100 members and friends were present. Much interest was taken in the village of New Lanark, owing to the fact that

William Allen, one of the founders of the Pharmaceutical Society, and its first president, was once a partner in the cotton-mills in that village. Luncheon was served in the Clydesdale Hotel, and thereafter the excursionists drove to Stonebyres Falls, Tillietudlem, and Crossford, returning to Lanark by six o'clock. Mr. W. L. Currie presided at the luncheon, when, after the loyal toast had been honoured, Mr. G. Lunan proposed the toast of the "Glasgow and West of Scotland Pharmaceutical Association." He referred also to Mr. Currie's re-election to the Council of the Pharmaceutical Society. In his reply, Mr. Currie mentioned that this was the jubilee year of the Glasgow Association, which was founded on March 4, 1854. Other toasts were the "Edinburgh Association," proposed by Mr. J. W. Sutherland, and replied to by Mr. Forret; and the "Chairman," proposed by Mr. C. F. Henry. At the tea-table Mr. J. Rutherford Hill thanked the Committee of the Glasgow Association, and especially Mr. J. B. Gilmour, Honorary Secretary, for the excellent arrangements which had been made for the excursion. The day was greatly enjoyed by all present.

EDINBURGH CHEMISTS', ASSISTANTS' AND APPRENTICES' ASSOCIATION.

FIRST BOTANICAL EXCURSION.

Friday, June 10, 1904. Sixteen members assembled at Blackford Hill Station at six a.m. The weather was phenomenally, cold for June, with a strong east wind, but no rain. Under the leadership of Mr. Rutherford Hill, the party proceeded round the western base of the hill to the south side, facing the Braid Burn. There was abundance of material, and field work was eagerly engaged in for upwards of an hour and a-half. As indicating the backwardness of the season, it was noted that some hawthorn trees were just beginning to come into flower, and many plants usually in flower were still a long way from being ready to open. Among plants collected in flower or fruit were:—*Ranunculus ficaria*, *R. acris*, *R. repens*, *Capsella bursa-pastoris*, *Cardamine pratensis*, *Arabis hirsuta*, *Barbarea vulgaris*, *Sisymbrium officinale* (just opening), *Brassica napus*, *Resedaluteola*, *Helianthemum vulgare*, *Lychnis viscaria*. This is one of the two stations for the viscid catchfly in Scotland, and it was in great abundance on the rocks, fortunately beyond the reach of plant collectors, but some fine specimens were gathered:—*Lychnis diurna*, *L. vispertina*, *Stellaria holostea*, *Cerastium vulgatum*, *Geranium molle*, *G. Robertianum*, *Erodium cicutarium*, *Cytisus scoparius*, *Ulex europæus*, *Medicago lupulina*, *Trifolium procumbens* (*minus*), *Lotus corniculatus*, *Vicia sepium*, *V. tetraspermum*, *Prunus spinosa*, *Geum urbanum*, *Alchemilla vulgaris*, *Cratægus oxyacantha*, *Pyrus aucuparia*, *Sedum anglicum*, *S. acre*, *Ægopodium podagraria*, *Heracleum sphondylium*, *Chærophyllum sylvestris*, *C. temulum*, *Lonicera periclymenum*, *Galium cruciatum*, *G. aparine*, *Hieracium murorum*, *Petasites vulgaris*, *Tussilago farfara*, *Senecio viscosa*, *Veronica beccabunga*, *V. chamædrys*, *Lamium album*, *Nepeta glechoma*, *Myosotis arvensis*, *Symphytum tuberosum*, *Plantago lanceolata*, *Rumex acetosella*, *Mercurialis perennis*, *Ulmus campestris* and *Asplenium ruta-muraria*. The plants gathered not in flower were:—*Silene inflata*, *Lathyrus aphaca*, *Spiræa ulmaria*, *Rubus fruticosa*, *Epilobium hirsutum*, *Conium maculatum*, *Galium verum*, *Arctium lappa*, *Carduus lanceolatus*, *Verbascum thrapsus*, *Digitalis purpurea*, *Teucreum scorodonia*, *Stachys sylvatica* and *Rumex acetosa*. After a pleasant walk round by Braid Burn to Nether Liberton the party returned to town by car at eight a.m., having thoroughly enjoyed the outing.

BRIGHTON ASSOCIATION OF PHARMACY.

COMPLIMENTARY DINNER TO THE PRESIDENT.

Thursday, June 9, 1904, at the Old Ship Hotel, Brighton. It was a representative gathering of chemists of Brighton and District that met to do honour to their President, Mr. W. H. Gibson, F.C.S., and to commemorate his recent election to the Pharmaceutical Council. The Chairman, Mr. J. R. Gwatkin, was well supported, and among other guests were:—The Mayor of Brighton (Alderman E. M. Marx), Messrs. E. H. Farr, F.C.S., R. A. Cripps, F.I.C., and R. O. Hayes (Hayward's Heath), N. G. Beck (Burgess Hill), C. T. Ward (Southwick), T. Surman, E. Wallis, H. A. Costerton, J. Williamson, W. W. and G. B. Savage, H. J. and J. R. Gwatkin, Franklin, Blamey, Robinson, Guy, Kilby Pears, Yates, Black, Cook, Heath, J. Plowright, Beckwith, S. Gibson, A. Plowright, A. Hall, K. J. Padwick, P. Newman, and W. H. Andrews.

After dinner the Chairman proposed the usual loyal toast, and then that of

The Guest of the Evening.

He began by complimenting Mr. Gibson on his recent success. He thanked him, in the name of the Association, for his services, so ably rendered for the past eleven years, as President of the Brighton Association of Pharmacy, and hoped he would go on for many years to come. It was with much gratification that he had the honour to present to him the silver bowl and illuminated address subscribed by the members in acknowledgment of what he had said before, and begged him to accept them with every good wish from his *confrères* in Brighton.

The handsome silver rose bowl was supplied by Messrs. Lawson and Son, Old Steine, Brighton, the inscription reading:—"Presented to W. H. Gibson, F.C.S., by the Brighton Association of Pharmacy. June 9, 1904." The illuminated address, painted by Miss Lilian Rusbridge, of the Municipal School of Art, and framed by Mr. Ryde, Western Road, was subscribed by the whole Association, and bore these words:—"To W. H. Gibson, F.C.S.—We, the undersigned members of the Brighton Association of Pharmacy, beg your acceptance of the accompanying silver bowl, as a mark of our appreciation of your valuable services as our President for the past eleven years, and to commemorate your election as a member of the Council of the Pharmaceutical Society of Great Britain. June 9, 1904."

Mr. Gibson returned thanks in most graceful terms (after his health had been drunk with musical honours), being momentarily overcome with emotion and by the kindness of his colleagues. He said he did not feel worthy of their regard and praises. It was always a pleasure to be associated with so many of his own calling. It was more than eleven years since they had elected him President, and it had been one of the charms of his life to feel he had been the means of cementing the friendship and goodwill of the chemists of so important a town as Brighton. He felt it an impossibility to thank them sufficiently for their beautiful presents and tokens of goodwill towards him. His pleasure was greatly enhanced in beholding that influential gathering, and in seeing so many of his friends present that night. Now that there were so many conflicting interests and miserable jealousies to divide and separate men, that assembly came as one of the sweet courtesies which made pleasant the road of life. It was one of those glorious principles of goodwill which proved how good and joyful a thing it was to meet together in unity and concord. It showed that they did not regard as a mere machine set to no certain work, but as an individual, in whose welfare they felt a deep concern and desire to participate. Some men were born great, others achieved greatness, and some had greatness thrust upon them. The latter portion was his case. It was to them that he was greatly indebted for the honour that had recently been conferred upon him. That honour was not for him alone, but chiefly for the members of that important Association. Their having placed him in the position of their President made him its fortunate recipient. He hoped he might continue to work and be among them as long as he lived, and would endeavour to do all in his power for the good of their cause. Therefore, he thanked them from the bottom of his heart on behalf of himself and family.

Mr. A. J. **Franklin** proposed the toast of "The Corporation of Brighton," to which the **Mayor** responded.

Mr. Councillor **Yates** proposed the toast of the

Pharmaceutical Society,

and stated the threefold object of its existence was education, examination, and benevolence of chemists, and trusted all would do their best to help the Society in their laudable endeavours.

Mr. **Gibson** responded, and hoped that all other towns would show such a good percentage of members as did Brighton with its 75 per cent., and if every chemist and druggist were to subscribe only half-a-crown annually to the Benevolent Fund it could extend its merciful operations to a much larger number of deserving cases.

The **Chairman** then proposed "The Health of the Dinner Committee and Hon. Secretary," to which Mr. C. A. **Blamey** replied that the pleasure it gave to work for the brotherhood of pharmacists was ample compensation for any trouble, and he wished to thank those gentlemen who so kindly gave their time, money, help, etc., in bringing the undertaking to such a successful issue. Messrs. Franklin and Robinson also suitably replied.

Mr. H. A. **Costerton** proposed the Chairman's health, congratulating him on the way he had conducted the proceedings. This toast was drunk with musical honours, to which Mr. **Gwatkin** briefly returned thanks.

"Auld Lang Syne," with hand all round, closed a very successful evening, and brought a record session to a close. Songs were sung between the toasts by Messrs. Phil Newman, W. Lander, Long, Wallis, Franklin, and Beckwith, and Mr. E. Hedgcock presided at the pianoforte.

WEST HAM AND DISTRICT CHEMISTS' ASSOCIATION.

SUMMER OUTING.

Thursday, June 9, 1904, when a party of sixty journeyed to Oakhill Farm, Theydon Bois. After a call in Epping Forest, which at this time of the year and at this particular spot is always delightful, the members and friends were photographed, and then adjourned to a meat tea, which was served at six o'clock. After the tables were cleared the **President**, Mr. J. H. Matthews, proposed the usual loyal toasts.

Mr. **Harold Mitchell** proposed "The Health of the President." The toast was enthusiastically received with musical honours. The **President**, in reply, thanked all those present for the kind way in which they had received the toast, and said he wished to make the toast list as short as possible, but he could not refrain from proposing "The Visitors," especially "the ladies." In doing so he also asked them for their sympathy and assistance for the Association, particularly in the matter of early closing. Early closing had enabled them to meet there that afternoon, and, in fact, was the real means by which they were enabled to meet month by month, to the advantage of all the members. With this toast he wished to couple the name of Mr. Blades, sen., who, he understood, had been connected with the trade for seventy years. Mr. **Blades** suitably replied. During the evening music was enjoyed, by the following ladies and gentlemen contributing:—Pianoforte duets, Misses Matthews; recitations, Messrs. Potter and Butler; songs, Miss C. Matthews, Messrs. Matthews, Mitchell, and Gwinn; and Mr. Morgan Jones was again to the fore with his sleight-of-hand.

SCHOOL OF PHARMACY STUDENTS' ASSOCIATION.

BOTANICAL EXCURSION.

On Saturday, June 4, the members of the Association proceeded on the annual excursion to Caterham, when, the weather being everything that could be desired, a thoroughly enjoyable day was spent. The party left Charing Cross, carriages having been reserved by the South-Eastern Railway, at 12.56, and arrived at Caterham at about 1.50. The party then proceeded across country towards Godstone, and collected a number of plants on the way. Tea awaited them upon their arrival at Godstone, and terminated a very enjoyable afternoon's ramble. The following specimens were obtained by various members:—*Atropa belladonna, Solanum dulcamara, Cynoglossum officinale, Brassica nigra, Bryonia dioica, Tamus communis, Habenaria bifolia, Listera ovata, Orchis maculata, Orchis moscula, Neottia Nidus-avis.*

Visit to Manufactories.

On Thursday, June 9, the members of the Association, accompanied by Professor Greenish, visited the works of Messrs. J. Bennet Lawes, chemical manufacturers, and Messrs. Bullivant, wire rope manufacturers, Millwall, the outing having been arranged by Mr. V. C. Hewlett. On arrival at the station, brakes, very kindly provided by Messrs. Bullivant, conveyed the party to the premises of Messrs. Lawes. Here the processes involved in the manufacture of tartaric and citric acids were seen.

Manufacture of Tartaric and Citric Acids.

Crude "argol," the potassium acid tartrate deposited by wines on standing, is treated in large circular vats with hydrochloric acid, and is stirred at a definite temperature for about six hours, when the whole is dissolved. The liquid is then run off into another set of covered vats, and treated with chalk. The carbon dioxide formed during the neutralisation is carried away by pipes to a large gas-holder, from which it passes to a room, where it is liquefied by pressure and filled into iron cylinders, and is sold in large quantities for refrigerating. The calcium chloride produced by the addition of chalk to the hydrochloric acid solution precipitates tartaric acid as calcium tartrate. This is allowed to settle, the upper layer is run off, and the residue washed and treated with brown oil of vitriol. Tartaric acid is liberated, and is freed from the precipitated calcium sulphate by filtration through large calico filters. The solution of tartaric acid is concentrated in lead-lined tanks, heated by steam, led through lead pipes immersed in the liquid. When the concentration, as evidenced by the specific gravity, has reached the crystallising point, the acid is run into large circular lead-lined vessels, and granulated by constant stirring. The reddish crystalline mass thus obtained is run out onto horsehair strainers and allowed to drain. The acid has next to be freed from colouring matter and lead, which are removed by mixing with animal charcoal and dissolving in sulphuretted hydrogen water. The animal charcoal and the precipitated lead sulphide are removed by filtration through calico filters supported on wicker troughs. The acid liquid is concentrated and crystallised as before, but in wooden tanks, without any lead lining. The crystals thus obtained are almost colourless, and are subjected to a final purification by redissolving in water, concentrating in wooden tanks heated by steam led through glass pipes, and finally crystallised in large rectangular tanks made of flagstones, cemented together with an india-rubber cement. Fine crystals of the pure acid are deposited on the sides and bottom of the tanks, and also on large vulcanite plates suspended in the liquid. The crystals are powdered and sifted into uniform sizes, and freed from mother liquor by rotation in the india-rubber-lined copper pans of large centrifugal machines. The crystals are then spread on glass trays for the final drying.

Citric acid is prepared in a very similar way. Calcium citrate, made from lemon juice, is imported in large casks, and treated with sulphuric acid, the liquors concentrated and crystallised in apparatus similar to that used for tartaric acid. In the case of tartaric acid it is unnecessary to specially remove iron, as that remains in the mother liquors in crystallisation; but iron crystallises out with citric acid, and is removed by adding to the solution as much potassium ferrocyanide as will precipitate 99·5 per cent. of the iron present (an excess must be avoided). The precipitate of Prussian blue is removed by filtration through calico, which is a tedious process, and necessitates the use of three times the plant required for an ordinary filtration. The acid is crystallised out in ebonite trays, powdered, sifted, and treated in a centrifuge, as for tartaric acid.

The calcium sulphate, obtained as a by-product in the foregoing operations, is thoroughly washed till free from acid; the tartaric acid is readily removed, but sulphuric acid adheres persistently to the precipitate, and any small remaining quantity is neutralised by the addition of the correct amount of calcium carbonate. The calcium sulphate is next dried, powdered finely in a disintegrator, and then heated, with constant stirring, in furnaces to a temperature of 300° F. until it fuses and boils; then it turns to a pasty consistence, fuses again, and finally becomes powdery, when it is quickly removed, and is packed in 1-cwt. bags. The material thus obtained forms a very serviceable kind of plaster, and is largely used under the name of "Gypo." It is specially useful for the protection of iron girders and columns against the heat of fire, since it is an excellent non-conductor, and, unlike ordinary plaster, will adhere firmly to metallic surfaces without the use of a "key." Thanks are due to Mr. Berry for the manner in which he conducted the party over the works and explained the various steps of the processes.

The works of Messrs. Bullivant were then visited, and a most interesting time was spent. The manufacture of the immense wire cable, starting from the finest iron thread, was seen; also the galvanising process and the manufacture of torpedo nets. For the benefit of the party a wire cable was tested by special apparatus, and was severed only upon application of a force equal to thirty-eight tons. Professor Greenish heartily thanked Mr. F. A. Bullivant for his kindness, and the party returned to town.

LONDON CHEMISTS' ASSOCIATION.

GENERAL MEETING.

Wednesday, June 15, 1904, at the Holborn Viaduct Hotel, Mr. Glyn-Jones, Vice-President, in the chair.

Mr. R. B. Betty, Secretary, read the minutes of the last general meeting, which were confirmed.

Delegates to the Conference.

Mr. John Holding and Mr. Leo. Atkinson were added to the list of members appointed at a recent meeting to represent the Association at the British Pharmaceutical Conference at Sheffield.

Election of Committee.

Messrs. Bromley, Bunker, Burton, Feaver Clarke, Holding, Palmer, Pellew, Truman, and Willson, retiring members, were re-elected on the General Purposes Committee of the Association, and Mr. Leo. Atkinson was elected in place of Mr. Gulliver, who had resigned.

Petition to the Privy Council.

Mr. C. E. Pickering introduced the subject of the protection of chemists' titles, and said that it was notorious that the present pharmacy law was most inadequate to protect titles, because since the decision of the House of Lords in 1880 the Pharmaceutical Society had been unable to properly enforce the provisions of the Pharmacy Act, 1868, and unless pressure could be brought to bear upon the Government any proposed legislation to amend the Pharmacy Acts in that respect would have a very poor chance. He moved, therefore:—

> That this meeting of the London Chemists' Association is of opinion that a memorial or petition should be presented to the Privy Council, drawing attention to the urgency of legislation for the protection of pharmaceutical titles, and requests the General Purposes Committee to act in the matter.

Mr. Pentney seconded the motion. He thought such a petition as suggested by Mr. Pickering would do no harm, while it might do good. He mentioned that recently he had been able to secure the promise of a prominent member of Parliament to support the Pharmacy Bill.

The Chairman suggested that it might be advisable to amend the motion in such a way as to make it a request to the Government to support the Pharmacy Bill and grant facilities for it passing into law.

A short conversation ensued, in the course of which Mr. Pickering and Mr. Betty expressed the opinion that it would be better to confine the terms of the proposed resolution to the protection of titles. Eventually

Mr. Watson-Will moved as an amendment:—

> That this meeting of the London Chemists' Association is of opinion that a memorial or petition should be presented to the Privy Council, drawing attention to the Pharmacy Bill now before the House of Commons, with a view to asking the Government to support the Bill and grant it facilities in passing through the House of Commons.

Mr. Feaver Clarke seconded the amendment.

On the amendment being put to the vote three members voted for it, and a large majority against it. The original resolution was then put and carried.

The Place of Meeting.

On the suggestion of Mr. Pond it was decided to ask the General Purposes Committee to consider the advisability of arranging for future meetings of the Association being held at the St. Bride's Institute.

This concluded the business of the general meeting.

GENERAL PURPOSES COMMITTEE.

Food and Drugs Act Prosecutions.

At a meeting of the General Purposes Committee, held on Wednesday, June 15, at the Holborn Viaduct Hotel, among other matters the subject of Food and Drugs Act prosecutions was discussed, and it was decided that a letter be sent from the Association to the Local Government Board directing attention to the proceedings taken recently against Mr. S. V. Brook, chemist and druggist, of Wandsworth, in respect of a sample of camphorated oil—(see *ante*, p. 815)—and pointing out that in this and many similar cases the fact that, though the case against the defendant was dismissed, the defendant was not allowed costs was a great hardship, and suggesting that costs be allowed in such cases.

Consolidation.

Mr. Pond, dealing with a matter referred to the General Purposes Committee from a recent general meeting, proposed that a committee be appointed to consider the best means to be taken to consolidate the Association, and to report thereon.

Mr. Pentney seconded the motion, and after a short discussion it was carried, Messrs. Pond, Pentney, Watson-Will, Willson, and the Secretary being appointed a Committee to consider the matter.

Doctors' Dispensing.

Mr. Pond agreed to the adjournment of a discussion on a paper read by him recently on "Why Doctors Dispense their Own Medicine," which was referred to the Committee. He mentioned that he intended to send copies of his paper to the King, the General Medical Council, and the medical Press.

A vote of thanks to the Chairman concluded the meeting.

CHEMICAL SOCIETY.

ORDINARY MEETING.

Wednesday, June 15, 1904, at Burlington House, London, Professor Tilden in the chair.

The Chairman mentioned that arrangements had been made for reporting annually the progress of chemical science, a new section, "Radio-activity," being included. This being the last meeting of the session, an unusually large number of papers were down to be read, twenty-two in all, and consequently each paper was very much curtailed. The first paper was by Mr. A. D. Hall on

The Mechanical Analysis of Soils.

In this he described methods of separating soils into groups of particles of known dimensions, the relative proportion of each fraction being noted. This is done either by sedimentation with water or, in the case of manured soils, by treatment first with very dilute acid, and then with ammoniacal water. The acid treatment gives finer fractions of particles. This separation is purely physical, and has no chemical individuality, but is of value in agriculture in determining the characters of soils. Mr. Hall then read a paper entitled "The Effect of the Long-continued Use of Sodium Nitrate on the Constitution of the Soil," in which he showed that soil treated with sodium nitrate as manure contains fewer finer particles, this being due to disintegration by the action of the alkaline carbonate formed, and the fine particles then being washed down by the rain water percolating through the soil. A discussion as to the relative value of mechanical and chemical analysis followed.

The next paper was on

The Decomposition of Oxalates by Heat,

by Professor A. Scott. The equation generally given for the decomposition which occurs when sodium oxalate is heated out of contact with air is—

$$Na_2C_2O_4 = Na_2CO_3 + CO.$$

This does not truly represent the change which takes place, as small quantities of carbon and carbon dioxide are produced, and a black product is left, even from a highly purified salt. The simplest equation to represent the decomposition is—

$$7Na_2C_2O_4 = 7Na_2CO_3 + 3CO + 2CO_2 + 2C.$$

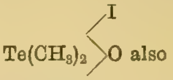
Calcium oxalate most nearly approaches to the simple equation, only a small quantity of carbon being formed. With barium oxalate the equation is—

$$8BaC_2O_4 = 8BaCO_3 + 6CO + CO_2 + C.$$

From the oxalates of magnesium and manganese equal volumes of CO and CO_2 are evolved, while in the case of lead oxalate the proportion of CO to CO_2 is practically 1 to 4.

Professor Scott read a further paper, entitled:—

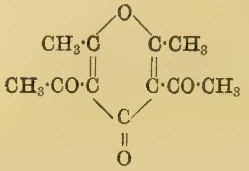
Some Alkyl Derivatives of Sulphur, Selenium, and Tellurium.

Tellurium and methyl iodide combine directly, forming a crystalline compound, $Te(CH_3)_2I_2$, which is easily decomposed into $Te(CH_3)_2$ and I_2. Selenium and methyl iodide combine to form a compound, $Se(CH_3)_3I_3$. Sulphur forms a similar compound. Both these are oily substances, and can be obtained pure by dissolving in ethyl acetate and precipitating with ether. Compounds having the formulæ $Te(CH_3)I$, $Te(CH_3)_2NO_3$ were also obtained. On adding a solution of KI to a solution of $Te(CH_3)_2NO_3$ a yellow precipitate of $Te(CH_3)_2I_2$ is obtained, which shows a change of colour similar to that of precipitated mercuric iodide. An oxy-compound of the formula  $Te(CH_3)_2 \left\langle \begin{matrix} I \\ O \end{matrix} \right.$ also ists.

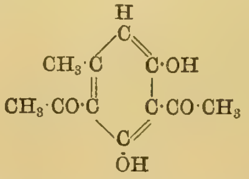
Professor J. Norman Collie then read a paper on

The Action of Acetyl Chloride on the Sodium Salt of Diacetyl-acetone, and the Constitution of Pyrone Compounds

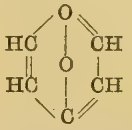
He showed that under different conditions three substances are obtained when the sodium salt of diacetyl-acetone is treated with acetyl chloride. These have the same molecular composition, viz.: $C_{11}H_{12}O_4$, but are characterised by different melting points. The first, which melts at 124° C., is represented by the formula:—



The second melts at 95° C., and is an orcinol derivative, and has the formula:—



The third isomeride melts at 75° C., and from it, by the action of acid or alkali, the other two are formed. From the study of the pyrone derivatives the conclusion was drawn that the formula for pyrone should be



tetravalent oxygen being present, and this view is supported by the results obtained from the specific refraction of this compound.

Another paper, from an old student of the Square, Mr. H. Finnemore, in conjunction with Dr. Wade, on

The Difference Between Chloroform Prepared from Ethyl Alcohol and that from Acetone,

was taken as read; but we understand that the chloroform from alcohol, which is preferred for anæsthetic use, was shown to contain a small quantity of ethyl chloride, which is absent from the pure chloroform prepared from acetone. The addition of a small quantity of ethyl chloride to the latter renders it indistinguishable from this form in anæsthetic practice.

LEGAL INTELLIGENCE.

High Court of Justice: Chancery Division.

The Hæmatogen Trade Mark.

On Friday, June 10, 1904, the hearing of this case, the first portion of which was reported at page 810 of last week's issue, was resumed. Dr. Hommel continued his evidence under cross-examination by Mr. Norton. He said his litigation in Germany was dismissed on the ground that there had been other hæmatogens known prior to 1899. He commenced selling his preparation in England in 1893, at 4s., and since 1899 the trade had much increased in consequence of the price being lowered to 2s. 9d. The labels always had his name on them. First they were printed "Dr. Hommel's Hæmatogen," and then "Hæmatogen prepared by Dr. Adolf Hommel." He admitted that defendant's labels were quite different in get-up from his own.

Mr. Terrell said he made no point about any similarity of the labels. What he objected to was the word.

Witness, further questioned, said he had heard of Hertel's hæmatogen, and had a lawsuit with the gentleman towards the end of the nineties. It was not well known in Germany, and Hertel had not sold ten bottles there. Hertel was a Russian, but he could not say that it was well known in Russia or anywhere else on the Continent. They would not find in the whole of Germany a single bottle of Hertel's hæmatogen in stock. He had never seen any of Marfori's hæmatogen, though he had heard of it since the middle of the nineties; but he had not heard of three bottles of it being sold. In Italy perhaps it was known, but he could not say. He had had two lawsuits with the gentleman Sauer, who made Sicco-Hæmotogen. That name did not exist now, because witness had had the name struck off the register in Germany. Afterwards Sauer got his foreman to sell it as Sicco-Schneider. Kronen hæmatogen was now made by the same people in liquid form. He believed that prior to 1899 there might have been twenty or thirty different kinds of dry and liquid hæmatogen known. Witness had nothing to do with issuing the writ against defendants. Re-examined, he said he sued Hertel because Hertel said in a pharmaceutical journal that plaintiff's hæmatogen was bad, and his was better. He did not believe that Hertel's or Marfori's could be obtained anywhere.

Mr. Walter Donald Smith, of W. E. Smith and Co., Madras, pharmaceutical chemists, said in India the name hæmatogen meant plaintiff's preparation, and was largely prescribed by doctors there.

Cross-examined: Plaintiff's hæmatogen was the only one that had reached India and was known there.

Mr. Eugen P. Bauer, the defendant, said he carried on business as Gebrüder Bauer and Co., and had acted as agent for Kohrs and Co., of Hamburg, until the end of 1902, when the agency was terminated because of the small amount of business done. He sold drugs and chemicals on their behalf. In June and September, 1902, he saw Messrs. Hedley's representative, and after receiving their order he transmitted it to Hamburg, and had nothing further to do with the sale, as the goods were supplied direct from Hamburg. He never had more than a few sample bottles in stock. He told both Hedley and Roberts that he could not sell them hæmatogen, as it was registered in this country. The goods sold to Roberts, however, were supplied through him by Kohrs, because he was no longer their agent. He heard no more of the matter until he received a writ. He had only sold the three dozen which plaintiff had got in England.

Cross-examined by Mr. Terrell: Kohrs were not finding the money to defend the action. He had found it all, and had no arrangement with Kohrs. They had not instructed him to defend the action. In no case had he offered hæmatogen for sale in this country. He thought the name of hæmatogen was registered in this country, but he was not sure of it.

Dr. Halliburton, F.R.S., said he thought the word hæmatogen first came up in the middle of the eighties, but the word hæmatogenic was in use in 1866. He saw Bunge's paper soon after it was written, and the first use of the word in English was about 1885. He had used the word in its substantive form in his reference and text-books, and had also used it many thousands of times in his lectures to students. The word hæmatogen really meant "blood former," and it must be known to a large number of people.

Mr. J. W. Knapman, Librarian to the Pharmaceutical Society, gave evidence, and produced several books and journals from the library of which he has charge. Among them was a copy of the *Pharmaceutical Journal*. In these books the word hæmatogen was used, prior to its registration as a trade-mark in this country.

Similar evidence was given by the Librarians to the Patent Office and the Royal College of Surgeons, and other witnesses.

On Saturday, June 11, Mr. Terrell addressed his Lordship for the plaintiff, contending that plaintiff, having practically created the name "hæmatogen," and applied it to his own preparation for so long, had become entitled to the exclusive use of the word as a trade-mark. He had registered the word, and spent large sums in making it well known without competition, and therefore the onus was on the defendants of proving conclusively that it was not a good trade-mark at the time of registration, because they were trying now to take advantage of plaintiff's reputation and expenditure. As regards passing-off, he thought the plaintiff's case was much simpler, and he was rather curious to know how Mr. Norton would meet it, and even if he failed on the trade-mark he contended he was clearly entitled to an injunction in respect of the passing-off.

On Monday, June 13, Mr. Terrell continued his speech, and submitted that, even assuming his Lordship held that the trade-mark ought never to have been on the register, plaintiff was still entitled to relief in respect of the passing-off. Plaintiff's hæmatogen was well known, and was often prescribed by doctors, and therefore if the defendant's goods were supplied as and for plaintiff's, the plaintiff would not only be injured, but the public would be deceived, and in such circumstances it was usual for the Court to grant an injunction to restrain passing-off.

His Lordship pointed out that none of the witnesses had said that he would be deceived if defendant's hæmatogen was offered to him, because the get-up was different.

Mr. Terrell observed that for ten years plaintiff's preparation was the only one known as "Hæmatogen," and doctors had come to prescribe it as "Hæmatogen" simply, because they knew no other. When an article became known by its name alone without the name of the maker, no other person was entitled to use the same word.

His Lordship said it was quite clear that on the evidence given he must come to the conclusion that at the present "Hæmatogen" meant the plaintiff's goods, and that there was no other on the market; but the question was whether his reputation had been gained by the aid of a trade-mark which was invalid.

Mr. Terrell thought plaintiff had acquired his reputation quite apart from the registration of the trade-mark, and, on the facts admitted and proved, he submitted that there were all the elements of a passing-off case here.

His Lordship intimated that he did not require to hear Mr. Norton about the trade-mark, but he wanted to hear him in regard to the other part of the case—the alleged passing-off.

Mr. Norton said as regards the first two dozen there had been so sale in England at all. In law the delivery of those goods took place in Hamburg. As to the other dozen sold to Messrs. Roberts and Co., he said there had been no passing-off at all, because the customer was told that it was not Hommel's hæmatogen, and that he must take any risk there was if he resold it as hæmatogen. Mr. Bauer distinctly declined to sell it as hæmatogen, and although Roberts had the labels with the name on he had a perfect right to use those labels if he wanted to export the goods to the Continent. Roberts was warned not to use the labels in England, and it was not to be supposed that a respectable firm like Roberts would attempt a fraud. He went further, however, and said anyone was entitled to sell hæmatogen as such, because it was a name which was descriptive of the article.

After further argument his Lordship gave judgment. He said plaintiff sought relief under two heads: first, as proprietor of a trade-mark which he said the defendant had wrongfully infringed; and, secondly, he alleged that the defendant was endeavouring to pass off goods in which he was interested as the goods of the plaintiff. There was also a cross motion by the defendant to rectify the register of trade-marks by striking off the plaintiff's mark as having been wrongly inserted therein. Plaintiff claimed the word hæmatogen as his trade-mark, and the goods in respect of which it was used were a proprietary medicine, the object of which was to encourage the formation of the red corpuscles in the blood, and the main constituent of which was an organic form of iron found in many foodstuffs, but which in this particular instance was derived from bullock's blood. It was admitted by all the witnesses that hæmatogen meant a blood-former. On the evidence in this case it appeared that in 1883 one Bunge, a German scientist, discovered that yolk of egg contained an organic form of iron which he came to the conclusion contained the element which tended to the formation of the red corpuscles in blood. In 1885 this discovery was treated of in a pamphlet which circulated in this country, and in which the discoverer proposed to call the substance he had thus discovered "Hæmatogen." The word was used by Dr. Bunge in Germany in a 'Text-Book of Chemical Physiology' in 1887, which was translated into English in 1890. That was the first trace of the use of the word with the exception of one instance, when it was used in the *Journal of the Chemical Society* in 1885. Since 1890 the word had been frequently used by physiologists and pharmacists. Dr. Hommel admitted that at the time it was "invented" by him it was a common German word, but he alleged that he invented it as an English word. In his (the judge's) view, however, there was abundant evidence of prior use in England to justify him in holding that plaintiff had not invented the word. Plaintiff's claim to it as a trade-mark therefore failed. With regard to the alleged passing-off by the defendant of a cheap imitation of plaintiff's preparation, made by Kohrs and Co., of Hamburg, in his opinion, taking the most unfavourable view possible of the facts relating to the three sales, there was no passing-off or attempt to pass off the defendant's goods as plaintiff's goods. The "get-up" was entirely different, and Mr. Bauer made it plain that what he was selling were not plaintiff's goods. It was a question of fact, and he could not hold that the sale of another drug under the name of hæmatogen would of itself lead to the belief that that which was being sold was plaintiff's. The word was descriptive, and there was no evidence to support Mr. Terrell's contention that it had acquired a secondary meaning. The evidence of the doctors that hæmatogen meant plaintiff's goods was not sufficient to establish a secondary meaning. The result was that there must be judgment for the defendants in the action, and there must be an order in the terms of the notice of motion removing the mark from the register, with costs. There would also be an inquiry, if necessary, as to what damages, if any, defendants were entitled to, they having given an undertaking to suspend business in these goods pending the trial. His Lordship refused to suspend the removal of the mark from the register, but granted leave to appeal on the rest of the case.

Merchandise Marks Act.

Aerated Waters.

On Saturday, June 11, 1904, at the Thames Police Court, Lazarus Greenberg, mineral water manufacturer, of Commercial Road, was summoned for selling aërated waters to which a false trade description was applied.

On the 29th ult. an officer of the Bottle Exchange and Trade Protection Society went to defendant's premises and purchased two bottles of mineral water. The name of Smith was on one of the bottles, and the words "The Globe" on the other. On the bottles on the counter being examined, another of Mr. Smith's was discovered. The witness afterwards went to Middlesex Street, and purchased five bottles of mineral water, which he took away. The following Monday the officer saw defendant, who said, "You need not take me into court; I will pay a few pounds into your society if they do not do that." When Sergeant R. Stafford searched the premises, he saw defendant's son pushing down the stoppers in bottles and wasting the contents. There were forty-one full bottles belonging to other persons, and of these thirteen were Mr. Smith's property.

Mr. F. Smith, mineral water manufacturer, St. George's Street, identified the bottles, and said the contents were not his manufacture.

Mr. Dickinson fined defendant £7, and 49s. costs.

Sale of Food and Drugs Acts.

Borax.

On Monday, June 13, 1904, at Calne Petty Sessions, Albert E. Beazley was summoned for selling to Mr. Sam Smith, Food and Drug Inspector, a certain drug—to wit, powdered borax—which was not of the nature, substance, and quality of the article demanded.

Mr. Smith, the Inspector, stated that on April 22 he purchased at the defendant's shop 4 oz. of powdered borax, for which he paid 1d. The sample was divided and sent to the County Analyst, who states that it contained not more than 77 parts per cent. of borax, and not less than 23 parts per cent. of sodium bicarbonate.

The Defendant stated he bought 1 cwt. of the powdered borax and sold it exactly as he bought it; he also put in correspondence from the wholesale house, and in one letter from the makers it was stated that the soda scoop had been used in mistake for the borax.

The Chairman asked the Inspector if that would account for it, but the latter pointed out that this quantity represented 25 lb. in 1 cwt., and it seemed to him a very improbable story.

The Bench said they had no hesitation in convicting. They had to protect the public, and defendant must get redress from the people who supplied him. There would be a fine of £2 and costs.

Preservatives in Ginger Wine.

On Monday, June 13, 1904, in the Belfast Summons Court, Wm. Donnan and his assistant, Daniel M'Avoy, were summoned for having sold ginger wine adulterated with salicylic acid.

Mr. Robert Barklie, City Analyst, said the wine contained 7·2 grains per pint of the acid, which was both a dangerous drug and a valuable medicine, but should not be administered except under medical treatment.

For the defence Dr. Tichborne, Dublin, said the acid was extensively used as a preservative in ginger wine. The proportion of 7·2 grains in a pint was not at all injurious to health. He had never come across a case where that quantity had done any harm. He had taken 60 grains for two days when experimenting without harm.

Mr. Charles Huxley, pharmaceutical chemist, said he had taken 30 grains per day for eighteen consecutive days without the slightest ill-effect; 7·2 grains would be absolutely harmless. He considered the acid necessary for the preservation of the wine.

The Magistrate held that there was adulteration within the meaning of the section, and he fined the defendant Donnan 21s. and costs. He added that it would be satisfactory if there was an understanding as to the actual amount which could be used as a preservative.

Cream of Tartar.

On Thursday, June 9, 1904, at Swindon, Francis George Wise, grocer, Swindon, was summoned for selling cream of tartar not of the nature demanded.

Inspector Smith produced the certificate of the Public Analyst, which showed that the cream of tartar contained 20 per cent. of superphosphate of lime.

Defendant, who said he bought the cream of tartar in the ordinary way from the wholesale house, was fined 10s. and costs.

"Chlorodyne Lozenges."

On Thursday, June 16, 1904, at Swindon, the decision was given in an action in which A. J. Manners, confectioner, of Swindon, was summoned for selling "chlorodyne" lozenges which contained no morphine and very little chloroform. The case was reported in our issue of May 14 (see page 662).

The defendant was ordered to pay the costs of the action. Another similar case, against B. Goldwin, confectioner, was withdrawn on payment of costs.

A prosecution in respect of the sale of tartaric acid succeeded, a fine of 10s. and costs being imposed.

Nottingham County Court.

A Question of Terms.

At Nottingham County Court, on Thursday, June 9, before his Honour Judge Allen, and a jury, an action brought by the Liebig Medicated Wine Co., of Huddersfield, to recover £26 19s. from James S. Stanton, grocer, of Grantham, was heard. The case was originally entered at the Divisional Court in London, but was remitted for trial at Grantham, when a verdict was given for the defendant. On an appeal to the High Court a new trial was ordered at Nottingham.

The chief point at issue was whether the goods were sold on sale or return or were sold outright to the defendant.

After hearing all the evidence, the jury found that the goods were sold on sale or return; that a document mentioned in the evidence merely indicated the goods that were to be delivered; that the defendant did not receive the goods with notice that they had been sold outright, and not on sale or return; that the defendant did not authorise the plaintiffs' traveller to send the document referred to; that the plaintiffs sent the goods in conformity with that document; and that defendant did not accept the goods on the terms of the invoice.

Judgment was accordingly entered for the defendant, with costs.

POISONING CASES AND INQUESTS.

The deaths from poisoning recorded during the seven days ended Wednesday, June 15, 1904, numbered seventeen, thus:—

Poison.	Accident.	Suicide.
Ammonia	—	1
Carbolic Acid	1	3
Laudanum	—	3
Oxalic Acid	—	2
Phosphorus	—	2
Potassium Cyanide	—	2
Sodium Nitrite	1	—
Strychnine	—	1
Weed-Killer	—	1
Total	2	15

Ammonia.—A woman at Eastby, during a fit of temporary insanity, killed her baby and then committed suicide by taking ammonia.

Carbolic Acid.—A Penrith landowner drank some carbolic acid in mistake for medicine. At Lomond Hill, near Falkland, Alexander Glass, son of a Perth chemist, was found dead from the effects of carbolic acid poisoning; two other suicides with this acid are reported from Huddersfield and Southport.

Laudanum.—Three suicides by laudanum poisoning are reported from Leeds, Greenwich, and Glasgow.

Oxalic Acid.—Two cases of suicide by oxalic acid poisoning have occurred at Croydon and at Westham, the victims being a woman and a gardener.

Phosphorus.—A man at Manchester purchased two threepennyworths of phosphorus paste from two chemists' shops, then swallowed the poison and died; at Crownhill, a farm labourer committed suicide by taking rat poison containing phosphorus.

Potassium Cyanide.—Two men have committed suicide at Wavertree and at Leeds with potassium cyanide.

Sodium Nitrite.—An inquest has been held at Henley concerning the death of Mr. Alfred Skinner (53), which occurred from the effects of taking a solution of sodium nitrite in mistake for Epsom salts. The evidence showed that his housekeeper recommended him to take some Epsom salts before going to Paris, and that she found a packet, without a label, which she thought contained Epsom salts. Mr. Skinner took three teaspoonfuls of the contents of the packet in some warm water, but said, "It doesn't taste like Epsom salts." The housekeeper, after tasting the liquid, came to the conclusion that it was some sodium nitrite she had purchased from Mr. A. Cartwright, chemist and druggist, for fertilising plants.

The jury returned a verdict of "Death from misadventure," and exonerated the housekeeper and Mr. Cartwright from all blame.

Strychnine.—A house painter at Ilford swallowed some vermin killer containing strychnine and died.

Weed Killer.—A suicide with weed-killer, purchased from an unqualified person, is reported from Denmark Hill.

Non-Fatal Cases.—At Sheffield a cab proprietor drank some ammoniacal washing liquor in mistake for lemonade. A woman at Nottingham, and a man at Northampton, have been treated for poisoning, and a young farmer at Newton-Hamilton has been treated for laudanum poisoning. Several cases of attempted suicide are reported, the poisons used being hydrochloric acid, laudanum, and oxalic acid.

NOTES IN PARLIAMENT.

The Sugar Convention.

Lord Percy, replying to Mr. T. G. Bowles in the House of Commons on Monday, stated that the question of the surtax leviable by contracting States on sugared products is still before the Permanent Committee, and the discussion has been adjourned to the next session of the Commons. He added that the Sugar Convention was ratified under the explicit declaration that His Majesty's Government would not consent under any circumstances to be bound to penalise bounty-fed sugar imported into the United Kingdom from any of the self-governing colonies.

Medical and Dental Companies.

On the motion of Sir John Tuke, a return has been ordered to be issued showing the number and names of companies registered under the Companies Act, 1862, in England and Wales, Scotland and Ireland, for the purposes of carrying on medical and dental practices.

PRACTICAL NOTES AND FORMULÆ.

Menthol Crayons.

Chloral hydrate, 1; menthol, 1; cacao butter, 2; spermaceti, 4.—*Rev. Med. Pharm.*, **11**, 830.

To Remove Collargol Stains.

To remove the dark stains of collargol from linen, the spot is treated first with 1 per cent. bromine water; after two or three minutes it is washed thoroughly with water, then plunged into an aqueous solution of sodium thiosulphate, 30 per cent., which dissolves out the silver bromide formed. The material is finally washed in water.—*Pharm. Centralh.*, **45**, 176.

Incompatibility of Calomel and Hydrogen Peroxide.

D. Consolin Tamisier gives warning against the consecutive employment of calomel and hydrogen peroxide, since it is shown that in contact with peroxide a notable amount of mercuric chloride is formed.—*Bullet. Comm.*, **31**, 321.

Kleewein's Aperient Pills.

S. E. Kleewein gives the following formula for the pills bearing his name. Fresh extract of rhubarb, fresh extract of cascara sagrada, of each 45 grains; podophyllin, green extract of belladonna, of each 7½ grains; powdered cascara bark sufficient to mass. Divide into fifty pills, coat with sugar and silver. One or two pills to be taken at night.—*Pharm. Zeit.*, **49**, 230.

Liquid Glycerin Soap.

Soft soap, 5; glycerin, 10; alcohol (90 per cent.), water of each, 2, are gently warmed together until a clear solution results, then filtered. Any suitable perfume may be added.—*Pharm. Post*, **36**, 780.

COMPANY INTELLIGENCE.

Sunny Sue.—This company has been registered with a capital of £3,000, in £1 shares, to carry on the business of soap manufacturers, buyers, sellers, manufacturers, refiners and preparers of and dealers in oils and oleaginous and saponaceous substances, and all kinds of unguents and ingredients, pharmaceutical, manufacturing and general chemists and druggists, etc., etc.

Manaos and Partners, Limited.—Capital, £300, in £1 shares. Object, to carry on the business of medical rubber and other instrument manufacturers, dealers in chemists' merchandise, etc., in London, Paris, and elsewhere, and to adopt an agreement with H. Brown and J. Paterson.

S. J. Gittoes, Limited.—Capital, £8,000, in £1 shares. Object, to acquire the business carried on at Wednesbury, Staffordshire, as S. J. Gittoes, and to carry on the business of manufacturers of mineral and aerated waters, cordials, and other drinks, manufacturing chemists, etc.

Collenette, Limited.—Capital, £1,000, in £1 shares. Object, to carry on the business of photographers, artists, portrait painters, miniature painters, framers, photographic teachers, importers and manufacturers of and dealers in chemicals, etc. Registered office, 30, King Street, Manchester.

BANKRUPTCY INTELLIGENCE.

Saunders and Saunders, Limited, Chemical Manufacturers, Cleckheaton.

A meeting of creditors was held on Friday at the offices of the Official Receiver. Accounts were presented showing liabilities amounting to £12,411 19s. 3d., and assets valued at £4,987 13s. 2d. The estate was left in the hands of the Official Receiver.

LONDON GAZETTE NOTICES.

Receiving Order.

Gray, Hector (lately carrying on business as Donald Gray and Sons), Southend-on-Sea, late Mincing Lane, E.C., retired produce broker.

Adjudications.

Capon, Daisy Edith, Deepdene Road, Streatham, S.E., and Farringdon Avenue, E.C., spinster, a director of a limited company, and lately in partnership with another under the style or firm of the Gyptican Oil Company.

Cusse, Ernest, Broughton, Southampton, medical practitioner.

PUBLICATION RECEIVED.

On the Electrolytic Methods for the Detection and Approximate Estimation of Minute Quantities of Arsenic in Beer, Malt, Food Stuffs, etc. By William Thomson, F.R.S.E., F.I.C. Pp. 14. With Plates. Price 1s. 6d. Manchester: 36, George Street. 1904. From the Author.

MISCELLANEOUS NEWS.

Divisional Secretaries and other Members of the Pharmaceutical Society are requested to assist the Editor by sending local newspapers containing items of interest to chemists and druggists.

Society of Chemist-Opticians.—A council meeting of the above was held on Monday last, when matters concerning the welfare of the Society and of chemist-opticians generally were considered.

Poisoning by Œnanthe Crocata.—It is reported a number of excursionists in Wales rooted up and ate a quantity of water-dropwort in mistake for watercress, with disastrous, if not fatal, effects. Several similar instances have occurred from time to time, the plant being one of the most poisonous of those which grow in this country.

Fire.—On Monday, June 6, a fire broke out at the rear of the premises of Mr. John Marlar, chemist, of High Street, Halstead. The alarm was given by Mr. Marlar's terrier dog. The outbreak occurred in a shed used for the storage of boxes, hampers, etc., situated among a lot of old wooden buildings. The fire is attributed to stray sparks from a chimney. The damage is estimated at about £100.

Duty on Spirit in Cape Colony.—On and after July 1 next a duty of 15s. per proof gallon will be levied on spirituous tincture imported into Cape Colony. Tinctures made in the Colony will only pay a duty of 6s. The duty is one which will affect British manufacturers very seriously, and the matter is under consideration by the London Chamber of Commerce.

Sight-Testing Examination.—The first examination of the Worshipful Company of Spectacle-Makers in sight-testing is now in progress. The written paper, of twelve questions, was given to the candidates on Wednesday, June 15, three hours being allowed for answering the questions. The practical examination lasts four days. Several pharmacists are sitting for examination.

The Investigation of Trypanosomiasis.—An appeal is made to the public for funds to continue the important researches on trypanosomiasis, which are now being conducted by the Liverpool School of Tropical Medicine. Apart from the expenditure on other research work, it will be necessary to spend £2,000 a year on the work, and as not only sleeping sickness, but the tset-se fly and other diseases, are due to the parasites called trypanosomes, the importance of the research being concluded is great.

The Proposed Tax on Proprietary Medicines in Cape Colony.—As the result of representations made by pharmacists and others to the Treasurer-General for Cape Colony, it seems probable that the proposed tax on proprietary medicines will not be persisted in. The Cape Government had intended to frame a Bill on the lines of the British Medicine Stamp Regulations, but, on having it pointed out how difficult it would be to collect the tax, and the hardship it would inflict on local (more especially Dutch) industries, the Government does not seem disposed to proceed further in the matter.

A Photographic Jubilee Number.—The *British Journal of Photography* for June 10, 1904, is an exceedingly interesting issue which should be in the hands of all photographers. This particular number celebrates a unique event in photographic journalism—the jubilee of the *British Journal of Photography*—and it contains thirty special articles on the most popular and prominent phases of modern photography. An illustrated history of the journal since its foundation in 1854 is also included. The usual price of 2d. is charged for this jubilee number, and the editors and publishers are to be congratulated on its production.

The Education of a Coroner.—The coroner at Hexham recently had the indiscretion of stating publicly that laudanum drinkers could without difficulty procure poison at other places in the neighbourhood as well as at the pharmacies of local chemists. This statement having gained currency through the *Hexham Courant*, the Secretary of the Pharmaceutical Society wrote to that paper pointing out that if the statement were correct there would appear to be a wholesale contravention of the Pharmacy Act, 1868, and suggesting that readers who might have knowledge of this should communicate with him, in order that the law might be set in motion.

Rules for Resigning.—An American contemporary advises chemists' assistants to study carefully Assistant Postmaster-General Wynne's rules for resigning, which are as follow:—"Rule 1. After receiving the last straw, don't do anything for two hours. Above all, don't write anything. Rule 2. At the expiration of two hours, write your resignation, and make it as hot as you can. Relieve your feelings and say everything you have penning up in your heart. Scorch the scoundrel. Rule 3. Then go home. Rule 4. The next morning, immediately upon rising, read over your resignation and tear it up. Rule 5. Go to work at the usual hour."

Cricket News.—The Leeds Chemists' Cricket Club met the Leeds College of Pharmacy C.C. at Kirkstall on Wednesday, June 8. The scores were:—Leeds College of Pharmacy, 32 runs; Leeds Chemists, 42 runs. Jackson, for the Chemists, took five wickets for 10 runs; and Crawford, four wickets for 18 runs.—Notts Chemists *v.* Barton: Played at Barton, June 9. The Chemists were only able to place a weak team in the field, and suffered defeat by 63 runs. Chemists batted first and scored 53 (Bowmer, 14; Jackson, 10). Barton replied with 116. The defeat was due to the poor fielding of the Chemists, as out of the 116 scored by Barton W. Speak accounted for no less than 73 not out, being missed on four occasions.

Poison by Post.—A ruling has just been transmitted from the local post office at Memphis, U.S.A., to the drug firms of the city forbidding the use of the mails for the shipment of poison of any kind, including morphine and a number of other drugs. The order was the outcome of a complaint made to the Washington authorities by a druggist in Texas, who claimed that much morphine was being shipped out by mail from Memphis into Texas, evading the law in force in that State requiring a physician's certificate for the sale of morphine to private parties. The complaint was based, however, not on the fact that the Texas law was violated, but that Section 494 of the postal laws prohibited the sending of all or any poison by mail.

American Advertisement Censor.—The United States Post Office Department has now established a censorship over the advertising matter which passes through the mails. Postmasters throughout the States have been instructed to forward to the Post Office Department without delay any advertisement which seems to them obscene or indecent. The chief censor is to be Judge R. Goodwin, Attorney-General for the Post Office Department. After an advertisement has been declared objectionable it will be forwarded to the Association of American Publishers, and through that association the newspapers will be informed that the condemned advertisement cannot appear after a given date. It has been pointed out by an American contemporary that the publications which are most likely to suffer are the religious journals, which rely for support to a very large extent upon the vicious advertisements which more powerful publishers refuse to print.

Apprentice Robs His Master.—At North London Police Court, on Wednesday, June 15, before Mr. Bros, Richard Alfred Derrick (15) was charged with stealing £41 10s., belonging to Mr. David Stephen Edmonds, chemist and druggist, of High Street, Kingsland. The prosecutor said the prisoner was his apprentice, and had been so for two years. On June 7 he sent the lad to the London and County Bank (almost next door) with £41 10s. in cash; but he did not return, and subsequent inquiries showed that the money had not been paid into the bank, and the prisoner had absconded. It was ascertained that he had gone off to Southampton, and papers found upon him showed that he was negotiating a trip to South Africa to visit his uncle, who is there.—Mr. Bros said he would send the lad to the remand home for a week to consider what he would do with him.—Mr. Cowper, who appeared for the prosecution, asked that the cash (£19 19s. 6d.) recovered and goods that had been purchased with the other £20 might be handed to Mr. Edmonds, and to this the magistrate acceded.

Chemical Teaching at Edinburgh Gasworks.—At a meeting of Governors of Heriot Trust, held in Edinburgh on Monday, the minutes of committee stated that the Principal had been in communication with the engineer of the Edinburgh and Leith Corporations Gas Commissioners regarding the granting in the gasworks of facilities to advanced students of chemistry to obtain practical instruction, more particularly with regard to fuel and fuel values, furnace and other gases, combustion and similar investigations, and that an arrangement had been made whereby students who have been for two winter sessions in the chemistry department should be permitted to attend at the gasworks for four months during the following summer, and that those who have been for three winter sessions should attend for a period of twelve months. The Committee approved of the arrangement, and of the recommendation of the Principal that students will not be considered eligible for the diploma in technical chemistry unless they have specialised in a particular branch of study or have taken the practical courses at the gasworks.

"Hard Lines."—The County Licensing Committee sat at the Shire Hall, Shrewsbury, on Saturday, June 4, to hear an application by Mr. J. J. Clayton, chemist, Ellesmere, for the confirmation of an off-wine licence.—Applicant explained that owing to a difference with his landlord he had left the premises where he had carried on business for some years, and opened a new shop. For the last six years he had had a wine licence, but the licence had now been transferred to the present tenant of his old shop.—The Clerk to the Committee said if the licence was transferred to the new man without the consent of the holder the process would be illegal.—The Chairman said the Committee would want some evidence that a new licence was required by the public in Ellesmere.—Applicant said he had no evidence of the kind, but the licence was necessary to him in his business or the people would go elsewhere. He considered he had been treated very badly.—The Chairman said the Committee were unanimous in thinking that as there was no evidence that a new licence was required, they could not grant the application. It was their business to look to the interest of the public, and not to private interests. They sympathised with Mr. Clayton and were sorry for his loss. Their refusal had nothing to do with his character or anything of that kind, but they could not grant a new licence.

The Forty-Ninth Annual Photographic Exhibition, held under the auspices of the Royal Photographic Society, will take place at the New Gallery, Regent Street, London. The exhibition will open on September 22, and will be open daily (Sundays excepted) till October 29. A special section will be devoted to scientific and technical photography, and will comprise examples of work shown for its technical qualities and apparatus used in photographic investigation—*e.g.*, the various processes of colour photography, the photographic reproduction of paintings, drawings, maps and plans, photographs by artificial light, photography as applied to industrial and educational purposes, astronomy, spectroscopy, geology, meteorology, microscopy, medicine, surgery and the Röntgen rays, surveying and engineering, zoology and botany, telephotography, new processes, photography as applied to military purposes, recording instruments, etc., negatives, transparencies, stereoscopic prints and slides, lantern slides, and general work. This section will also include all exhibits relating to or illustrating any process of photo-mechanical reproduction—viz., photogravure, line and half-tone photo-engraving, photo-lithography, collotype, photo-zincography, Woodburytype, polychromatic printing, etc. No charge for space will be made in this section. Anyone wishing to exhibit in this section should apply for further particulars to the secretary at 66, Russell Square, London, W.C.

Edinburgh Pharmacy Athletic Club.—The thirteenth annual sports of this club were held at Powderhall on Wednesday, June 8, having been postponed a week owing to impossible weather. The entries for the open events were exceptionally large, and there were a number of very keen finishes. The High Jump itself brought eight competitors to the field. The following is the result of the confined events:—Half-mile Flat Race.—1, C. C. Marsden; 2, W. D. Richardson; 3, J. R. Harley. 220 Yards Flat Race.—1, J. R. Harley; 2, W. G. Brown. 300 Yards Apprentices' Race.—R. Heslop. One Mile Bicycle Race.—J. J. Sutherland. In the final tie of the Five A-side Football, Duncan Flockhart and Co. beat J. F. Macfarlan and Co. by 1 goal to 1 point. Tug-of-War Competition.—Winners, J. F. Macfarlan and Co. Mr. J. Rutherford Hill presided at the presentation of the prizes, and in his remarks apologised for the absence of Mr. W. A. Davies, Hon. President of the club, who was unfortunately hindered from being present. He congratulated the club on the very successful evening. The club, he said, had never had such a successful evening's sports, and was to be congratulated on being the only club of its kind in Scotland. Miss Smith gracefully handed the prizes to the successful competitors, and in a few words Mr. Rowland moved a hearty vote of thanks to Mr. Hill for presiding. At a small meeting held after the sports Mr. J. P. Gibb was presented with a piece of silver plate by the committee of the club on the occasion of his marriage. The President of the club handed it over, and spoke of the services Mr. Gibb had rendered the club, having been Secretary for nine years, and occupying the posts of President and Treasurer after that. He was seconded by Mr. D. S. Duncan, Secretary of the S.A.A.A., who spoke of Mr. Gibb from an athletic point of view. Mr. Gibb replied in suitable terms, and said the club would always occupy a large portion of his spare time, as it had in the past, and he thanked the donors of the gift for a means of keeping it still more before his mind.

TRADE NOTES.

Clearance Sale.—Messrs. Houghtons, Limited, are having a clearance sale of odd and surplus stock of cameras and other photographic materials, the whole of the goods to be sold being on view at 97, Hatton Garden, E.C. Photographic dealers who have not already received a copy of the list of these goods and of the 1904 price-lists of novelties and cameras should write to Messrs. Houghtons, Limited, at 88-89, High Holborn, W.C.

For the Shutter.—The illustration is the reproduction of a stop recently patented by A. E. Staley and Co., 19, Thavies Inn, London, E.C., for use with the Bausch and Lomb Unicum shutters. The stop enables the user to open the shutter for focussing without altering the time-setting of the shutter. Fuller particulars may be had from the makers, whose address is given above.

A Special Offer.—Messrs. W. Butcher and Sons, Camera House, Farringdon Avenue, E.C., are making a special offer to chemists and photographic dealers. Messrs. Butcher and Sons intimate that they are now able, by an improved process, to transfer in gold the name and address of any chemist on all such goods as lamps, washers, enamelled dishes, squeegee slabs, backgrounds, etc., at a nominal cost of 6d. per dozen for an opening order of one gross of assorted articles, after which any quantity may be had at the above rate. The designs are neat and attractive, and should be a good advertisement for dealers.

A Syphon Check.—The want of a simple system for checking syphons is not only the cause of a lot of unnecessary work, but also results in the loss of syphons. This want has now been supplied by J. McQueen and Sons, Addiscombe, Croydon, who have introduced a "syphon check," consisting of a series of three books—viz., a pad of forms for counter, a pocket-book for messenger boy, and a syphon ledger. The counter pad is used as a check on messenger's pocket-book and for recording syphons supplied over the counter or brought back to the shop by the customer. In the messenger's book the boy enters up the names and addresses of customers and number of syphons he delivers or receives each day. The syphon ledger is entered up at odd times from the counter pad and messenger's book, and enables the chemist to see at a glance where his syphons are. The books are well tabulated, and the system needs no learning. For terms, application should be made to J. McQueen and Sons.

Several Saleable Specialties.—When speaking of preparations which have their origin in the laboratories of John Bell and Co., Hills Place, Oxford Street, London, W., there is no necessity to say anything with regard to the purity or reliability of the said preparations, for the name "Bell" stands for "genuine" all over the world. Several of these articles have recently been brought before our notice, and they undoubtedly combine high quality with saleable properties. "Cascara-Aromatica" makes an excellent proprietary, and one which is more than likely to find favour with medical men. It is prepared from very old bark, and it is hardly necessary to point out to pharmacists the importance of this fact. The bitter taste is removed from the extract by a new process which does not interfere in any way with the laxative principle of the drug; while the aromatics are not only added as flavouring agents, but in choosing them their stomachic properties have been taken into consideration. The dose is the same as that of the liquid extract of the British Pharmacopœia. It is sold in bulk, labels and pamphlets being supplied free. "Atoleine" is the name given to a colourless, odourless, and non-inflammable hydrocarbon specially rectified for use in atomisers and for toilet purposes. It is highly recommended as an application for the hair, and it may be mentioned here that it is in daily use in several of the best known hair-dressing establishments in the West End of London. This fact in itself is a very high recommendation, and there is little doubt that it will prove a saleable hair preparation. An article which should be popular at this time of the year is Bell's Lanolin-Cream, a creamy and delicately perfumed preparation, very suitable for sale as a specialty for sunburn and other facial blemishes. Readers are strongly advised to write to Messrs. John Bell and Co. for further particulars of these articles, including terms.

SCHOOL AND COLLEGE NEWS.

Metropolitan College of Pharmacy.—On Tuesday last the students of this college had a botanical excursion to Dorking. The party, breaking up into three groups, explored the north and south sides of Box Hill and Ranmore. A very large collection of plants was collected, and a particularly fine collection of orchids indigenous to the district were found. The principal and students desire to thank Messrs. Wright, Layman and Umney for some very fine specimens of *Atropa belladonna*, which they were kind enough to send for examination.

Cricket.—London College *v.* Metropolitan College.—The return match between the above was played on Saturday last at Nunhead. The "Metros." won the toss, and, batting first, scored 76, Baird, with a well-played innings of 27, being top scorer. London College could only reply with 34, Palmer being very successful with the ball, taking six wickets for 16 runs. "Metros." scored 48 at their second attempt, leaving London 91 to get to win; but, as time would not permit of the match being concluded, it was decided in the "Metros.'" favour by 42 runs on the first innings.

St. Bartholomew's Hospital.—Four open scholarships at science tenable at the medical school of St. Bartholomew's Hospital are offered for competition on September 19 and following days. The value of the scholarships range from £50 to £150, and the examination will be in the subjects of the earlier part of the medical course of study. The Jeafferson Scholarship, of value £20, in Latin, mathematics and Greek, or French or German, will be competed for at the same time. Intending candidates may obtain full particulars by application to the Warden of the College, St. Bartholomew's Hospital, E.C.

Northern College of Pharmacy.—One of the summer botanical excursions of the students of the above college took place on June 9, the district visited being Marple, New Mills, and Hayfield, in Derbyshire. The beautiful valley and mountain scenery were seen at their best, and the specimens collected and described numerous and typical of all the required natural orders, amongst others being *Aconitum*, *Orchis*, *Spiræa*, *Solanum*, *Æthusa*, *Verbascum*, *Valerian*, *Symphytum*, *Potentilla*, etc. Park Hall, Hayfield, was reached at five o'clock, where the party was entertained at tea by the Principals, Messrs. Clayton and Lawson, who conducted the party. After a musical evening, return was made to Manchester at 10 p.m.

PERSONALITIES, BUSINESS CHANGES, &c.

Mr. B. Simpson, chemist and druggist, of Meersbrook, Sheffield, has taken temporary premises at 409a, Chesterfield Road, Norton Woodseats.

Mr. W. S. Glyn-Jones and **Mr. W. M. Freeman** were formally called to the Bar in the Hall of the Middle Temple on Wednesday, June 15.

Mr. J. E. Allenby, M.P.S., has purchased the business of the late Mr. T. Pape, Helmsley, and will carry on the combined businesses at Mr. Pape's address in Bridge Street.

Mr. L. N. Burch, late dispenser at the Manchester and Salford Hospital for Skin Diseases, Quay Street, and Byrom Street, Manchester, has been succeeded by Mr. W. Uttley, of Longsight, Manchester.

Mr. Fred Medley, M.P.S., of Bridgehouses, Sheffield, will shortly open a new pharmacy in Chesterfield Road, Norton Woodseats, a suburb of Sheffield, which has extended rapidly during the past few years, and has long needed a chemist's shop.

Mr. Harold Deane, B.Sc. (Lond.), Demonstrator of Practical Chemistry in the School of Pharmacy, has received an appointment in the laboratories of Messrs. Philip Harris and Co., Ltd., manufacturing chemists, 144 and 146, Edmund Street, Birmingham.

Messrs. Lewis and Towers, glass bottle manufacturers, of Dalston, were awarded the first prize in the championship class at the Hackney and Stoke Newington Horse and Cart Parade last Saturday. The prize consisted of a shield of the value of five guineas, and a silver challenge cup of the value of twenty guineas.

Mr. H. Knapman, B.A. (Cantab.), son of the Librarian to the Pharmaceutical Society, has written a paper which has been accepted by the Royal Society. The communication, which is entitled "An Experiment Illustrating Harmonic Undertones," was communicated to the Royal Society, on Thursday, June 16, 1904, by Dr. G. J. Burch, F.R.S.

Dr. D. Harvey Attfield, Director and Principal Medical Officer of the Suez Quarantine Office, has received His Majesty's Royal Licence and Authority to accept and wear the Imperial Ottoman Order of the Osmanieh, Fourth Class, which has been conferred upon him by His Highness the Khedive of Egypt, authorised by His Imperial Majesty the Sultan of Turkey, in recognition of valuable services rendered to His Highness.

Messrs. Haslam and Wilshaw, chemists, of Fore Street, Hertford, intimate that, owing to the continued ill-health of the managing proprietor, they have disposed of their business to Mr. Arthur J. Sheffield, M.P.S., formerly with Messrs. Squire, of London. Mr. S. T. Wilshaw, M.P.S., will take up his residence at Eastbourne. He has resided at Hertford for thirty-four years, and for thirteen years he has been a member of the Town Council.

Bro. John L. Smith, P.M. of the Albert Victor Lodge, chemist and druggist, was on Thursday afternoon installed W.M. of the new "Maritime" Lodge of Freemasons, No. 3,025, and consecrated the same afternoon by Captain C. R. N. Beswicke-Royds, P.G.D., Deputy Provincial Grand Master of East Lancashire. Bro Smith was installed by the W. Bro. C. D. Cheetham, P.G.D., England, assisted by other P.G. officers. There are seventeen other founders of the Lodge. The ceremony took place in Ordsall Hall, Salford, which was the ancient home of the Radcliffes, of Ordsall, recently rescued from decay and restored by Earl Egerton of Tatton and Viscount Salford. There was a large attendance of brethren of the province.

BOOK REVIEW.

'Toxicologisch oder Forensisch Wichtige Pflanzen und Vegetabilische Droguen mit besonderer Beruecksichtigung ihrer Mikroskopischen Verhaeltnisse.' By Dr. Wilhelm Mitlacher. Pp. 200. Price 6 marks. Vienna: Urban and Schwarzenburg. 1904.

During the last quarter of a century great progress has been made by pharmacognosists and botanists in the knowledge of the minute structure of drugs and plants. Pharmacognosists in particular have devoted much attention to this subject, and there are now comparatively few drugs in general use the structure of which is not more or less intimately known and their identification thus facilitated. Much less use has been made of the structure of vegetable organs by toxicologists and (in this country) by analysts. Although the microscope may often be the sole means by which the identification of a drug, accidentally or intentionally administered, can be effected, yet many of the text-books dealing with forensic medicine or toxicology practically ignore its existence. Vegetable tissues undergo, it is true, after ingestion, changes which modify to a certain extent their appearance; the structure, however, even of the more easily decomposable parenchyma, usually remains recognisable, and can be identified in the fragments separated from the fæces or contents of stomach or intestines. Such tissues as the strongly resistant coats of many seeds suffer so little change that they remain practically unaffected.

After such vegetable tissues have been separated from the fæces or other material, they have to be examined and identified. Whilst we are tolerably familiar with the structure of most of the vegetable substances used either as food or medicine, it is otherwise with that of the poisonous indigenous plants which serve neither of these purposes, but which, nevertheless, are the frequent source of accidental or criminal poisoning. Nor is there any work in existence dealing specially with the structure of such drugs and plants, and the difficulty of identification becomes very great. It is this gap that Dr. Mitlacher has filled. The work deals with the anatomy of some forty-seven different plants, of which three, or even four different organs are discussed. Many of the descriptions, especially those of poisonous, indigenous plants, such as the fruits and seeds of white and black bryony, seeds, flowers and leaves of laburnum, etc., are original, as are also the illustrations that accompany them. The latter are accurate and clear, even if they lack the artistic appearance sometimes imparted to similar figures. Many of the illustrations of well-known drugs are taken from the works of Vogl and Tschirch. Ten pages suffice to introduce the reader to the methods of examination employed and the chief reagents used.

The author is to be congratulated on having produced a very important work—indeed, one which, in the cases for which it is specially intended, will prove indispensable. Not only has he collected into one volume much information that was previously scattered, but he has also supplied, by personal investigation, deficiences where such existed. The work contains, therefore, much that is new, and it can be confidently recommended to the notice of all who are interested in the anatomical structure of drugs.

MARKET REPORT.

General Markets.

London, Thursday, June 16, 1904.

Although business is a very long way from being what could be desired, and is still exceedingly dull, a more hopeful feeling appears to prevail. Not only have there been more inquiries since the beginning of the week, but there has also been some business passing. One can only hope that the slight improvement may continue. There are no changes of importance to record, and prices generally are much the same as they were this time last week. Camphor is perhaps slightly better since the sales, while Menthol is still weak. Quinine is extremely flat. Cod-liver Oil is off, and the price at which it is offered to-day (160s. for Norwegian) is substantially lower than it was a short time back, of which those who bought their supplies a few months ago are unfortunately aware. Bromides Iodides, Cocaine, and Morphine are all unchanged.

ARROWROOT.—At the sales on Wednesday about 40 barrels St. Vincent sold, for the most part without reserve, at 1⅝d. for manufacturing.

BORACIC ACID.—Crystals, £1 2s. 6d. ; powder, £1 4s. 6d.

BROMIDES.—The position is, perhaps, not quite so strong as it might be. The official quotations for English B.P. are unaltered as follow :—Potassium, 1s. 10½d. for 10cwt. lots; Sodium, 2s. 1½d. ; and Ammonium, 2s. 2½d. in 1cwt. lots. "American" quality can be had at lower prices.

CAMPHOR.—Since the cheap sales last week more money has been paid, and the position generally is considered stronger.

CARBOLIC ACID.—Crystals, 39-40°, 6¾d.

CASCARA SAGRADA.—There is a little pressure to sell last year's bulk, but there are no buyers. For new bark quotations are round about 40s., c.i.f., sailing shipment.

CASTOR OIL.—Belgian 1sts, £19 15s.

CHLORAL HYDRATE.—The quotation is 3s. 3d. per lb. in bulk packages.

CHLOROFORM.—1s. 7d. to 1s. 9d. is the price quoted for the B.P. article.

CINCHONA BARK.—The London auctions were held on Tuesday. Only 566 packages were offered, against 1,703 at the previous auctions. The demand was good, and nearly all sold at an average unit of 1¼d. The shipments at Java during the first half of the present month were 682,000 Amsterdam lb., against 693,000 Amsterdam lb. during the same period last year.

CITRIC ACID.—Firm at 1s. 0¼d. per lb.

CLOVES.—None of the offerings found buyers at yesterday's spice sales. Privately there are sellers of Zanzibar at 8$\frac{1}{16}$d. for June-August delivery.

CLOVE OIL—Is firm at 5s. to 5s. 3d. these quotations being for B.P.

COCAINE—Is firm at 12s. 8d. to 13s. 3d. per oz. for the Hydrochloride, according to quantity.

CODEINE.—8s. 4d. per oz. is quoted for the pure alkaloid.

COD-LIVER OIL.—There is no change in price and no business.

CREAM OF TARTAR.—The quotation for 98 per cent. foreign powder is now 86s.

GINGER.—Cochin was in slow demand at Wednesday's spice sales ; small and medium native cut sold at 31s. Of Jamaica 214 barrels sold, middling at 40s., good middling at 45s.

GLYCERIN.—1·260 chemically pure, in tins and cases, is quoted 67s. to 69s. 6d. per cwt., according to quantity, the lower figure being for five-ton lots.

IODIDES.—Sodium Iodide, 11s. 10d. to 12s. 1d. ; Potassium Iodide, 10s. 3d. to 10s. 9d.

MENTHOL.—Is weak on the spot, owing to lower offers of new crop, which, however, have probably been taken up in New York. For Kobayashi 15s. is quoted.

MERCURIALS.—The revised prices are as follow :—Calomel, 2s. 7d. ; Corrosive Sublimate, 2s. 3d. ; Red Precipitate, 2s. 10d. ; White Precipitate, 2s. 10½d. ; Mercuric Sulphate, 2s. 3d.

MORPHINE.—Muriate (powder), 4s. 3d. ; crystal, 4s. 5d. ; Pure Alkaloid, 5s. 4d. ; Acetate, 4s. 3d.

NUTMEGS.—West Indians sold at steady rates at the spice sales, 57's at 2s. 3d., 62's at 2s. 2d., 65's at 1s. 10d., 71's at 1s. 7d.

OPIUM.—Smyrna quotations are as follow :—Current qualities, 6s. 6d. ; Caramisar, 7s. ; Yerli, 7s. 6d. ; Boghaditz, 7s. 6d. Speculative purchases are anticipated which should delay any further decline. Thirty-two cases of new crop arrived in Smyrna from the interior last week.

OTTO OF ROSES.—Contrary to the news generally diffused it now appears (according to a report from Bulgaria) that the weather during the distillation period has not been all that could be desired. It is also reported that the yield is hardly expected to come up to last year's. More definite information, however, will shortly be to hand.

PEPPERMINT OIL.—There are a few weak second-hand holders of H.G.H. at 14s. 6d., at which price small sales have been made. On the whole, however. the position of American peppermint oil is strong, and it is anticipated that the coming crop will be a small one.

PIMENTO.—All the offerings were bought in at 3½d. at yesterday's sales.

QUININE—Is exceedingly flat. Quotations are only nominal, being 11d. for the German sulphate in the second-hand market.

SANTONIN—Firm at 26s. to 27s. 3d. per lb., the lower price being for 2 cwts. in one delivery.

SENEGA.—An inquiry has been received from the Continent, where the article is scarce and wanted, but business has not as yet resulted. The quotations here are 2s. 6½d. to 2s. 7d. As the prices for new crop do not come below this, it looks as though bottom values had been touched.

SHELLAC.—The market is weak ; no spot sales of importance are reported. For August delivery 209s. has been paid for TN.

THE CULTIVATION OF THE OLIVE DECLINING IN FRANCE.—The export of olives and other pickled vegetables from Bordeaux in 1903 amounted to 52,390 cwt., or 16,922 cwt. in excess of 1902. Of these 40,037 cwt. were sent to the United Kingdom, as against 25,956 cwt. in 1902. Of pure olive oil, 10,037 cwt. were exported from Bordeaux to the United Kingdom, the total general report being 26,728 cwt. A quarter of a century ago there were some 375,592 acres of French soil devoted to the cultivation of olives, the present estimated area is only 308,875 acres. The Spanish Consul at Bordeaux, who has kindly furnished some interesting information on this subject, states that the area of olive cultivation is being gradually confined to the shores of the Mediterranean. Modern facilities of transport tend to throw production more and more into those regions where climatic risks are least and nature provides the most abundant and cheapest crops, whilst the extensive use of oleaginous seeds and nuts is also supplementing and superseding the use of olives to an extent which has an appreciable effect upon the demand for pure olive oil. Many landowners throughout France have substituted vines for olive trees on suitable soils, leaving the latter on properties where the conditions are less propitious.

BORDEAUX TURPENTINE.—In consequence of a decline in the American production (writes Mr. Consul Macdonald in his Report on the Trade and Commerce of Bordeaux and District for the year 1903), it was expected that the prices of turpentine and resin would maintain a fairly high standard. Owing, however, to the unusual weather which prevailed in the early spring of 1903, the prices suddenly rose beyond all calculations, and kept their high level during the whole of the season. The price of turpentine hardly ever fell below £4, and fluctuated between £4 8s. and £4 12s. net Bayonne per 2 cwt. The prices for resin were also very high. Colophony fetched from 12s. 10d. to £1 2s. 6d., whilst the ordinary qualities did not fall below 16s. per 2 cwts. These prices, however, did not prevent the execution of important shipments for Bristol, Liverpool, Glasgow, and Newcastle. It is most probable that these prices will be generally maintained throughout the whole of the ensuing season.

WHERE PATENT MEDICINES REPLACE DOCTORS.—The French Minister at Havana remarks, in a recent report, that there is a large sale for patent medicines in Cuba. The value of these articles imported during the year 1902-03 amounted to £63,233, the importations from France amounting to £40,302. A large number of the inhabitants live far from a doctor, and are consequently accustomed to keep a stock of various remedies in the house, to make use of in case of sudden illness. Quinine also sells largely.

A WHOLESALE DRUG HOUSE will probably be established at Galveston, and the Consul remarks as follows:—The field is just as good now as it has been for the past ten years in the matter of a wholesale drug house. In addition to doing the general jobbing business usually done by wholesale drug houses, it would be in a position to import crude wholesale drugs in immense quantities, and supply from here the wholesale drug houses situated at other points in Texas, Indian Territory, Oklahoma Territory and the South-west generally.

ITALIANS AND THE SOAP INDUSTRY.—The quantity of soap imported into Italy is still three times in excess of the amount exported; but the increasing importation of soda, fats and other ingredients used in the manufacture of soap is a sign that the industry is beginning to develop, though it will doubtless be many years before it can be in a position to supply the demands of the home market.

PATENTS AND TRADE MARKS.*

New Patent Applications.

NEW THERAPEUTICAL COMPOUNDS (No. 15,782 of 1903).—O. Imray, Birkbeck Bank Chambers, Southampton Buildings, London. (Communicated by Farbwerke vormals Meister, Lucius, and Bruning, of Hoechst o/Main, Germany.) Relates to the manufacture of a new compound from 4-dimethylamido-1-phenyl-2; 3-dimethyl-5-pyrazolone with butylchloral. This product may be obtained by heating together the two components and subsequently recrystallising the product of reaction from dilute alcohol or benzene, or by pouring together whilst hot solutions of the chloraldehyde and 4-dimethylamido-1-phenyl-2: 3-dimethyl-5-pyrazolone; when cold the compound separates as crystals. Example:—195·5 grammes of butylchloral hydrate to 231 grammes of 4-dimethylamido-1-phenyl-2: 3-dimethyl-5-pyrazolone are heated with 400 grammes of benzene until dissolved, and then cooled. The whole is then filtered, and the crystals are washed with benzene or ligroin and dried in a vacuum. The substance obtained is a white powder of yellowish tint. It melts at 85-86° C., and is soluble with difficulty in cold water, benzene, and ligroin, easily soluble in alcohol and ether. It is particularly valuable as an anæsthetic to the nerves of the brain.

LOTION FOR CHAPPED HANDS, CHILBLAINS, ETC. (No. 8,840 of 1904).—A. M. Moore, 128, Wanstead Park Road, Ilford, Essex. The lotion is made up of the following ingredients in the proportions indicated, and is applied externally to the affected parts:—One part saltpetre, two parts sugar, quarter part methylated spirit, and fifteen parts boiled water.

Note.—Opposition to the grant of above Patents must be filed at the Patent Office on or before July 26, 1904.

New Trade Mark Applications.

"**NOORAB,**" for chemical substances used for agricultural and horticultural purposes, by J. S. Norton, 19, Hamilton Road, Boscombe. 255,135.

HORSE'S HEAD LABEL, for a powder, being a chemical preparation for veterinary purposes, by B. C. Tipper and Son, 43, Homer Street, Balsall Heath, Birmingham. 256,553.

"**PUROSINE,**" for a disinfectant powder ("Puro" disclaimed), by the Barnstone Blue Lias Lime Co., Limited, Barnstone, Nottingham. 261,610.

"**MAMOS,**" for chemical substances prepared for use in medicine and pharmacy, by H. S. Wellcome, trading as Burroughs Wellcome and Co., Snow Hill Buildings, E.C. 260,856.

"**ADNEPHRIN,**" for a hemostatic astringent and cardiac stimulant, being a medicine for human use, by F. Stearns and Co., 1,265, Jefferson Avenue, Detroit, Mich., U.S.A. 261,155.

"**BRAINEENA**" ("Brain" disclaimed), for a medicinal preparation for human use, by R. R. Wrench, 6, Rood Lane, E.C. 262,663.

"**ATHLETOL**" ("Athlete" disclaimed), for an embrocation for human use, by G. Whitehead, 89, Vyse Street, Birmingham. 262,966.

"**TANO,**" ("Tan" disclaimed), for medicine for human use, by J. Francis, 15, Crescent Road, Alexandra Park, Wood Green, N. 263,397.

"**LOVE**" and device of Cupid and heart, for instruments, apparatus, and contrivances, not medicated, for curative purposes or in relation to the health of men or animals, but not including surgical instruments, apparatus, and contrivances, surgical cutlery, lancets, and fleams, by A. Siebert and Co., 6, Farm Street, Aldersgate Street, E.C. 262,237.

"**LISTO**" ("List" disclaimed), for instruments, apparatus, and contrivances, not medicated, for surgical or curative purposes, or in relation to the health of men or animals, by James Kershaw (Macclesfield), Limited, Paradise Mills, Macclesfield.

"**STEROMNIA,**" for instruments, apparatus, and contrivances, not medicated, for surgical or curative purposes, or in relation to the health of men or animals, by P. Harris and Co., Limited, 144-146, Edmund Street, Birmingham. 263,558.

Device of Japanese soldier swinging on the pigtails of two Chinamen, for perfumery, etc., by F. W. Seymour, 31, High Street, Bedford. 261,504.

"**FLORISIS,**" for perfumery, etc., by J. L. Grossmith, trading as J. Grossmith and Son, 29, Newgate Street, E.C. 262,425.

Note.—Opposition to the registration of any of the above-mentioned trade-marks must be filed at the Patent Office on or before July 15, 1904.

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* These abridgments of new patent applications and particulars of new applications for trade marks have been specially compiled from official sources, for the *Pharmaceutical Journal*, by Mr. Reginald W. Barker, agent for procuring patents and registering trade marks and designs, 56, Ludgate Hill, London, E.C., from whom any information on the subjects may be obtained. Mr. Barker will also send copies of his 'Trade Mark Notes' and Patent Notes for Inventors' free on application.

BRITISH PHARMACEUTICAL CONFERENCE.

RESEARCH LIST, 1904.

The following subjects are suggested for investigation, and the Executive Committee hopes that members of the B.P.C. will undertake to work at one or more of these questions. New subjects have been added to the list to replace those worked out. The Hon. Secretaries wish to call attention to the fact that a special fund has been raised to defray expenses connected with research work. The Executive Committee will be glad to receive applications from members for grants from the above fund.

PLANT ANALYSIS.

(1) **Arnica.**—What is the active principle, and what are the relative proportions of it in the root and flower?

(2) **Bay Berries.**—An examination of the bitter principle of the pericarps of bay berries is required.

(3) **Cascara Sagrada.**—What is the nature of the various resins contained in the bark? The cascara sagrada bark of commerce consists apparently of two species, *R. purshiana* and *R. californica*, the latter having a much paler fracture. It is desirable to ascertain how far these differ in activity, percentage of active principles, yield of extract, etc. (See *Year-Book of Pharmacy*, **1893**, 131; **1899**, 134).

(4) **Castor Oil.**—A research, having for its object the isolation of a purgative principle, is required. (See *Year-Book of Pharmacy*, **1898**, 184; **1898**, 163; **1901**, 125. *Pharm. Journal* [4], **5**, 84, and [4], **11**, 152.)

(5) **Chamomile.**—Research upon the bitter principle of *Anthemis nobilis*. (See *Bulletin de la Société Chimique de Paris* [2], **41**, 483.)

(6) **Cimicifuga Racemosa** (*Actea racemosa*).—Further information is needed on the chemical nature of the constituent or constituents to which the rhizome of the plant owes its activity. (See *Year-Book of Pharmacy*, **1885**, 149.)

(7) **Damiana** is reported to contain a bitter substance, resins, and volatile oil. The liquid extract of the leaves now being extensively used, a thorough, systematic examination of this drug is desirable.

(8) **Determinations** of the total quantity of alkaloids in certain plants, such as belladonna, at *different stages of growth*, would be useful.

(9) **Euphorbia Pilulifera.**—Required, a report upon the chemistry of this drug.

(10) **Fucus Vesiculosus.**—The medicinal value has been attributed solely to the presence of iodine and bromine. It is not improbable that the plant may contain some organic constituent of importance. A complete chemical investigation is required.

(11) **Mezereon Bark.**—What is the chemical nature of the acrid principle of this bark?

(12) **Papaver Rhœas.**—An examination of the red colouring matter of the petals is required.

(13) **Simarouba Bark.**—A comparison of the constituents of this drug with those of quassia wood is desirable.

(14) **Strophanthus.**—Information is desirable on the best methods of separating the different active principles obtained from strophanthus seeds. (See *Year-Book of Pharmacy*, **1898**, 54 and 162; **1899**, 59; **1901**, 167; *Pharm. Journal*, [4], **6**, 385; [4], **6**, 506.)

(15) **Taraxacum.**—To what constituents are the cholagogue and diuretic effects due? To what extent do they vary in roots when collected at a different season of the year?

(16) **Veratrine.**—Should a pure veratrine be included in the British Pharmacopœia rather than the mixture of alkaloids now official? If so, suggest a process for its purification.

(17) **Proximate Analyses** of following drugs are required:—*Cereus grandiflorus, Citrullus colocynthis, Cassia fistula,* and *Serenoa serrulata* (Saw Palmetto).

CHEMISTRY.

(18) **Adeps.**—A satisfactory test for the presence of cotton-seed oil is needed. A good test for lard oil is required.

(19) **Apomorphine.**—Do solutions of this alkaloid retain their potency after coloration has taken place?

(20) **Cotton Wools.**—How far do commercial samples correspond to the tests of the British Pharmacopœia?

(21) **Glycerin.**—Required, a good method for estimating this substance, applicable, if possible, to pharmaceutical preparations.

(22) **Ipecacuanha.**—Experiments upon the method or methods for the separation of the alkaloids are needed.

(23) **Sodium Arsenate.**—A better method of assay than that now official would be welcome.

(24) **Tannins.**—The various methods employed for the estimation of tannin in astringent drugs and preparations give very discrepant results. Required, a thorough research into the comparative results of these processes.

PHARMACOPEDY AND PHARMACY.

(25) **Botanical Sources** of the following drugs require investigation:—The varieties of asafetida and galbanum—the gum resin opoponax—the so-called Syrian tragacanth—the large liquorice root imported from Bassorah (probably *Glycyrrhiza echinata*) and the varieties of copaibas of commerce.

(26) **Cannabis Indica.**—Preparations of uniform strength of this drug are a desideratum. Experiments are required as to the best method of treatment and the solvents to be employed. Experiments are also needed to determine the difference in yield of resin, cannabin, and cannabinol, between the guaza of Bombay and the ganjah of Calcutta.

(27) **Compressed Drugs and Coated Pills.**—Required, a report on the strength and quality of the compressed drugs and coated pills of commerce.

(28) **Effect of Cultivation, Soil, Climate, and Time of Collection on Medicinal Plants.**—Compare the proportions of active constituents of indigenous plants grown in different districts, and the variation of these at different times of collection.

(29) **Ergot.**—The determination of the proportion of active principles in the official preparations.

(30) **Extractum Taraxaci Liquidum.**—The specific gravity and proportion of extractive appear to vary much in commercial specimens. To what is this variation due?

(31) **Galenicals.**—The influence of the action of light and ordinary exposure in a pharmacy upon these.

(32) **Hamamelin.**—Should this be prepared from leaves or bark? Experiments on the comparative efficacy of powdered extractives from both parts of the plant are desirable.

(33) **Jaborandi.**—The leaves, as imported, are much mixed with stalks. Should the leaves be completely separated from the stalks before use in making official preparations? What is the alkaloidal strength of old leaves, young leaves, and stalks?

(34) **Liquor Sennæ Concentratus.**—In this preparation the senna is exhausted by re-percolation; in the liquor for preparing *Syrupus sennæ*, B.P., a process of double maceration is employed. Which is the better method?

(35) **Liquorice.**—An examination of commercial samples of "Block Juice" and "Stick Liquorice" with reference to their purity and glycyrrhizin content would be of value.

(36) **Olive Oil.**—It has been suggested that for some galenical preparations purified cotton-seed oil, arachis oil, and sesame oil might be substituted for olive oil. A series of plasters, liniments, ointments, etc., should be prepared with each of these oils, and the resulting products compared.

(37) **Oxydase.**—The action of this and other ferments in inducing change in galenical preparations, such as liquid extracts, etc., require investigation.

(38) **Pepsin.**—A good method of assay—peptonising and not merely determining the dissolving power of pepsin, suitable for inclusion in B.P., is wanted. (See *Pharm. Journal* [4], 5, 561; and Metti's test in Schäfer's 'Physiology.')

(39) **Powdered Drugs.**—The determination of the limits within which adulteration of powdered drugs can be determined under the microscope.

(40) **Suppositories.**—A compilation or determination of the specific gravity of the medicaments more commonly prescribed in suppositories in order that correct allowance may be made for the volume of the same.

LETTERS TO THE EDITOR.

harmaceutical Curiosities.

In this week's *British Medical Journal* will be found an interesting paper, "Nova et Vetera," by Dr. Plowright, of Lynn. Conspicuous among the well-executed illustrations is an old jar, one of two I presented to Dr. Plowright, which were found in my cellar. My business dates back to 1716, and, in view of the forthcoming exhibition of pharmaceutical curios, it may be of interest to some of your readers to know that among my treasures of the old world is a large bell metal mortar, with date of casting (1781), and a handsome scroll with the name of the founder.

King's Lynn, June 11, 1904. W. W. Crisp.

Concentrated Decoctions in Dispensing.

I beg to say that one cannot dispense Decoction of Aloes, B.P., from the commercial concentrated solution without robbing the patient of alcohol. All good dispensing houses use the B.P. preparation. In correct dispensing all solutions and mixtures should be prepared by imperial measure. Referring to another inquiry in last week's *P.J.*, I may say that it is obviously dangerous to rely on blown bottles.

Middlesbrough, June 10, 1904. J. W. Hornsby.

Old and New Remedies.

I should like to express my satisfaction with your weekly page in Journal supplement on "Old and New Remedies." I am pasting each sheet in an old diary, and am thus acquiring, at no cost to myself, a valuable help to the busy pharmacist in his everyday work.

Catford, June 10, 1904. C. Flint.

MARRIAGE.

Pinkney—Bourdas.—On June 15, at the Church of the Ascension, Balham Hill, by the Rev. Canon Curtis, M.A., vicar of the parish, assisted by the Rev. T. Pownall-Owen, Samuel Renny, eldest son of Thomas Pinkney, of Sunderland, to Evelyn Mary, second daughter of Isaiah Bourdas, Auditor to the Pharmaceutical Society, of Dunoon House, Clapham Common, 6, Pont Street, and 48, Belgrave Road, London.

DEATHS.

Bremridge.—On June 15, Elias Bremridge, Pharmaceutical Chemist, London. Aged 93. Mr. Bremridge was a founder of the Pharmaceutical Society, and for many years was the Secretary and Registrar of the Society. (See page 824.)

Cherrington.—On June 10, Barchel Cherrington, Chemist and Druggist, Nottingham. Aged 81.

Hall.—On June 10, John Hall, Chemist and Druggist, Ashton-under-Lyne. Aged 47. Mr. Hall, who had been a member of the Pharmaceutical Society since 1901, had not been in good health, owing to a weak heart, and was also subject to fits. On Monday, June 6, Mr. Hall complained of feeling ill, but still attended to his duties in the shop. On Thursday night Mrs. Hall went to bed, leaving her husband asleep on the couch; when she awoke next morning she found that he was not in bed, although some of his clothes were in the room. She went downstairs and found him lying on his face as if he had fallen down. She sent for the doctor, who pronounced life to be extinct, and subsequently it was ascertained that death was due to natural causes. Mr. Hall had been in business at Ashton for twenty years. He served his apprenticeship with Messrs. Braddock and Bagshaw, of Oldham, and subsequently became manager of the business he owned at the time of his death.

Pattinson.—On June 9, Thomas Pattinson, Chemist and Druggist, Dudley, formerly of Guisborough. Aged 31. Mr. Pattinson had been connected with the Pharmaceutical Society as a student, and as a member since 1897.

REPLIES TO CORRESPONDENTS.

Lotion (A. H. T.—113/8).—The precipitate should not be removed.

Plaster (T. F. W.—113/5).—The name will render the preparation liable.

Address (A. P. J.—113/2).—The Consolidated Petroleum Co., Limited, 3, Rood Lane, London, E.C.

Veterinary Medicine (H. T. W.—113/10).—Hoare's 'Manual of Veterinary Therapeutics' (Baillière, 10s. 6d.).

Botanical Note-Book (G. H. H.—113/12).—There has been only one edition of the book, which is now, we understand, being sold at the reduced price by Dulau and Co.

Poisonous Plants (J. H.—113/9).—The only book of the kind we know is Sowerby and Johnson's 'British Poisonous Plants' (Gurney and Jackson, 9s. 6d.), a copy of which can be obtained from the publishers at a reduced price.

Photographs (T. H. L.—113/7).—If your customer registers the copyright of the photographs, he can proceed against anyone who copies them without permission. Write to Stationers' Hall, London, for the necessary particulars.

Year-Book (E. W. F.—113/1).—If what you require is an annual record of recent work in pharmacy and the allied sciences, the 'Year-Book of Pharmacy' (Churchill, 10s.) is the only work of the kind published in this country.

Label (H. K.—113/4).—The preparation is doubly liable, since you claim that it arrests decay and also say that it is prepared only by you. But if you remove the words "arresting decay," no claim to liability will arise.

Cleaning Marble (A. H. P.—113/11).—You do not say what you have tried. A mixture of dried sodium carbonate, 2, powdered pumice, 1, and powdered chalk, 1, is sometimes found useful, being made into a cream with water and smeared over the marble, which is subsequently washed with water and soft soap.

Information Wanted.

Red Cross (H. P.—113/3).—Wanted, the address of a Scotch firm which supplies cod-liver oil and malt with a red cross as trade mark.

Calendar for the Week (June 19—25, 1904).

Days of		Events of the Week.	Sun	
M	W		Rises	Sets
19	S	**Third Sunday after Trinity.**	3.44	8.18
20	M	☽First Quarter, 3.11 p.m.	3.44	8.18
21	Tu	Bell and Manchester Scholarships Competition.	3.44	8.18
		Tunbridge Wells and District Chemists' Association, 33, Mount Pleasant Road, at 9 p.m.—General Meeting.		
22	W	Edinburgh Chemists', Assistants', and Apprentices' Association, 36, York Place, at 8.30 p.m.—A Summer Meeting.	3.45	8.19
		Forfarshire and District Chemists' Association, County Hotel, Forfar, at 3 p.m.—Annual Meeting and Dinner.		
23	Th	Cheltenham and District Chemists' Association, 12, Montpellier Avenue.—Committee Meeting.	3.45	8.19
		George Groté died 1871, born November 17, 1794.		
24	F	Edinburgh Chemists', Assistants' and Apprentices' Association, Caledonian Station, 6.15 a.m.—Botanical Excursion to Currie.	3.45	8.19
25	S	List of County Voters to be exhibited on Church doors.	3.45	8.19

LETTERS, NEWSPAPERS, QUERIES, and other COMMUNICATIONS have been received from Messrs. Adcock, Allen, Allenby, Attfield, Austen, Bishop, Blamey, Botham, Clayton, Craig, Crisp, Cuff, Cummings, Druce, Gwinn, Haines, Hornsby, Hutcheon, Jones, Jull, Kirk, Knight, Latham, Livesley, Lucas, Napier, Paton, Payne, Pickering, Price, Radford, Robbins, Shillinglaw, Smith, Thomson, Tinker, Toone, Walker, Widale, Williams.

The Pharmaceutical Journal
THE OLDEST WEEKLY NEWSPAPER
FOR CHEMISTS AND DRUGGISTS.
Established 1841
The Official Organ of the Pharmaceutical Society of Great Britain.

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Single copies, 4d. each (by post, 4½d.), except in the case of back numbers more than six months old, the price of which is 8d. Orders and all other business communications should be addressed to the Manager, 72, Great Russell Street, London, W.C. Cheques, money orders, and postal orders should be made payable to "The Pharmaceutical Journal," and crossed "London and Westminster Bank."

The Pharmaceutical Journal is the oldest organ of the drug trade in Great Britain, and has the largest circulation among Chemists and Druggists in business. It is supplied weekly to more than six thousand members of the Pharmaceutical Society of Great Britain, and also circulates widely in Australia, Canada, South Africa, India, France, Germany, Austria, Italy, Russia, Switzerland, South America, and the United States.

CHANGES OF ADDRESS.

Instructions from Members and Student-Associates of the Pharmaceutical Society with reference to the transmission of the Journal should be addressed to the SECRETARY, Mr. Richard Bremridge, 17, Bloomsbury Square, London, W.C.

The Pharmaceutical Journal Office,

Thursday, June 23, 1904.

The New Address of *The Pharmaceutical Journal*, to which all communications on business and editorial matters should henceforth be sent, is 72, Great Russell Street, London, W.C.

The Funeral of the Late Mr. Elias Bremridge took place at Kingston Cemetery on Saturday of last week, in the presence of a number of friends.

The Questions Set at the Jacob Bell and Manchester Scholarships Examinations appear in this issue. The number of candidates who entered for the former examination was fourteen, and for the latter, two.

Two Unqualified Persons in Belfast have been fined, under the Pharmacy Act (Ireland), £5 each, for selling medicine made up according to prescriptions which were handed in by an inspector from the Pharmaceutical Society of Ireland. Prosecutions against two unqualified Irish retailers of poisonous sheep-dip have failed.

The First Druggist to "Cut" Prices in the United States of America was an Englishman of Scotch extraction; so that the honours are pretty equal. Dr. Dyott, as the "cutter" was called, is said to have come to grief towards the end of an otherwise successful career.

At the Drug Auctions held to-day the offerings were small, comprising only eleven light catalogues. The markets continue very quiet, and no improvement is expected until after the turn of the half-year. Citric acid is somewhat firmer. Particulars concerning other items, and the results of the Drug Sales will be found in the Market Article.

Vol. 72. No. 3427. (4th Series, Vol. 18. No. 1774.)

The Idea of Uniform Pharmaceutical Legislation for the whole of Germany has, for the time being, been abandoned as impracticable. It is reported that a new Prussian Pharmacy Bill is in course of preparation; it is more than likely that the measure under consideration may become law before our own Pharmacy Bill receives the approval of the Houses of Parliament.

Picnics, Cricket Matches, and botanical excursions are among the functions which have been enjoyed by local associations. At Leicester the "Principals" scored 84 against the "Assistants'" total of 72. The Leeds chemists have held a picnic at Grassington, and Edinburgh assistants and apprentices have made an excursion in search of flowers and plants.

The Pharmaceutical Society Obtained Judgment yesterday in the Bloomsbury County Court for penalties amounting to £35. Defendants, who were five in number, were all unqualified persons in the employ of Mr. R. J. Dodd, trading as Dodd's Drug Stores, and having branches in various parts of London.

"The English are Finding Arsenic in Everything," was the reply made by a Vienna firm of chemical manufacturers when a customer complained that tartaric acid supplied by them contained one-twentieth of a grain of arsenic per pound. It was the sale of a sample of this firm's manufacture, taken by an inspector under the Sale of Food and Drugs Act, which resulted in a fine of 10s. being imposed on a Swindon grocer.

The Shop Hours Bill has not been subjected by the Committee to any alterations affecting the principle of the measure. The amendments which have been made are only of administrative importance. The unnecessary proviso which delayed the operation of the closing order until it had been laid before each House of Parliament for a period of forty days has been deleted, and if the Bill becomes law an "order" will take effect as soon as it has been confirmed by the central authority.

The Members of the Pharmaceutical Society in Scotland have held their annual meeting. The Chairman delivered an address, in the course of which he touched on various topics of pharmaceutical interest. In the election of members of the Executive of the North British Branch, Mr. D. B. Dott headed the poll with 231 votes, while Mr. James Anderson Russell takes the place of Mr. Dunlop, retired. According to the scrutineer's report, 250 voting-papers were returned out of a total of 646 issued.

THE NORTH BRITISH BRANCH.

The annual election of the Executive of the North British Branch of the Pharmaceutical Society resulted in the return of all the retiring members who again sought re-election, with the addition of Mr. J. Anderson Russell to fill the seat resigned by Mr. T. Dunlop in consequence of ill-health. The membership of the Society in Scotland now stands at 646—an increase of twenty on the number at the corresponding period of last year. As the Chairman stated, it is gratifying to know that the membership in Scotland this year is the highest on record. The statement, at the meeting of the Executive, that a Divisional Secretary had failed to renew his subscription for the current year—in spite of the three successive reminders which are always issued from the office of the Society to forgetful members—is not, it may be suggested, the strongest of arguments in favour of a reversion to the old system, by which entire responsibility for the collection of subscriptions rested on Divisional Secretaries, and no direct "whips" to members were issued from the Secretary or Assistant-Secretary. It is, at any rate, pleasing to note that the dissatisfaction which is apparently felt over this matter by some members of the Executive is not, if one may judge by the roll of membership, the cause of any reduction in the strength of the Society in Scotland.

The Chairman, in his speech at the annual meeting, addressed himself mainly to political and educational questions. The Executive of the North British Branch will do a real service if, as suggested by the Chairman, it succeeds in persuading the Scottish Chamber of Agriculture to withdraw its opposition to the Pharmacy Bill, or even to formulate specific objections to it. Mr. Dott, by the way, appears to be of opinion that no legislation is necessary in order to "divide" the Minor Examination, or to insist on the production by the candidates of evidence that a satisfactory course of study has been pursued. The scheme for the degree of Bachelor of Science in Pharmaceutics at the Scottish Universities is still progressing through the intricate mazes of the procedure which is necessary when the Scottish Universities adopt anything new. The Aberdeen University Court has now approved of the draft regulations, subject to a slight and unimportant alteration in the section dealing with the proposed Doctorate in Science.

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NEW PHARMACOPŒIA OF THE UNITED STATES.

A new edition of the United States Pharmacopœia is now being printed, and will in all probability be ready for delivery in October next. The new edition will be the result of the eighth Decennial Revision, but it is the first which has been revised by a chartered organisation. It will be marked by several innovations which claim more than passing attention from pharmacists in Great Britain. One of the most conspicuous will be the introduction, for the first time, of doses. Professor J. P. Remington, chairman of the Revision Committee, who recently gave a number of details of the work in an address to the Philadelphia College of Pharmacy, states that the physicians in the pharmacopœial convention have been opposed to this innovation in the past; but the pharmacists, who desired to be relieved of the responsibility of deciding whether a dose was dangerous, succeeded in carrying their point. It has been decided, however, not to fix either a maximum or minimum dose. An average approximate dose for adults will be given, the metric system being used, and the nearest equivalent in the ordinary system inserted in parantheses

Another and a still more important step forward is the adoption of what is known as a "Purity Rubric." This will be one of the features of the new book. Immediately under the official title and English name of each article the percentage of the pure substance and the limit of innocuous impurity permitted will be stated. The nature of such impurities will be controlled by chemical limitation tests, which will exclude likely impurities of a harmful character. No pharmacist will be discouraged from selling an absolutely pure article if he desires to do so. The purity rubric has been introduced in consequence of repeated criticisms of the last edition on the ground that the requirements for many of the chemical products were much too stringent. The standards were found to be in some instances impossible of fulfilment, and to increase the cost of the product to such an extent as to make it cease to be an article of commerce. By adopting its present course of procedure the Convention has not, it would seem, felt itself able to fix a commercial standard distinct from a medicinal standard for any drug in the Pharmacopœia. But it will be clearly stated that all the prescribed standards of purity and strength are intended to apply to the articles only when used for medicinal purposes, and when bought, sold, or dispensed as such. The Chairman of the Revision Committee states that it is a manifest absurdity to apply pharmacopœial standards to articles used for technical purposes or in the arts, as in the case of hydrochloric acid and similar products. It has evidently been felt that it is no part of the duty of the compilers of a Pharmacopœia to fix a standard for anything but strictly medicinal products. But the steps which have been taken should insure a more judicious administration of the Food and Drug Laws in the various States of America than has been noticeable in the past. Since the last edition was published legislation in Congress and the adoption of new laws by some States have accentuated the necessity for action such as that which has been taken.

Questions of nomenclature have received considerable attention from the revisers. Many new synthetics have been admitted, and difficulty has been encountered in selecting names for them. The use of synonyms, again, has been discouraged as much as possible—this with the object of protecting the druggist from the vexatious prosecutions which are sometimes caused when the name commonly used by the public for a domestic remedy has happened to appear as a synonym in the Pharmacopœia. The retention of metric weights and measures—and those only—has already been alluded to in our columns, and in these days of analytical progress it is hardly necessary to mention that the number of assay processes has been very largely increased since the issue of the last edition.

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THE PUBLICATION OF THE JOURNAL.

This issue of *The Pharmaceutical Journal* is the last to be "published" under the arrangements which, with slight modification, have governed the publication of the official organ during the sixty-three years of its existence. The Council of the Pharmaceutical Society has decided that the advertising and publishing business of the Journal shall henceforth be conducted directly by the Society, on its own premises. Accordingly, the address of the Journal in future for all communications will, after this week, be 72, Great Russell Street, London, W.C., the house formerly occupied by the Society's Secretary, next door to 17, Bloomsbury Square. Letters, reports, and other matter for the literary portion of the Journal should be addressed to "The Editor," while all communications with regard to advertisements should be addressed to "The Manager." Correspondents will oblige the staff, and insure that their letters are promptly attended to, by carefully observing this rule. In conclusion, it should hardly be necessary to remind the six thousand members of the Pharmaceutical Society that they, as proprietors of the Journal, have a direct interest in its financial success as an advertising medium.

WHOLESALE LIBEL.

As an example of the means by which thoughtless and ignorant persons foster hostility between medical men and pharmacists, an article which appeared in a recent number of the *Manchester Medical Students' Gazette* will be hard to beat. The article purports to be a reply to the paper recently read by Mr. James Grier on "Dispensing Methods" (see *P. J.*, p. 369, *ante*). In that paper, as may be seen by a reference thereto, Mr. Grier showed, in a temperate manner, that "there is something more in dispensing than the mere filling up of bottles from stock mixtures, . . . in short, that dispensing is an 'art' which requires a special training on the part of those who practise it." The intemperate tone in which Mr. Grier's anonymous critic replies, for the benefit of the Manchester medical students, may be judged from a perusal of some quotations. In answer to the suggestion that a medical man's stock of drugs is less complete than a chemist's—a suggestion of which the truth must surely be admitted—it is urged that the chemist is not in a position to judge what drugs will best suit the doctor's patients. He is, however, in a position to judge whether aqueous "tinctures" and concentrated infusions will suit the doctor's patients as well as the B.P. preparations for which they are substituted.

We have no desire to labour the point, especially as the superiority of the pharmacist's dispensing is recognised by all the leaders of the medical profession. But, in order to show how those who practise pharmacy are being misrepresented, the peroration of the article to which allusion has been made may be quoted at length:—"The position which the pharmacist holds in this country is a peculiar one. He is the great trade pirate who pilfers from the trades of the publican, the optician, the grocer, the stationer, and the confectioner. He extracts teeth and prescribes. He has no monopoly, but seeks one. At present his vulture eye is fixed on our ancient right of dispensing, and he offers for this to renounce his illegal prescribing. He frequently, after a national education, starts life as an errand boy and bottle-washer in a chemist's shop. Gradually he learns the duties behind the counter; comes to the conclusion at last that his life is spoilt for any other trade or calling; passes an easy preliminary examination, which to him is a terrible task; obtains from his master his articles; and, by arduous reading after shop hours, or a few months' coaching at some pharmacy school, manages to scrape through his Minor, which is about equal in stringency to the first Conjoint. Then, backed by his great 'M.P.S.' or 'Ph.C.,' sings high that he is better qualified to dispense than the doctor." The inaccuracy and bad taste displayed by the writer of the foregoing quotation are manifest, but it is perhaps inadvisable to criticise his schoolboy effusion too severely, or to say more than that his exaggeration is sufficient to spoil his own case, if he has one.

SCHOOL OF PHARMACY PRIZE DISTRIBUTION.

On Wednesday next, June 29, the prizes won by students of the School of Pharmacy during the past session will be distributed by the President of the Pharmaceutical Society in the Lecture Theatre at 17, Bloomsbury Square, at 3 p.m. Members and students, past, present, or prospective, are invited to attend.

THE PHARMACEUTICAL JOURNAL FORMULARY.

As is well known, the large majority of the members of the Pharmaceutical Society have taken advantage of the special offers made to them, and provided themselves with copies of the 'Pharmaceutical Journal Formulary' at specially low prices, those who subscribed before publication having been privileged to the extent of obtaining copies below the actual cost price. Since publication, many members have purchased further copies at half price, and this week the chemists and druggists of Great Britain are being afforded another apportunity of securing copies at the same exceptional rate, provided they apply promptly to be elected members of the Pharmaceutical Society of Great Britain. In order to bring that offer before them, as well as to announce the removal of the Journal business to new premises, this week's *P.J. Inset* is being sent to every chemist and druggist in business, in addition to a large number of managers and assistants. After July 5, no promise can be made that anyone will be able to procure a copy of the 'P.J.F.' at less than the published price of one guinea, except that the usual trade discount of one-sixth the published price will be allowed to members of the Society who desire to sell copies, or present them as gifts, to their medical friends.

The long-promised supplementary pages to the 'P.J.F.' are now in course of preparation, the whole of the matter being in the printer's hands. Several hundred additional recipes have been submitted to the Editor for registration, and will be printed in the Supplement, while its usefulness will be further increased by the inclusion of an alcohol conversion table, lists of thermometric equivalents, and extended tables for the conversion of metric and imperial weights and measures. In addition there will be a list of the errors and omissions which have been detected and reported by readers of the 'P.J.F.' Inasmuch as some of the corrections are of considerable importance, it is eminently desirable that all who possess copies of the book should be in a position to mark such inaccuracies as occur therein. The whole of the matter in the Supplement will constitute a necessary and useful addition to the 'P.J.F.,' and the pages will correspond in size with those of the original work. The price fixed for the 'P.J.F. Supplement' is 2s. 6d. net, post-free, but members and student-associates of the Pharmaceutical Society, who subscribe in advance, will be entitled to obtain copies at 1s. 6d. net, post-free. A subscription form will be found in this week's *P.J. Inset*, and it is hoped that readers will send in their orders without delay, as it is not proposed to print many more copies of the Supplement than appear to be actually required.

HERBARIUM PRIZE.

Collections of plants and ferns for the Silver Medal annually offered by the Council of the Pharmaceutical Society to Student-Associates must be forwarded to the Registrar, 17, Bloomsbury Square, London, so that they may be received by him not later than the first day of July, endorsed "Herbarium for the Competition for the Prize." Full particulars of the regulations will be found at page 148 of the Calendar of the Pharmaceutical Society.

ABSTRACTS—SCIENTIFIC AND TECHNICAL

A REVIEW OF CURRENT WORK IN PHARMACOPEDICS AND ALLIED SCIENCES

Determination of Potassium.

With the growth of the Stassfurt industries and the increasing application of potassium salts in agriculture, a rapid method of determining potassium has become a question of some importance. In the May number of the *Gazzetta*, N. Tarugi describes a volumetric method of estimating the element which depends on its precipitation in the form of the sparingly soluble persulphate. The method is accurate, and can be carried out with great rapidity. Incidentally, the existence in aqueous solution at temperatures between 0° and 40° of four hydrates of potassium persulphate is established.—*Nature*, **70**, 131.

Soapstone Fibres.

K. E. Guthe has shown experimentally that fused steatite or soapstone can be used as a substitute for fused quartz in the production of fibres of very small elastic fatigue suitable for suspensions. The soapstone can be melted in a gas-oxygen jet, and very fine fibres are easily drawn out from the clear bead thus obtained. The elastic fatigue and tensile strength of these fused steatite fibres have approximately the same value as fused quartz fibres of the same dimensions.—*Physical Review*, through *Nature*, **70**, 132.

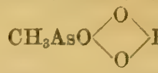
Compound Syrup of Glycerophosphates.

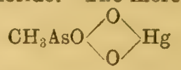
The following formula is due to G. Siboni:—Dissolve calcium glycerophosphate, dried at 110 to 120° C., in distilled water, 250 Gm., and acid lactic, 8·8 Gm. Dissolve sodium sulphate, 4·04 Gm.; potassium sulphate, 2·07 Gm.; ferrous sulphate, 4·66 Gm.; quinine sulphate, 4·10 Gm.; strychnine sulphate, 42 millegrammes, in 100 C.c. of distilled water. Mix the two solutions, and set aside for twenty-four hours. Filter off from the sulphate of lime precipitated; dissolve white sugar, 775 Gm., in the filtrate, and add sufficient to produce 1 litre. Each 10 C.c. of the syrup will then contain 0·05 Gm. of calcium neutral glycerophosphate, and of the acid glycerophosphates of sodium, potassium, iron and quinine with half a milligramme of strychnine glycerophosphate and 0·1 Gm. of calcium lactate.—*Formulary Nouveaux Remedes*, **20** [3], II.

Acacia to Prevent Precipitation by Incompatibles.

Astruc and Robert find that the presence of gum acacia in a pharmaceutical preparation serves, in some cases, to prevent precipitation when it is mixed with another substance otherwise incompatible. For instance, the syrup of iodide of iron of the Codex, which contains syrup of gum acacia, mixes bright with cinchona wine; but, if simple syrup be substituted for the gum syrup, the mixture precipitates. Extract of cinchona (Codex) generally gives cloudy solutions, but if a little mucilage of acacia be added to the extract it gives clear solutions, even with such incompatibles as vegetable infusions, bases, chlorides, iodides, bromides, glycero-phosphates, and arsenical compounds. The deposit which occurs in cinchona wine may be obviated by the addition of 1 Gm. or 2 Gm. of gum acacia to the litre. Wines of other drugs, such as rhubarb and kola, may be kept bright by the addition of 0·5 to 1 per cent. of gum. The ferruginous cinchona wine of the Codex may be similarly preserved by the addition of 1 per cent. of gum. Many other instances of incompatibility may be obviated by the same means.—*Répertoire*, **60**, 109.

Mercurous and Mercuric Methyl Arsenates.

Saint-Sernin states (*Bull. Soc. Pharm. de Bordeaux*) that mercurous methyl arsenate,  $CH_3AsO\overset{O}{\underset{O}{<>}}Hg_2$ may be obtained in the form of a precipitate of prismatic needles by treating mercurous nitrate with methyl-arsenic acid. This precipitate is washed with a little water and dried. It is stable in the light, and not altered by heating to 300° C. It is soluble in water to the extent of 0·44 : 1,000 at 15° C. and 1 : 1,000 at 100° C. The solubility is increased by the addition of sodium chloride. The mercuric salt



$$CH_3AsO\overset{O}{\underset{O}{<>}}Hg$$

is obtained in a crystalline form by the double decomposition of mercuric nitrate or chloride and sodium methyl arsenate. The crystals obtained may be washed with water without decomposing. It is unaffected by light and by heating below 200° C.; above that temperature it turns yellow.—*Pharm. Centralh.*, **45**, 298.

Further Notes on Aucubin.

E. Bourquelot and H. Hérissey find that the solubility of aucubin in water at 20-22° C. is 35·6:100, in alcohol, 95 per cent., 1·1:100, in alcohol, 85 per cent., 7·7:100, and in pure methyl alcohol 13·8:100. It is insoluble in ether and chloroform. Crystalline aucubin contains one molecule of water of crystallisation, which is only slowly parted with at 115-120° C. Its formula is $C_{13}H_{19}O_8+H_2O$. It contains but one molecule of dextrose, so that the equation of its hydrolysis is—

$$C_{13}H_{19}O_8 + H_2O = C_6H_{12}O_6 + C_7H_9O_3.$$

Aucubin is very stable, and does not effloresce in the air. Its aqueous solutions are permanent; but traces of mineral and certain organic acids cause its hydrolysis even in the cold; the liquid gradually assumes a yellowish-green colour, and ultimately throws down a brown precipitate. On warming, an odour of valerianic acid is evolved, due to the secondary action of the acid on the brown precipitate. Emulsin acts in a similar manner to acids. Both aucubin and its product of hydrolysis appear to be devoid of toxicity. It is generally distributed throughout the plant, and may be extracted from the leaves dried at 30° C.—*Comp. rend.* **38**, 1,114.

Circulation of Odorous Principles in the Plant.

E. Charabot and G. Laloue, from observations conducted on the orange-tree, conclude that the odorous principles formed in the leaves are transferred to the stem. The essential oil in the stem contains less soluble constituents than that of the leaves; the difference is slight at first, but increases with the growth of the plant. The soluble bodies carried from the leaf to the stem throw out of solution the less soluble substances which form the stem oil.—*Comp. rend.*, **138**, 1,229.

Saponifying Action of Castor-oil Seeds.

M. Nicloux does not consider that proof has been given that the active saponifying action of castor-oil seeds is due to a ferment, as stated recently by Connstein and others. On the contrary, he attributes the action to cytoplasma, which has remarkable lipolytic powers. When this cytoplasma is removed the seeds then become devoid of saponifying action, although all their other constituents are present. Cytoplasma, alone, in suspension in fifty times its weight of cotton-seed oil in the presence of a trace of acetic acid, saponifies 80 per cent. of the oil in about thirty minutes at 20° C. and 500 times its own weight in fifteen hours.—*Comp. rend*, **138**, 1,175.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN

ANNUAL MEETING OF MEMBERS IN SCOTLAND.

Friday, June 17, 1904, in the Society's House, 36, York Place, Edinburgh, Mr. D. B. Dott in the chair.

The minutes of the last meeting were read and approved.

Apologies for absence were intimated from Messrs. Doig, Dunlop, Ewing, Lyon, and Robertson.

Chairman's Address.

The Chairman said: The annual report has been already sent to all members, and gives a general indication that the Executive has carefully attended to the matters entrusted to it during the year.

One or two points may be briefly referred to.

Local Organisation.

The Executive has given attention to this matter in the way of securing a full list of nominations for the position of Divisional Secretary in the various districts, and I would take this opportunity of acknowledging the services rendered by these officers during the year. It is most important to have, all over the country, representative men whom we can at once correspond with in any matter requiring local attention or local information, and who can also be appealed to when it is necessary to take concerted action in influencing members of Parliament or the Government regarding matters affecting the interests of pharmacy and the welfare of the craft. The present organisation has proved itself most efficient in this respect in a number of cases during the year, though this fact has not been brought prominently before the craft in any public way as it was during last year.

The Pharmacy Bill.

The Chairman last year, in referring to the Pharmacy Bill, suggested that it would be advisable, in the event of its being again introduced into Parliament, that it should be backed by some Scottish members of Parliament, and that the Executive might assist the Council in securing this advantage. You will notice from the report that this suggestion has been successfully carried out. In addition to securing the names of three Scottish M.P.s as backers of the Bill, much valuable assistance has also been rendered by interviewing Parliamentary representatives and explaining the Bill to them, and getting their promise to support the second reading. It would be too much to say that the education has been all on one side, for in interviewing members of Parliament our own men have learned much as to the way in which legislators look at our proposals, and as to the possible modifications and adjustments of the terms of the Bill which may be insisted on if it comes up for discussion in the House of Commons. This information is most valuable because it enables us to consider what suggestions we may reasonably and safely adopt without any risk of sacrificing what we regard as absolutely essential to secure the object we have in view. Unfortunately, not owing to any slackness on the part of the Society, but on account of the exigencies of public business, there seems no prospect of the Bill being debated during the present session. At the same time, the effort has not been thrown away, and the information supplied to members of Parliament will produce fruit in some future session.

The Government Poisons Bill.

The whole situation may be changed at any moment by the appearance of the Government Poisons Bill, which was intimated for introduction in the House of Lords after Easter, but has not yet made its appearance, and cannot certainly pass this session now. There have been various rumours as to negotiations between the Government and the Council of our Society on the subject, and if such negotiations do take place it is right that they should, and the results ought to be most beneficial. You will observe from the report that both of these matters have had attention during the year, and that at the day meeting in April resolutions were sent to the Council regarding them.

Scottish Chamber of Agriculture.

Scottish chemists have been a little amused to read the evidence given before the Departmental Committee of the Privy Council by the witness speaking for the Scottish Chamber of Agriculture, and also by the remarks made at some of the meetings of the Chamber. It so happens that chemists are in not a few cases members of local agricultural associations throughout Scotland, and have been able to dispel the misconceptions on which the alleged grievances mentioned by the Scottish Chamber of Agriculture are founded. It has been thought that if the Scottish Chamber of Agriculture could be got to formulate their objections to the Pharmacy Bill it would not be difficult to persuade them that there is no ground for their opposition, and it has therefore been proposed that the Executive might seek to have this done.

Annual Subscriptions.

There has been a widespread expression of opinion that something is lost to the Society by the abandonment of the old practice of having Divisional Secretaries calling for the annual subscriptions. This took the form of a resolution, which the Executive unanimously passed and forwarded to the Council. The answer has come that the present method is so successful that the Council does not propose to alter it. We have just had it brought to our notice that more than thirty members have dropped out of the list in Scotland this year, and it is believed that many of these could have been retained if they had been visited for their subscriptions. It is also felt that the membership all over the country might be increased to a higher number than it has reached during the years since the passing of the 1898 Act. It may be, therefore, worth considering whether a combination of the present method and the former might not with advantage be adopted. That is to say, Divisional Secretaries might be supplied with the names of all members in their district who had not paid their subscriptions at the end of March, so that they might call and remind them. As it is, no notice of secession is received till it is practically too late to do anything for the current year.

Scheme for University Education.

It will also be seen that good progress has been made with the scheme for instituting a university degree of B.Sc. in Pharmacy. The terms of the Draft Ordinance have now been adjusted, and you may have noticed that at the meeting of the Court of the University of Aberdeen on Tuesday last it was finally adopted. So soon as the similar approval of the other three university courts in Scotland is secured, the way will be clear for making the degree open to all British pharmacists. It is interesting to notice that a somewhat similar movement is in progress South of the Tweed, and has taken definite shape at Owens College, Manchester.

Examinations.

Candidates for the Major Examination had been rather more successful than in the previous year, 44·4 per cent. passing as compared with 40 per cent. last year. The number of candidates taking this examination (9) during the year is one less than last year. Some remarks have recently been made about the small numbers who come up for this examination in Scotland as compared with England. It has to be remembered, however, that the advantage of exemption from jury service conferred by this examination in England does not apply to Scotland, and there is thus less inducement to pass it. Recently there has been a proposal to divide the examination into the two sides, the biological and the chemical, and this has long had the support of the Board of Examiners in Edinburgh, but had not hitherto been regarded favourably by the London Board or the Council. Were such a division made it would probably induce a larger number to enter and secure a better honours examination. It is much to be regretted that the report indicates a still further diminution in the percentage of passes in the Minor Examination, which now stands at the low figure of 32 per cent. There is here a case that requires serious looking into, with a view to discover the cause of this lamentable result. Many suggestions have been made for the division of the Minor Examination, and there seems no good reason why such a scheme should not be adopted, so as to relieve the congestion from which students undoubtedly suffer under the present plan. It is said we must precede division by a compulsory curriculum, but I do not see the logic on which such a suggestion is based. It is also said we require legislation to enable us to divide the examination. There is just as little logic in that view. There is nothing in the Charter or Acts of Parliament stipulating any particular time at which a candidate shall be examined in the requisite subjects. No doubt a recognised curriculum in a properly equipped school or college would be a great advantage, but should not exclude consideration of any other proposal which might immediately ameliorate the condition.

The objection we sometimes hear, that the division of the qualifying examination would make it too easy, seems to me a stupid one, unless it could be shown that the candidates passing on a divided examination would be less competent members of their profession. Many prominent scientists both in this country and in America have spoken strongly against the extremes to which the examination system has often been carried, and the recent discussion in the General Medical Council may be taken as an earnest that more sane and sensible methods will before long prevail. I am strongly of opinion that a system which should take account of course of instruction, results of class examinations, note-books of laboratory work (properly certified), and general previous experience would be a great improvement on our present method of deciding upon a candidate's fitness to receive the Minor certificate.

Scientific Meetings.

We have had a very successful and, on the whole, well-attended series of scientific meetings in Edinburgh during the winter, and I would thank all who have assisted in making them a success.

Circulation of Books.

One gratifying feature in the report is the considerable increase in the circulation of books from the Library, particularly in Edinburgh, and also to the provinces. The Library has received several useful additions during the year, and is one of the most valuable features of the Society's work. This department is capable of wide extension, and only needs to be known to be appreciated.

Membership in Scotland.

We find that when the nomination papers were issued there were 677 members on our roll, but after purging the roll and removing the names of all who had not paid their annual subscriptions, for the purpose of issuing the voting-papers, the number stood at 646. Last year the number was 626, so that there is an increase of twenty. This should have been more but for the forgetfulness of some of the thirty seceders already referred to. The membership this year is the highest yet reached in Scotland, being eight more than in the year 1901. Considering that there are probably 1,200 chemists in business in Scotland, we cannot say that we are yet satisfied with what we have attained, but it is satisfactory that the movement is in the right direction.

Medicine Stamp Acts.

This puzzling question has not escaped the attention of the Executive, and at the day meeting in April a resolution was adopted and sent to the Council suggesting that steps should be taken for safeguarding the statutory rights of duly qualified chemists and druggists, as defined in the Medicine Stamp Acts and confirmed in the case of Farmer *v.* Glyn-Jones. This matter has been remitted to the Law and Parliamentary Committee of the Council, where for the present it remains. The great agitation raised in connection with this matter seems for the moment to have subsided, and it remains to be seen whether we shall hear anything more about it. It will be best to let it alone till it is raised by the Inland Revenue authorities themselves.

It will have been noticed that Mr. Thomas Dunlop, of Glasgow, the Vice-Chairman of the Executive, has not seen his way to allow his name to appear for election this year. It will be a matter of regret that, though, fortunately, he is now convalescent, after a somewhat severe illness, his medical adviser insists on his abstaining from all outside engagements for the present. We sincerely hope that after he has completely recovered we may again have his valuable assistance in the position in which he has commended himself as an agreeable colleague and a careful and painstaking representative of his fellow-craftsmen on the Executive.

It has only been necessary to elect seventeen members of the Executive this year, as we are now in the fortunate position of having Mr. Currie returned to the Council with a gratifying increase of votes as a colleague to our esteemed representative Mr. Storrar. There being thus two Councillors resident in Scotland instead of one, we do not require more than seventeen elected members to complete the number of the Executive.

In conclusion, I should like to express my sense of the kind and indulgent support I have received from the Executive and from the members of the Society in general. My thanks are specially due to the unwearying and faithful assistance of Mr. J. Rutherford Hill, without which the work of the Chairman would be vastly more difficult.

Report of Scrutineers.

The Assistant Secretary read the report of the scrutineers, from which it appeared that 677 nomination papers were issued on May 21. The nomination papers returned showed that fifty-seven members had been nominated, of whom the following twenty-three signified their willingness to act if elected:—

1. Anderson, James, 36, Home Street, Edinburgh.
2. Boa, Peter, 119, George Street, Edinburgh.
3. Clark, Alexander John, 94, Morningside Road, Edinburgh.
4. Cowie, William Beaverly, 26, Clyde Street, Edinburgh.
5. Cummings, William, 49, Reform Street, Dundee.
6. Currie, Archibald, 162, Ferry Road, Leith.
7. Doig, William, 9, High Street, Dundee.
8. Dott, David Brown, 93, Abbeyhill, Edinburgh.
9. Fisher, John Hutchison, 74, High Street, Dunfermline.

10. Giles, William, 123, Crown Street, Aberdeen.
11. Gilmour, James Pinkerton, 312, Cathcart Road, Glasgow.
12. Kerr, Charles, 56, Nethergate, Dundee.
13. M'Cutcheon, Alexander, 16, Leven Street, Edinburgh.
14. Mitchell, Donald, 30, Union Street, Inverness.
15. Mitchell, Patrick, 6, Church Street, Dumbarton.
16. Naysmith, Andrew, 154, High Street, Arbroath.
17. Nesbit, James, 236, High Street, Portobello.
18. Russell, James Anderson, 3, Grey Place, Greenock.
19. Spence, Alexander, 135, High Street, Linlithgow,
20. Strachan, Alexander, 138, Rosemount Place, Aberdeen.
21. Tocher, John, 84, High Street, Dumfries.
22. Watson, David, 41, Sinclair Drive, Langside, Glasgow.
23. Wilson, William Potter, 36, High Street, Haddington.

A voting list was accordingly drawn up, and on June 8 646 voting papers were issued. The scrutineers met on June 16, and proceeded to examine the voting papers. The result was found to be as follows:—

Voting papers issued	646
Voting papers returned	250
Voting papers informal	2

There were thus 248 votes to be recorded. Six voting papers arrived too late to be included in the enumeration.

The result of the poll was as follows:—

Dott	231	Fisher	187
Boa	223	Spence	186
Gilmour	218	Naysmith	181
Tocher	213	Wilson	173
Doig	205	Russell	119
Kerr	199		
Cowie	198	Currie	100
Mitchell, D.	197	Watson	96
Strachan	197	Mitchell, P.	9
Cummings	195	Clark	73
Giles	195	McCutcheon	62
Nesbit	193	Anderson	41

On the motion of Mr. John Bowman, seconded by Mr. G. H. C. Rowland, the report of the scrutineers was adopted, and the Chairman then declared that the Executive for 1904-5 would consist of the following:—

Boa, Peter, 119, George Street, Edinburgh.
Cowie, William Beaverly, 26, Clyde Street, Edinburgh.
Cummings, William, 49, Reform Street, Dundee.
Doig, William, 9, High Street, Dundee.
Dott, David Brown, 93, Abbeyhill, Edinburgh.
Fisher, John Hutchison, 74, High Street, Dunfermline.
Giles, William, 123, Crown Street, Aberdeen.
Gilmour, James Pinkerton, 312, Cathcart Road, Glasgow.
Kerr, Charles, 56, Nethergate, Dundee.
Mitchell, Donald, 30, Union Street, Inverness.
Naysmith, Andrew, 154, High Street, Arbroath.
Nesbit, James, 236, High Street, Portobello.
Russell, James Anderson, 3, Grey Place, Greenock.
Spence, Alexander, 135, High Street, Linlithgow.
Strachan, Alexander, 138, Rosemount Place, Aberdeen.
Tocher, John, 84, High Street, Dumfries.
Wilson, William Potter, 36, High Street, Haddington.

together with the President of the Society (Mr. Richard Atkinson Robinson), the Vice-President of the Society (Mr. John Rymer Young), Mr. William Little Currie (Glasgow), and Mr. David Storrar (Kirkcaldy) as *ex-officio* members.

Votes of Thanks.

On the motion of the Chairman, a cordial vote of thanks was awarded to Dr. George Coull and Messrs. R. L. Hendry, William Lyon, and John Robertson for their services as scrutineers.

Mr. C. F. Henry moved a cordial vote of thanks to the Chairman, not only for his conduct in the chair, but for the very terse and practical suggestions and the sound advice given in the address to which they had all listened with delight.

The vote was awarded with acclamation, and the meeting then closed.

MEETING OF EXECUTIVE OF THE NORTH BRITISH BRANCH.

Friday, June 17, 1904, in the Society's House, 36, York Place, Edinburgh, Mr. D. B. Dott in the chair, and Mr. W. L. Currie in the vice-chair. Present, Messrs. Boa, Cummings, Currie, Dott, Fisher, Giles, Gilmour, Kerr, Mitchell, Naysmith, Strachan, Tocher, and Wilson.

The minutes of last meeting were read and approved.

Apologies were intimated from Messrs. Doig and Dunlop.

Resignation of Mr. Dunlop.

A letter was read from Mr. Dunlop intimating that, though now convalescent, he had been medically advised to abstain meantime from all official work, and could not therefore continue as a member of the Executive. It was moved by Mr. Giles, seconded by Mr. Gilmour, and agreed to send a letter to Mr. Dunlop expressing sympathy with him and high appreciation of his services as a member of Executive, and especially as Vice-Chairman, and hoping to see him back again in fully restored health.

Scrutineers' Report.

The draft report of the scrutineers was submitted and approved, and the arrangements made for the general meeting of members.

Collection of Annual Subscriptions.

A letter was read from the Secretary intimating that, on the report of the General Purposes Committee, and having regard to the circumstance that the present system of local organisation was working very satisfactorily, the Council had not seen its way to accept the suggestion of the Executive to revert to the former method of collecting all subscriptions by the Divisional Secretaries. It was also reported that a list had been furnished indicating that thirty-one members in Scotland had failed to renew their subscriptions for the current year. One was a Divisional Secretary, and several had confessed that their failure was due to forgetfulness.

Mr. Wilson said if these subscriptions had been called for by the Divisional Secretaries they would probably have been got.

Mr. Currie said he supported very strongly the resolution of the Executive before the General Purposes Committee, but Mr. Newsholme was working his pet scheme of local organisation for all it was worth, and it seemed to be thought that it should have a chance before any change was made. He (Mr. Currie) thought the scheme was not working very satisfactorily, and it might be expected that in a year or two they would revert to the old system. Meantime he would keep pegging away.

Poison Legislation and Medicine Stamp Acts.

It was reported that the resolutions passed by the meeting of members in Edinburgh on April 22, relating to prospective poison legislation and the present position of the Medicine Stamp question, had been referred by the Council to the Parliamentary Committee.

Hall and Laboratories.

Some suggestions as to a slight alteration in the fume cupboards and an appearance of damp in the dispensing laboratory were remitted for further consideration.

Local Government Board and Dispensing.

In connection with this remit several letters from Mr. Spence were submitted, including one drawing attention to a further development of the subject. The Postmaster-General was at present making appointments in connection with the staffs of post-offices throughout the country for a medical officer to attend all employees, and in many cases to supply medicines for a certain fee. This might mean, in many cases, that work would pass from the hands of chemists to that of medical practitioners. In the absence of Mr. Spence it was agreed to leave the matter over till next meeting of Executive.

B.Sc. in Pharmacy.

Mr. Strachan brought under the notice of the Executive a notice in an Aberdeen paper of a meeting of the Aberdeen University Court on Tuesday last, at which the regulations for the degree of B.Sc.Pharm. had been approved, subject to some verbal alteration on Section 16. The Assistant-Secretary mentioned that the matter was at present under consideration by the other three universities, but he had not received any report from them or from Aberdeen, though he had seen the report referred to in the *Scotsman* of Wednesday. Section 16 dealt exclusively with the proposed doctorate of science and was not important, and the verbal alteration alluded to could not make any substantial difference.

Parliamentary Return of Medical and Dental Companies.

Mr. Giles called attention to the following paragraph in the *Scotsman* of the 16th inst.:—"Sir John Batty Tuke has obtained the promise of an important return from the Government. It is intended to ascertain the facts bearing upon a practice which has frequently been condemned by the General Medical Council as a public danger. The proposal is that the return shall show the number and names of companies registered under the Act of 1862 for the purpose of carrying on medical and dental practices. The motion for this return will, I understand, be followed by further action against the practice of unqualified persons combining to carry on professional work." That had a very pertinent application to pharmacy, and the reason why he called attention to it was that the Executive should take some action regarding it. He thought it would be quite within the range of practical politics for the Executive to recommend the Council to take such steps as might be necessary to bring companies practising pharmacy or proprietors who were not qualified chemists within the scope of this remit which had been promised to Sir John Batty Tuke. Chemists were affected in the same way as doctors and dentists in regard to unqualified professional practice. This was an important matter, and might result in good to the craft as well as to the public. It was in the interest of the public that Sir John Batty Tuke had obtained this promise from the Government. The return would show the position they were in regarding these companies, and whether they were conducting their business in a safe manner or whether there was any public danger.

The Assistant-Secretary, quoting the report of the proceedings in the House of Commons, indicated that it was not precisely a promise on the part of the Government, but an order of the House of Commons for a return "showing the number and names of companies registered under the Companies Act, 1862, in England, Wales, Scotland, and Ireland, for the purpose of carrying on medical and dental practices." In a few spare moments before midnight on Wednesday Sir John Batty Tuke seized the opportunity to make this motion, and it was assented to by the House. What was wanted was to add the word "pharmaceutical" after "dental." The motion had its origin in the cases under the Dental Act which were before the General Medical Council at its recent meeting. Some of their members were graduates of the University of Edinburgh and constituents of Sir John Batty Tuke, and they might be able to approach him with a view to getting his consent to add the word.

Mr. Giles said the Committee who had to prepare the return might be got to add the word "pharmaceutical."

The Assistant-Secretary said the return could not go beyond the remit.

Mr. Boa pointed out that if they merely sent this up to the Council there was a danger of a certain amount of time being lost. On the other hand, if they took the matter up locally themselves they might get Sir John Batty Tuke to accept such an addition.

Mr. Giles said that to bring the matter before the Council, and at the same time make it open to take any immediate action that might be possible, he would move:—

> The Executive recommend that the Council endeavour to have Sir John Batty Tuke's motion extended to include companies carrying on the practice of pharmacy, and that meantime Sir John Batty Tuke be approached with a view of securing his consent.

This was seconded by Mr. Kerr, and agreed to.

October Examination.

It was reported that Professor Bower might possibly be unable to attend the meetings of the Board of Examiners in October, owing to an engagement in America, and it was remitted to the Chairman to inquire and report to next meeting of Executive in case of it being found necessary to suggest the appointment of another examiner.

The meeting then closed.

JACOB BELL SCHOLARSHIPS, 1904. EXAMINATION QUESTIONS.

FIRST PAPER.

Time allowed, Three Hours—from 11 *a.m. to* 2 *p.m.*

In awarding marks the neatness and legibility of the writing will be taken into account.

Notice.—In framing Answers, Candidates should not enlarge upon the Questions, but should confine themselves to giving, as briefly and clearly as they can, the information required.

LATIN.

1. Translate into English:—

"Ergo age, care pater, cervici imponere nostræ;
Ipse subibo humeris, nec me labor iste gravabit;
Quo res cumque cadent, unum et commune periclum,
Una salus ambobus erit. Mihi parvus Iulus
Sit comes, et longe servet vestigia coniunx.
Vos, famuli, quæ dicam, animis advertite vestris.
Est urbe egressis tumulus templumque vetustum
Desertæ Cereris, juxtaque antiqua cupressus,
Religione patrum multos servata per annos:
Hanc ex diverso sedem veniemus in unam."

2. Translate into English:—

(*a*) Sulphur Lotum vel Depuratum. Sulphur sublimatum abluatur primum aquâ communi repetitâ vice, demum aquâ destillatâ, donec ab acido adhærente perfecte liberum sit. Tum siccetur et per cribrum trajectum in vase idoneo servetur. Sit pulvis citrinus. Sulphur præcipitatum autem, vulgo Lac Sulphuris dictum, pulvis est è pallido flavus, ope acidi paratus.

(*b*) Augeatur pedetentim dosis.

(*c*) Ferri redacti grana tria è quovis vehiculo crasso, electuarii instar subinde sumenda.

3. Parse fully:—

"Ergo age, care pater, cervici imponere nostræ."

4. Translate into Latin:—

Pertinax, when the government was offered to him, said that he was old and infirm, and that he did not wish to undertake so great an office. At length he was persuaded by the senate and people, who saluted him with the names of Emperor and Augustus. He reigned, however, only eighty-seven days, for a sedition having arisen amongst the prætorian, legion, he was slain by a turbulent soldier, in the year 193 after Christ.

ENGLISH.

1. Parse fully:—

"And deeper than did ever plummet sound
I'll drown my book."

2. Write a short essay on one of the following subjects:—

(*a*) The pleasures of travel in modern times.
(*b*) Ancient and modern warfare.
(*c*) "Men at some time are masters of their fate."

ARITHMETIC.

1. A bankrupt's debts are £7,500, and his assets are £4,140. How much can he pay in the £ after defraying the expenses connected with the bankruptcy, which amount to 8 per cent. of the debts?

2. Simplify $\frac{2\cdot375}{3\cdot16}$ of $\frac{4\cdot\dot{4}}{\cdot0625} \div \frac{8\cdot\dot{8}}{7}$ of $\frac{4}{5\cdot625}$

3. A wine merchant buys 1,000 litres of wine at 3·75 francs a litre, and sells it all at 15s. a gallon. Express approximately in English money how much he gains.

FRENCH or GERMAN.

FRENCH.

1. Translate into English:—

Au-dessus, on voit une vaste forêt de cèdres antiques, qui paraissent aussi vieux que la terre où ils sont plantés, et qui portent leurs branches épaisses jusque vers les nues. Cette forêt a sous ses pieds de gras pâturages dans la pente de la montagne; c'est là qu'on voit errer les taureaux qui mugissent. Les brebis qui bêlent, avec leurs tendres agneaux, bondissent sur l'herbe. Là coulent mille ruisseaux d'une eau claire. Enfin on voit au dessous de ces pâturages le pied de la montagne, qui est comme un jardin: le printemps et l'automne y règnent ensemble, pour y joindre les fleurs et les fruits.

2. Translate into French:—

They were cold: suddenly they saw a hut nearly buried in the snow—how lucky they had been to come across it! The door was open; they entered. After lighting a fire, they threw some wood upon it, and sat down. Though the little boy was hungry, he thought of the danger from which he had escaped. He thought of the forest, of the white trees, of the deep silence of the night. He fell upon his knees, and thanked God.

GERMAN.

1. Translate into English:—

Ein Landmann war zum ersten Mal in seinem Leben ins Schauspielhaus gegangen. Das Theater ist finster und stellt einen Saal in einem alten Schlosse vor. Plötzlich kreuzen sich Blitze am Himmel und werfen ihr grelles Licht durch die hohen Fenster in den Saal. Da aber stürzt einer der Schauspieler auf die Bühne, schüttelt seinen Mantel, und ruft; "Ach! welch' ein furchtbarer Hagelschlag!" "O weh!" seufzt erschrocken der Landmann, "unsere armen Weinstöcke! Da muss ich geschwind nach Hause!" Dabei steht er auf und verlässt eilig das Haus. Freilich war er, auf die Strasse gekommen, nicht wenig erstaunt zu sehen, dass der prächtigste Mondschein herrsche.

2. Translate into German the piece set for translation into French.

SECOND PAPER.

Time allowed, Two Hours—from 3 p.m. to 5 p.m.

CHEMISTRY.

1. What is Specific Gravity? How would you proceed to determine the Sp. Gr. of

(*a*) A liquid.
(*b*) A solid insoluble in, and heavier than, water.

2. What tests would you apply to identify the following substances:—

(*a*) Magnesium sulphate,
(*b*) Ammonium chloride,
(*c* Potassium iodide.

PHARMACY.

1. Describe and explain the process for preparing one of the following preparations:—

(*a*) Liquid extract of coca,
(*b*) Green extract of belladonna,
(*c*) Syrup of iodide of iron.

2. Discuss the different processes of distillation with which you are acquainted, and give B.P. products made by them.

BOTANY.

1. What is cell-sap? Where does it occur, and what does it contain?

2. (*a*) What is a rhizome, and how is it distinguished from a root?
(*b*) What is a corm? and a bulb? How are they distinguished from each other?

Give examples of each.

MANCHESTER PHARMACEUTICAL ASSOCIATION SCHOLARSHIP, 1904.

Examination Questions.

The Arts paper was the same as that set for the Jacob Bell Scholarships Examination, except that the following two questions were given as an alternative to questions 1 and 3.

1. Translate into English:—

His nuntiis litterisque commotus, Cæsar duas legiones in ceteriore Gallia novas conscripsit, et inita æstale, in interiorem Galliam qui deduceret, Q Pedium legatum misit. Ipse, quum primum pabuli copia esse inciperet, ad exercitum venit; dat negotium Senonibus reliquisque Gallis, qui finitimi Belgis erant, uti ea, quæ apud eos gerantur, cognoscant, seque de his rebus certiorem faciant. Hi constanter omnes nuntiaverunt, manus cogi, exercitum in unum locum conduci. Tum vero dubitandum non existimavit quin ad eos proficisceretur. Re frumentaria comparata, castra movet, diebus circiter xv. ad fines Belgarum pervenit.

2. Parse fully:—

"Tum vero dubitandum non existimavit quin ad eos proficisceretur."

SECOND PAPER.

Time allowed, Two Hours—from 3 p.m. to 5 p.m.

CHEMISTRY.

1. (*a*) What is the official source of Cream of Tartar, and how is it obtained?

☞ (*b*) What impurities will it be likely to contain, and how would you detect them?

2. What are oxidising agents, and how do they act? Give examples.

PHARMACY.

1. Describe Evaporation, Distillation, and Sublimation, and give examples.

2. Describe the Pharmacopœia process for one of the following preparations, and explain what reaction takes place:—

Ung. Hydrarg. Nitratis; Syr. Ferri Phosph. c. Quin. et Strych.; Ferri et Quin. Cit.

BOTANY.

1. What is Chlorophyll? In what part of the plant does it exist, and what are its functions?

2. Define (*a*) Bracts, spines, and stipules.
(*b*) What is a spike, a raceme, and an umbel?

THE STUDENTS' COLUMNS.

BOTANY (7).

June is always one of the busiest months of the year for the enthusiastic field botanist. The earth is covered with flowers. Those which came with the early spring, perhaps, have vanished from the woods, but their places have been taken by many fragrant and beautiful successors. The wild rose with its delicate blossoms, the twining honeysuckle, the white-flowered wayfaring tree (*Viburnum*) will be found in almost every country wayside, while the meadows and the river banks are gay with many tints.

Now, then, is the time for the student to get abundant material for his study. But a few words to the very young beginner, who with unflagging energy will gather whole armfuls of specimens, far more than he can ever hope to carefully dissect and systematically study. Better by far is it that he should content himself with a limited number, and that he should conscientiously investigate the minute structure of these with the help of his hand lens and a sharp knife.

To most students of pharmacy, perhaps, the plants of most vital interest are those which we find listed in the botany section of the Minor Examination syllabus, and which the candidate may be called upon to recognise. In this list the student will find the names of from thirty to forty plants, most, if not all, of which should be easily obtainable in most country districts, and which certainly will be found in every botanical garden. But how frequently does he content himself with, perhaps, no more than a mere cursory glance at mounted herbarium specimens of these plants—specimens which, excellent as they may be, must always remain but poor substitutes for the living plant itself. Perhaps, then, it may prove useful to some if we classify here the characteristic features by which some of the plants taken from this list may be recognised. We will deal with those which at this time of the year should be easily procurable, and we will note the diagnostic features by means of which we can recognise the types they represent.

Cytisus Scoparius.

The common broom is now abundant enough in most parts of Britain. It is important to the pharmacy student for several reasons. It is a member of the N.O. Leguminosæ, one of the divisions of the group Calycifloræ, with which it is necessary to be specially acquainted; and, in addition to this, the fresh as well as the dried tops of the shrub are official in the British Pharmacopœia. On railway banks, by the roadside, and on most dry hilly wastes and bushy places this sturdy shrub is to be found. It is well marked by its numerous slender stiffly erect green wiry branches, which are prominently angled, and by its small scattered leaves, the lower ones of which are shortly stalked, and are made up of three small obovate leaflets, while the upper ones are sessile upon the stem, and the leaflets may be reduced to a single one. The flowers are large and golden-yellow, and are mounted on slender pedicels in the axils of the old leaves, and thus form showy racemes along the upper branches. The broom as a type of the N.O. Leguminosæ—and it must be borne in mind that all the British members of this extensive and widely distributed order belong to the tribe Papilionaceæ, or the pea-flower family—presents to us the characteristic irregular corolla compared by a somewhat wide stretch of the imagination to a butterfly. The sepals are hairy, and are united together to form a somewhat bell-shaped calyx, with two short broad lips. The petals are five in number, and each is called by name. The broad upper one, which is the outside of all in the bud, is known as the standard. The two lateral ones are called "wings," and are situated between the standard and the two lower ones, which are more or less united, and together form the keel. The stamens are ten in number, and are all united by their filaments into a sheath, which surrounds the single one-celled ovary which ripens into the type of fruit known as the pod, or legume. The pods of the broom, when ripe, are nearly black, from 1½ to 2 in. long, and are flat and hairy at the edges. In the autumn, when the flowers and even the leaves have disappeared, these pods can be found attached to the bare branches. There is but little fear of the student confusing the broom with any other British plant. The common furze or gorse (*Ulex europæus*), which grows so abundantly on dry exposed commons, and which from early spring until now has been covered with a gorgeous sheet of golden blossoms, is at once distinguished from its near neighbour the broom by its branches, which are copiously beset with branched thorns, which set at defiance the attacks of animals and man alike.

Sambucus Nigra.

Now is the time to collect our specimens from the common elder tree. It is abundant in most woods and coppices and waste places, and in many rural districts it is cultivated for the sake of its berries, which are held in high repute for making wine. The stem and branches are remarkable for the large quantity of pith they contain. The leaves are pinnate with 5 to 7 leaf segments, which are ovate and pointed in outline, and regularly and sharply toothed. The inflorescence consists of a large flat-topped cyme 5 to 6 in. broad at the top and branched many times. Each flower possesses a small green calyx of united sepals, with a border of five small teeth. The corolla, made up of five united white or cream-coloured petals, is wheel-shaped or rotate in outline, and possesses five spreading divisions. The stamens equal the petals in number and are inserted in the short tube of the corolla, and are alternate with its lobes. The ovary is inferior and ripens into a berry-like fruit of a dark purple colour. The elder is a member of the N.O. Caprifoliaceæ, which comprises a number of plants, many having very showy and fragrant flowers. The well-known honeysuckle (*Lonicera*), which, when it has reached air and light by means of its climbing wiry stem, displays its numerous clusters of trumpet-shaped cream-coloured flowers tinged with crimson, belongs to this order. Two species of the genus, *Viburnum*, are to be found wild in Britain at this period of the year. *Viburnum lantana*, commonly known by the name of the wayfaring tree, is a large shrub generally found growing in hedges and woods. Its leaves are broad and toothed and downy beneath, its inflorescence is not unlike that of the elder, while its flattened berries are a bright scarlet colour, gradually changing to black. The other British species, *Viburnum opulus*, or guelder rose, has smooth lobed and cut leaves. In the wild plant the inflorescence is a flattened cyme, and is interesting since the outer flowers are large and showy, but are destitute of stamens and pistils. In the cultivated variety all the flowers are affected in this way, and the inflorescence is composed entirely of barren flowers, which are collected together in a globular form, whence the name Snowball-tree by which it is frequently known.

Valeriana Officinalis.

This sturdy herb, which may be studied as a type of the Valerianaceæ, may be found in moist situations by the sides of ditches and streams and in damp woods throughout all Britain. The rhizome or root-stock is short and thick, with a number of creeping runners growing from it. From the top of the upright rhizome springs a tuft of leaves, which are pinnate, with coarsely toothed lanceolate segments. The erect flowering stem, 2 to 3 ft. high, arises from amid the leaves, the flowers being light red, or sometimes almost white, and arranged in terminal panicles or heads. The corolla is tubular and bulged at the base, and possesses five spreading lobes. The stamens are three in number, and are inserted on the tube of the corolla, while the small green ovary ripens into a one-seeded fruit crowned with a little feathery pappus. The rhizome and roots of the plant, which are collected for medicinal purposes, have a warm aromatic slightly bitter taste, and when dry possess the well-known characteristic odour.

ELIAS BREMRIDGE.

A REMINISCENCE.

BY JOSEPH INCE.

REGRET is deep and natural when we witness the passing away of an old and valued officer of the Society. Elias Bremridge was a personality; in appearance dignified and representative, with an official bearing which inspired respect, and a kindly manner which made him an ideal Secretary.

Regret at his loss is tempered by the thought that no man ever discharged the duties which lay before him more faithfully or with more persistent assiduity.

An Annual Meeting without Elias Bremridge on the left side of the presidential chair would have seemed a something wanting and out of the ordinary course of things. There he would sit, ready to explain a doubtful point, to correct a remark made in error; while, owing to his accurate knowledge of detail, he was invaluable as a referee. These gatherings were rather trying now and then, and there were occasions when even his patience had its limits.

A speaker would expatiate and wander; then the tired listener would draw his feet together, audibly and with resignation, while his face wore an expression which clearly meant to say, "Don't blame the Secretary; it is no fault of his."

One would carefully avoid injuring the memory of those whom we are bound to hold in honour by indulging in too general and indiscriminate praise; but this much it is fair to state: that Elias Bremridge outstepped the bounds of his official character and became a social power by the warm welcome he extended to every youthful candidate who presented himself for examination at the Square, or who desired to commence his studies at the School. His word of encouragement was never wanting, and no one more honestly rejoiced than himself over every instance of success. It would be an injustice to omit a distinct acknowledgment of his personal share in rescuing British pharmacy from an undesirable and anomalous position, in placing it on a firmer basis, and securing for it a more definite legal standing—a fact abundantly recognised in the official journalism of that date.

During the process the strain—mental and physical—was intense. The inevitable result was the commencing of failing health and weakened bodily powers. Here comes in the history of the "Secretary's Casual Fund," founded by Elias Bremridge. I quote from the published account of the Council Meeting, Wednesday, December 7, 1892:—

"Some members present, perhaps, did not know the history of that fund. The fact was that after the passing of the Pharmacy Act, in 1868, the Council was anxious to show in some substantial way its appreciation of the zeal and energy which Mr. Elias Bremridge had displayed in working for the passing of the Act, and it was therefore resolved to give him an honorarium of one hundred guineas, not as a payment for work which was incapable of being valued, but as a compliment and a substantial token of the Council's recognition of his services. He declined to accept the money for himself, but handed it back to the Council in trust that the interest might annually go to what he called the Casual Relief Fund."

The Financial Statement for 1869 bears on one side the entry of the Honorarium. and on the other side the amount stands accredited to the fund. By the Secretary's express desire, it was finally transferred to the Orphan Fund, founded by the generosity of the late Thomas Hyde Hills.

Times have altered greatly in some respects, and in nothing more than in the modern eagerness to be elected on the Council. Formerly no anxiety was manifested in that direction; indeed, more than once the trouble was to find a candidate. Hence part of the duty of the Secretary was to suggest a desirable recruit. Agenda business was transacted in a conversational manner; speeches were not the rule. The attendance of the Councillors at their monthly meetings was remarkable. In all this Elias Bremridge was most actively engaged, and for years was never known to be absent. Much sympathy was expressed when, for the first time on record, illness kept him away.

Soon his long-continued application to official work began to tell upon him, and on May 31, 1884, came his letter of resignation. He complained chiefly of deafness, which, in his estimation, threw him too much on the consideration of his associates. May I quote from a paragraph of my own, published in a contemporary twenty years ago, which I know gave him pleasure at the time:—

"Increasing years alone have not weakened his powers. His diminished physical energy is the result of overstrained exertions when pharmacy was passing through its various legislative changes. His actual share in the safe conduct of our political affairs more than once unduly tasked his energies; and when the struggle was over, and matters were satisfactorily arranged, the Secretary felt the consequences of the excitement to which he had been exposed. He has the satisfaction which the most ambitious can desire, not only of seeing his endeavours crowned with success, but the truer reward of knowing that always he had done his best."

What remains but to note his honourable retirement, somewhat overshadowed by the infirmities of age, but cheered to the last by the knowledge that the traditions of the office he so long adorned were in the safe keeping of his son?

So we leave him—the venerable old man and faithful servant, who passed away on the evening of Wednesday, June 15, full of years and honour. There is an excellent photograph of him by Mayall and Co., of Brighton, representing him in a characteristic attitude; and there is a painting in oils by Arthur J. Foster.

AN APPRECIATION.

BY CHARLES SHARP, F.L.S.

Into the company of Notables in Science, Literature, and Art, whose shades haunt the big house in Bloomsbury Square, will now be welcomed one whose memory will be cherished by many for years to come; not on account of scientific attainments, to which he laid no claim, but for his high personal qualities, and the untiring service he rendered to English pharmacy and to those who practise it.

To the writer of the editorial in last week's *Journal* Elias Bremridge was "the great Secretary," and the adjective is surely justified, for within the limits of his vocation, and in the strenuous life he devoted to the cause of those whose willing servant and sincere friend he was, he so far exceeded what could have reasonably been required of him as to make his office twice honourable; and the results attained by his efforts were great in the sense of being lasting and serving important ends. A man who brings into his daily life and work a large knowledge of men and things, a clear understanding of passing events as they affect the interests of a widely dispersed corporation, is great beyond the common run of men, because he has learned how to win when they lose, and can forecast coming things so as to meet them on their way to the success he covets.

The phenomenal thing is that a man who worked so hard, and at times endured so much contradiction, should have fulfilled his own prophecy that he would attain to at least ninety years. His faith in that was implicit, and Heaven honoured it by giving him three years to boot.

It is nearly half a century since I first had the privilege of meeting Mr. Bremridge, in a little back office on the ground floor, where, immersed in work, he could catch the hum of voices in the laboratory beneath, and hear the last of the editorial feet as Jacob Bell, Theophilus Redwood, Robert Bentley, and John Barnard found their way out of the house, after the usual meeting in the garret above, known as the editor's room.

Those days were comparatively free from the troubles of after times. The old historic mansion was indeed a "House of Quiet," and the Secretary might have been free from care if he would. But the ideal Jacob Bell had set before himself and the scattered host of what the *Times* styled "chymists" had to be evolved, and the process of evolution needed the little group of master-minds who, while other men slept, thought and worked with a purpose which commanded more than a large measure of success.

How hard Jacob Bell worked can only be known by those who worked with him. To him Science and the practice of Pharmacy under the best conditions appealed equally. Education and the registration of those educated were the two results he aimed at. But the attainment of the end met with difficulties, and frequently concessions had to be offered, retreats made, and the flag of truce held out to the enemy.

Jacob Bell died, but he had left his faith and enthusiasm with those who were not lacking in the same—and so the House of Quiet lost its placid air, and a hurry of business took its place, and Bloomsbury Square became a centre of attraction to the remotest parts of the kingdom, because that way was hope for the future.

And of the work to be done, not a little of it fell to the share of the Secretary. With little help—for the Society was not rich—he laboured day by day, dissatisfied until he had done his work, and then only satisfied when he had accomplished more. In his earlier days he had lived away from the House, and had at least a little daily change of scene; but as time went on he lived at the Square, and then day and night were often both alike to him.

The facility with which he came back to work when it had prostrated him by its excess was simply marvellous. He brought to it an unfailing good humour and a determination that it should not get the better of him. His capacity for clerical work was only equalled by that for mental labour. Others thought, but he thought also, and he had the happy knack of filling those about him with his own buoyant views, and refused to be other than optimistic, even when the heavens were ready to fall.

It is now nearly fifty years ago, but I feel at this remote time—even more, perhaps, than I did then—that he had the gift of hard work, of prophetic foresight, of happy disposition, and of admirable tact and judgment, which, when seen daily by others about him, made them willing disciples of a master of no mean order. The history of the Society is largely the history of Elias Bremridge.

His social qualities helped him much in doing the Society's work. He must have been a welcomed guest anywhere. He had a happy way of ingratiating himself with the most hopeless irreconcilable. His patience was invaluable, for while he worked he waited, and he waited because he believed the desired end would come. I have known many a man come into his office vexed and angry, but I have yet to learn that one ever left him who was not at least mollified, if he was not convinced.

He had the quality of the ideal Secretary—he was content to work; other men might enter into his labours—so much the better, if only the end was attained.

It is very difficult to say in a few words what one's knowledge and regard for his memory prompts, and it is not easy to avoid what would seem to be adulation.

My relations with him served largely to fashion my own life. I have succeeded best when I have copied him; and, although I have not been successful in the use of it, I learned from him a worldly wisdom which could easily be put to heavenly uses.

He was in one of his best moods when he got away from the scurry of professional things and formed one of a family party, or was one in a friendly pilgrimage. With him and the late Chas. H. Wood I once left the joyous company of the Pharmaceutical Conference far behind, and went forth gaily to ascend Snowdon. After a breakfast of salmon trout at Carnarvon, we sallied forth in a mountain drizzle through the pass of Llanberis. A walk of fourteen miles prepared us for the night's rest we hoped to get before we made the early ascent to catch the sun rising on a September morning. Mr. Bremridge had made a compact with his wife that he would never sleep in a bed which was not unmistakably aired, and he carried never-failing flannels with him to protect him from possible aches and pains. He had no faith in the beds at Capel Curig, so, hiring a pony for him, we went up the mountain that evening, and, wearied out, at last saw the sun set over Anglesey in unparalleled glory. We tried to sleep—he in his flannels, we on wooden settles—but it was in vain; and not until we were sore of foot and halfway down the mountain in the morning did we see the sun rise.

But through it all he had a supremely cheerful confidence in himself and all things about him. And that, with the power and willingness to work, made him the man he was. He has been too long from his work, and has dropped his mantle too surely upon another, to be missed now; but it is useless to try to forget him. You cannot. *Vale!* old friend and master! *Vale!*

RECOLLECTIONS.

BY AN ADMIRER.

The death of Mr. Elias Bremridge has awakened many pleasant recollections in the mind of the writer of this note with regard to the years preceding the passing of the Pharmacy Act in 1868, when he first made the late Secretary's acquaintance. During those years Mr. Bremridge was the sole occupant of the octagonal room at 17, Bloomsbury Square, which was afterwards taken over by the editor and his staff. The only clerical assistance which the Secretary had was rendered by the Librarian, Mr. Sharp, who resigned in 1866, and by his successor, who still holds the office. The writer was much impressed by the energy, industry, and tact displayed by Mr. Bremridge in the conduct of the Society's affairs. Among the many labours of the period under consideration the two events which stood out most prominently were the Benevolent Fund Dinner in 1867 and the passing of the Pharmacy Act. The former was a great success, the result being that about £1,600 was added to the Fund. Mr. Bremridge worked incessantly and indefatigably to secure this result, and his efforts were equally great in connection with the piloting of the Pharmacy Bill through the Houses of Parliament. He was a very genial man, kind and sympathetic; the present writer remembers gratefully many incidents in his own experience in which much kindness and sympathy were manifested.

THE IODINE ABSORPTION AS A FACTOR IN THE EXAMINATION OF OTTO OF ROSE.*

BY FREDERICK HUDSON-COX AND WILLIAM H. SIMMONS.

The iodine absorption of essential oils appears to have received very little attention from chemists. Barenthin first drew attention to it in 1886; Kremel did a little more in 1888, and Williams, Snow, and Davies in 1889, the last-named examining, perhaps, the largest number of samples. More recently (the early part of last year) Sangté-Ferrière and Cuniasse (*Journ. de Pharm.*, 1903, 169) added a further number to the list, but none of these examined sufficient samples of any particular oil to be of real value, and those who have special facilities for observation do not appear to have carried out any experiments with the process.

We quite agree that the iodine absorption is not applicable to all essential oils. Still, it seems to us that in some cases it does give extremely valuable information, and in no case, perhaps, is it more useful than in the examination of otto of rose.

It has always been considered difficult to detect careful adulteration of this oil by chemical means, and the artificial otto recently put upon the market by various firms has added to the difficulty. It was the fact that large quantities of this substance were stated to be imported into the otto districts which first raised our curiosity. As chemists to a firm using very considerable quantities of otto of rose, it was of interest to us to know what became of this imported article, for, although excellent in its way, it did not seem likely that the growers of the natural should prefer the artificial product, and we could not learn that any of it came out of the country under its own name.

Two makers of artificial otto gave in our hands the following data†, from which it will be seen that large quantities could be added to the natural oil without fear of detection by the ordinary methods; indeed, a mixture of 1 part artificial and 2 parts natural oil of good quality gave figures well within the accepted limits, and in odour was not by any means to be despised. We have not determined the acetyl number, because, owing to the large quantity required and the range for the natural oil, we do not consider it generally applicable. The refractive index gives useful information in some cases, but since Parry has promised a further report on that we have not examined the test at any length.

	No. I.		No. II.	
	A.	B.	A.	B.
Specific gravity $\frac{30^\circ}{15{\cdot}5^\circ}$ C. ..	0·8629	0·8717	0·8589	0·8658
Optical rotation 30° C., 100 millimetre tube	−0° 50′	−1° 20′	−0° 14′	−0° 52′
Saponification number ..	20·5	13·4	3·8	5·7
Setting point	22·5° C.	—	21·9° C.	—

While debating as to what course we should pursue, Sangté-Ferrière and Cuniasse's paper revived our interest in the iodine absorption, and we determined to see if some use could not be made of that method, and this we did, with results which we think worthy of bringing before the Society.

In our experiments we have used from 0·1 to 0·2 Gm. of otto, added 10 C.c. of 90 per cent. alcohol, 25 C.c. Hübl solution, and allowed to stand for three hours at the temperature of the laboratory. It has been stated that the temperature has a marked effect upon the absorption, but although we have worked at all temperatures from 4° to 27° C., we have not found any appreciable difference. The age of the Hübl, however, is of very great importance, a solution three weeks old being much less active than a freshly prepared one. The plan which we find to give the best results is to keep the iodine and mercuric chloride solutions separate, and to mix them the evening before they are required.

Another point is that the titration must be carried out as quickly as possible, as the colour rapidly comes back. These remarks, of course, apply also to the fixed oils more or less, although not to anything like the extent they do here.

We also in some cases substituted 10 C.c. chloroform for the alcohol in order to dissolve the stearoptene, for fear the latter should enclose some of the oil, and so prevent or retard its absorption of iodine, but we found it made no difference to the result.

For use in our experiments we first took samples of otto of known brands which had previously been examined by the ordinary methods and passed as being of good quality. We examined, in all, twenty of these samples, taken from the seasons 1896 to 1903 inclusive, and found them to have an absorption of from 187 to 194. We give a table of a few of these :—

No.	Specific Gravity $\frac{30^\circ}{15{\cdot}5^\circ}$C.	Rotation 30° C. 100-millimetre Tube.	Saponification Number.	Setting-Point.	Iodine Number.
1 ..	0·8531	−2° 40′	7·5	20·4° C.	187
2 ..	0·8512	−2° 35′	8·3	21·0° C.	191
3 ..	0·8541	−2° 7′	8·1	20·8° C.	192
4 ..	0·8587	−2° 30′	15·5	20·3° C.	187
5 ..	0·8534	−2° 45′	11·7	20·6° C.	193

This is a larger range than one would wish, and we hope that it will be reduced to a considerable extent after further work, especially since we have so far been unable to invariably obtain good duplicates, the difference being sometimes as much as 4 per cent.

We next took samples of artificial otto and of a number of oils, either found by ourselves or said by other workers to be used as adulterants. As will be seen by the following table, these, with the exception of citronellol and citral, all gave absorptions well over 200, geranium oils being the lowest with an absorption of 213; but, since these oils have a comparatively high ester content, their presence is at once demonstrated by the high potash absorption: A point worthy of note is that while artificial otto is considerably deodorised by iodine, the odour of the natural oil is not affected :—

Oil.	Iodine Number.	Oil.	Iodine Number.
Artificial Otto with Stearoptene	221 to 254	Geraniol	239 and 307*
		Citronella	217
Artificial Otto without Stearoptene	261 to 279	Citronellol	187
		Linalol	280
Palma Rosa..........	296 to 307	Citral................	175
Geranium, African ..	213 to 225	Guaiacum Wood	298
" Bourbon ..	213 to 215	Stearoptene..........	None.
" Spanish ..	211		

Having obtained these results, we applied the process to a number of samples submitted to us from time to time, and which we had rejected as being of suspiciously poor odour, adulterated, or suspected of adulteration, and, as will be seen by the following table, we were confirmed in our opinion in each case :—

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* Read at a meeting of the Society of Public Analysts, March 2, 1904, and reprinted from the *Analyst*.

† These ottos can be obtained either with or without stearoptene. In the above table A is with, and B without, in each case.

* Distinctly different oils. The latter apparently artificial, the other natural.

No.	Specific Gravity 30°/15·5° C.	Rotation 30° C., 100-millimetre Tube.	Saponification Number.	Setting Point.	Iodine Number.
1	0·8552	−2° 45′	8·9	20·8° C.	219
2	0 8561	−2° 47′	8·4	19·2° C.	212
3	0·8554	−2° 42′	8·1	19·8° C.	206
4	0·8581	−1° 24′	10·3	21·3° C.	234
5	0·8797	−19° 50′	40·8	28·4° C.	142
6	0·8434	−0° 47,	16·1	18·5° C.	133
7	0·8659	−1° 24′	17·3	16·8° C.	245
8	0·8550	−2° 2′	9·8	20·6° C.	215

Of these samples, in Nos. 1 and 2 we suspect the presence of geraniol, and in No. 3 artificial otto. Nos. 4 and 7 appear to be chiefly artificial; No. 5 is grossly adulterated, but the quantity submitted did not allow of a thorough investigation. No. 6 contained a considerable quantity of alcohol, and No. 8 is the mixture (artificial 1 and genuine otto 2) already mentioned. A point yet to be determined is the time required for complete saturation, for, although we have made most of our determinations after three hours' standing, it is certain that the reaction is not complete by then. So far we have found that the absorption takes place rapidly to commence with, and then slowly up to at least forty-eight hours, but we have not obtained closer duplicates at any interval between three and forty-eight hours than we have at the end of the first-named period, and so have confined ourselves rather to the finding of the exact conditions under which regular absorption takes place than to the point of saturation, as a process which takes forty-eight hours to complete can hardly be said to recommend itself.

We are still working on this subject, and hope to give another note at a future meeting.

INFLUENCE OF THE NASCENT STATE ON THE PROPERTIES OF DRUGS.*

BY DR. ALBERT ROBIN.

It is a well-known fact that the nascent state exalts the activity of bodies, and by the use of such bodies it is possible to obtain the maximum effect with a minimum dose. Thus oxygenated water, thanks to the nascent state of its oxygen when in contact with organic tissues, is one of the most powerful antiseptics known. Wiede, Melioff and Saedel have just shown that oxygenated water can form a molecular combination with salts, and can take the place of part or of all their water. Willstaetter has remarked that oxygenated water as water of crystallisation was a very common phenomenon. Thus if ammonium sulphate is dissolved in 30 per cent. oxygenated water, and then left over sulphuric acid, crystals are formed containing one molecule of oxygenated water of crystallisation. Sodium sulphate behaves in the same way, but holds its molecule of oxygenated water more firmly than its molecule of ordinary water of crystallisation. Borax, alum and sodium acetate are other examples. The therapeutic importance of this discovery is manifest; double salts have always the same composition, and we can thus dose exactly the quantity of oxygenated water. I have found that it is possible to modify and increase the therapeutic effects of salts which contain oxygenated water in their composition, thus associating, for instance, a strong antiseptic action to the astringent action of alum, or by mixing common sodium sulphate with sodium sulphate containing a molecule of oxygenated water in its composition to obtain simultaneously the evacuation of the intestine and its antisepsis.

Some metallic peroxides give off nascent oxygen when they come into contact with the tissues, the metallic molecule playing a secondary rôle. The peroxides of calcium and magnesium liberate all their active oxygen in the presence of the gastric juice; given in keratine capsules, they become remarkable intestinal antiseptics. They diminish the fetidity of the stools and the diarrhœa better than any other drug, but on the condition that this diarrhœa is caused by fermentation. This fact may even serve as a means of diagnosis, having no effect in tuberculosis, bilious, nervous and other diarrhœas not of fermentative origin. Sodium peroxide, which acts in the same way, is recommended by Unna for the treatment of sebaceous acne of the face. Zinc peroxide can be used, say Fromayer and Morré, as a purifying antiseptic in dermatology, and recently Chaput before the Société de Chirurgie recommended its use to replace iodoform in dressings for uterus and vagina, and to treat infected and torpid wounds. All these salts owe their activity to their nascent oxygen, but the value of the nascent state in therapeutics may be shown by other synthetic drugs. Thus monochloral antipyrin or hypnol of Bordet is composed of a molecule of chloral hydrate and a molecule of antipyrin, which in the organism breaks up into its components, each in the nascent state. It is an analgesic of the central nervous system by its antipyrin and hypnotic by its chloral. Moreover, a dose of 1 gramme is enough to almost always induce sleep and calm the pain, and weight for weight is more active than its two components.

Aspirin breaks up into acetic acid and salicylic acid in the intestine. It is more active and has a greater analgesic action than sodium salicylate.

Rheumatin gives salicylic acid and quinine in the nascent state. As an antirheumatic agent it is more powerful than salicylate of sodium, and it is also an antiseptic. It is thus indicated in the grave, hyperpyretic, or very painful forms of acute articular rheumatism, as well as in its visceral complications.

Sidonal is a quinate of piperazine, nowadays used in the treatment of gout and the uric acid diathesis. By its quinic acid, which breaks up in the organism into quinone and benzoic acid, it combines with glycocoll, thus slowing down the formation of uric acid. By its piperazine, which forms with uric acid the most soluble urate known, it favours the elimination of this salt. This double effect is obtained with relatively minimum doses of sidonal, which frees its component parts in the nascent state. With 50 Cgr. of sidonal daily, taken in two doses, the production of uric acid is sensibly reduced, and this dose can be continued for some length of time without causing any injury.

Two remarkable examples of this exalted action of drugs in the nascent state are iodised sulphur and erythrol, or the double iodide of bismuth, of bismuth, and cinchonidine.

Iodised Sulphur was discovered by L. Prunier, and its ready dissociation led me to employ it in the treatment of gastric fermentations. Prunier advised me to use the form with the formula S_{16} 1, which gives off in the nascent state iodine and sulphur of such great chemical activity that doses of 10 Cgr. to 30 Cgr. given in a cachet in the middle of meals produces excellent effects without any drawbacks. It has but little action on acid fermentation, and should be given for gaseous fermentations with flatulence. It may also be employed in keratin capsules for gaseous fermentations of the intestine. It can replace iodoform in surgery; its action is more powerful and it is much cheaper, but the dose must be a small one on account of the strong action of iodine in the nascent state.

Erythrol also owes its value to the action of nascent iodine. It was first used for putrid ulcerating surfaces. The cin-

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*Abstract of a communication to the Académie de Médecine, Paris, reprinted from the *British Medical Journal*.

chonidine is a stimulant of the spinal cord and medulla, and it is probable that this stimulating action is also effective on the nerve terminations with which it is in direct contact, which would explain the tonic action of erythrol on wounds which look more healthy and heal rapidly. I have also used it for gastric and intestinal fermentations, and it has given good results in cases accompanied with fetid breath. I prescribe doses of 5 Cgr. to 10 Cgr. in a cachet with 10 Cgr. of precipitated carbonate of lime.

A LESSON IN DISPENSING,

℞ Bismuth. salicylat.,	
Sodii bicarb............aa	ʒii. or 7·76 Gm.
Acid. hydrocyanic. dil. ..	♏48 or 2·8 Ml.
Tinct. nucis vom.	ʒii. or 7·1 Ml.
Spt. chlorof...............	℥ss. or 0·14 Dl.
Aq. menth. pip. ...... ad	℥vi. or 0·17 L.

Strictly, this is an incompatible mixture, since there always is a reaction between the first and second ingredients, but, like some other incompatibles, it gives the desired effect, and therein is the prescriber's justification. Bismuth salicylate is not a sufficiently stable salt to withstand the alkaline action of the sodium bicarbonate in the presence of a solvent such as water, and as a consequence decomposition with effervescence ensues. This must be allowed to finish before the mixture is sent out, otherwise the bottle might be burst. The first matter for decision is the addition of a suspending agent. No hard-and-fast rule being applicable, it is a matter entirely for the pharmacist's discretion, but the opinion may be hazarded that in the great majority of cases the addition will be appreciated by the patient, and not objected to by the prescriber, since the insoluble matter will be more readily distributed throughout the liquid portion, thereby contributing to more exact dosage. If it be decided to dispense the mixture as written, the solid ingredients should be placed in a mortar and made into a paste with some of the peppermint water, then about 2 oz. more of the water added. The mortar is then set aside, and the ingredients frequently stirred until effervescence ceases, during which time the prescription may be copied, the label written, and the other ingredients, with the exception of the hydrocyanic acid measured, and placed in the bottle in readiness. The reason for first forming a paste and then diluting is because the bismuth salicylate does not readily mix with the water. If the 2 oz. of water be added all at once the salicylate will float on the surface, and thus retard the desired reaction. Supposing that the addition of a suspending agent be considered advisable, two methods are open for selection, the agent in both cases being 12 gr. of powdered tragacanth, an equivalent quantity of mucilage not being admissible, since 2 oz. of the peppermint water would be displaced. In the first method the solid ingredients are treated in the manner directed above. Whilst the reaction is going on the spirit of chloroform is placed in the bottle, a cork fitted, and the spirit shaken over the inside so as to absorb any water present, the powdered tragacanth added, any of the powder adhering to the neck of the bottle being washed down with the tincture of nux vomica. Two ounces of the peppermint water are then added and the ingredients well shaken until a perfect mucilage be formed. On completion of the reaction in the mortar, the contents are poured in portions into the bottle, the latter being shaken after each addition. The mortar is then washed out with the remainder of the peppermint water, and finally the hydrocyanic acid added. The other method is as follows: The solid ingredients and the powdered tragacanth are placed in a mortar, mixed, and then made into a thin paste with the spirit and tincture. Two ounces of the water are then gradually added, the ingredients being rapidly triturated whilst this is being done. The mixture is then poured into the bottle, and the mortar washed out with sufficient water to produce in all about 4 or 5 oz. The bottle is corked and set aside, it being frequently shaken and the cork removed to facilitate the reaction, after which the mixture is finished by the addition of the remainder of the water and the acid. This method is inferior to the preceding one, since the viscosity of the liquid retards the liberation of the carbon dioxide.

℞ Plumbi acetatis.....	gr. xl. or 25·88 Dgm.
Liniment. opii.......	℥iv. or 1·93 Dl.

Ft. Lotio.

This is another instance of chemical incompatibility associated with therapeutic result. The dispensing of it, however, presents no difficulty if the liniment be placed in the bottle and the acetate of lead, in a finely powdered condition, sprinkled on the surface, the bottle being agitated after each addition. By adopting this plan the precipitate is obtained in a finely-divided condition, and is readily distributed throughout the liquid by shaking. To place the acetate in a mortar, add the liniment, and then triturate with the pestle, causes the particles to aggregate, and gives a very unsatisfactory result. For the benefit of juniors, it may be explained that the precipitate is caused by the combination of the astringent gummy matter (tannin, etc.) of the opium with the lead salt forming lead tannate, etc. So well does this salt act in this manner that it is very frequently employed in the analysis of vegetable drugs, and in the preparation of alkaloids and glucosides, for removing all astringent matter.

℞ Ung. boric.............	ʒii. or 62·2 Gm.
Cocain..................	10 per cent.

Ft. Ungt.

At first sight this prescription seems simplicity itself, but it is by no means so, and it will provide some useful instruction for the tyro. The first matter for consideration is how much cocaine should be used in dispensing it. Three different interpretations might be drawn from it, viz., (*a*) 10 per cent. of ʒii.—that is, 96 gr.—to be mixed with ʒii. of the boric ointment; (*b*) read it as ung. boric. *c.* cocaine, 10 per cent., ʒii.—that is 96 gr. of cocaine with a sufficiency (864 gr.) of boric ointment to produce ʒii. of finished product; (*c*) a sufficient quantity (106½ gr.) of cocaine to be mixed with ʒii. of boric ointment, so that the finished product shall contain 10 per cent. of cocaine. The first reading may be said to be the strictly literal one; the second is what the prescriber intended, whilst the third is the method most likely to be adopted by dispensers in the event of it being impossible to consult the prescriber. The ground being cleared thus far, the next matter for consideration is the best method of compilation. To merely powder the cocaine and mix it intimately with the boric ointment will not give satisfaction, since only a small portion (about 10 per cent.) of the cocaine would be dissolved. To get the full therapeutic value of the cocaine, it must either be in solution, or in a condition capable of being readily absorbed. With a prescription such as the above the best plan is to adopt the B.P. method of dissolving in oleic acid and then mixing with the basis. When two or three methods, one of which is official, are available, it always is advisable to follow the official plan, unless there are strong reasons to the contrary. The official proportions for cocaine and oleic acid are 1 to 4; therefore for 96 gr. it will be necessary to use 384 gr. (by weight). This addition, however, necessitates an equivalent reduction of ointment basis, otherwise the percentage of boric acid in the finished product would be less than it ought to be. For (*a*), (*b*), and (*c*) readings the proportions would be as follow:—

—	(*a*)	(*b*)	(*c*)
Cocaine	96 gr.	96 gr.	106½ gr.
Oleic acid	384 gr.	384 gr.	426 gr.
Boric acid	96 gr.	96 gr.	96 gr.
Paraffin ointment	480 gr.	384 gr.	438 gr.

In preparing this ointment the official method—viz., gently warming the cocaine and the oleic acid until the former is dissolved—may be followed, but this requires care, otherwise the cocaine may be wholly or partially decomposed. A safer plan, though requiring more time, is to finely powder the cocaine and then triturate with the acid. When solution is complete incorporate the boric ointment.

℞ Tinct. digitalis	ʒi. or 3·5 Ml.
Phenacetin	gr. xl. or 258 Cgm.
Sodii salicylat.	ʒi. or 3·8 Gm.
Glycerin	℥i. or 28·4 Ml.
Spirit. camphor.	♏lxxx. or 0·47 Cl.
Aq. ad	℥ii. or 0·568 Dl.

Although, as it is written, this prescription gives a fairly viscid mixture, it is much improved by the addition of mucilage. Proceed as follows:—Finely powder the phenacetin, add 3 gr. of powdered tragacanth, and then incorporate the glycerin. This must be done in a mortar. When quite smooth, gradually add the spirit of camphor and then the tincture of digitalis, using the latter to dissolve particles of camphor on the measure. Thin down with a drachm of water, and then transfer to bottle; then dissolve the sodium salicylate in the remainder of the water, and use this solution to rinse out the mortar. An alternative method is to finely powder 8 gr. of camphor—the equivalent of 80 m. of spirit—in a mortar, mix it intimately with 1 drm. of powdered acacia, and then incorporate with 2 drm. of the glycerin. When quite smooth add 2 drm. of water, and triturate until emulsification is complete. The phenacetin (finely powdered) is then added, after which the remainder of the glycerin, the tincture of digitalis, and 72 m. of rectified spirit are incorporated, then the remainder of the ingredients, as in the preceding method.

PRACTICAL NOTES AND FORMULÆ.

Hair-wash for Loss of Hair.

Glacial acetic acid, 5; tincture of cantharides, 10; tincture of rosemary; tincture of jaborandi, of each, 25; rum, 150.—*Bull. Gén. de Thérap.*, **147**, 190.

Distinction of Benzonaphthol from β-Napththol.

Benzonaphthol may be distinguished from β-naphthol on the admixture of 1 per cent. of the latter with the former detected by the following test:—20 Cgm. of the substance is shaken with 2 C.c. of glacial acetic acid, then 1 or 2 drops of nitric acid are added. Benzonaphthol gives no colour reaction, but with β-naphthol a bright yellow tint is produced.—*Annales de Chim. Analyt.*, **9**, 96.

Pommade Hongroise in Tubes.

(1) Water, 10; glycerin, 2; powdered gum acacia, 3; white beeswax or carnauba wax, 5; olive oil, 6; are heated together on the water-bath until a uniform mass is obtained. Caustic potash solution (sp. g. 1·38), and water, 3, are then stirred in, the stirring being continued until saponification is complete. The cool mass is then perfumed with any desired odour, such as cassia oil, 0·3, and bergamot oil, 0·5. (2) White wax or carnauba wax, 100; soft soap, 50; powdered gum acacia, 50; rose water, 100; bergamot oil, 6; rose-geranium oil, 1. The soap and gum are dissolved in the rose water on the water-bath; the wax added and melted, the mixture stirred constantly while cooling, and the perfume added to the nearly cold mass.—*Pharm. Centralh.*, **45**, 34.

Basis for Medicinal Crayons and Bougies.

P. Mounier finds that the following formula gives a basis at the same time firm and supple:—Cacao butter, 25; white beeswax, 15; anhydrous woolfat, 10; gelatin basis, 50 to 60. Melt together at a gentle heat, stir until nearly cold after adding the prescribed medication, and run into paper moulds when about the consistence of honey; care must be exercised that the mass be not too fluid when pouring out or it will separate on cooling. The bougies or crayons thus made will keep indefinitely in a dry place. They readily disintegrate, however, in water at 37° C.—*Bull. Comm.*, **32**, 132.

Silvering Pills.

Gelatin, 10, is softened in water and dissolved by warming in acetic acid, 45, and then evaporated to a thin syrupy consistence, and a sp. g. of 1·15. From 1 to 2 per cent. of alcohol is then added. Every 4 kilos of pills will require 1 to 3 Gm. of this gelatin solution, being evenly moistened by rotation, and then silvered with 4 to 6 Gm. of silver leaf.—*Pharm. Post*, **37**, 124.

Soldering Solutions and Soldering Fats.

(1) Dissolve zinc in hydrochloric acid to saturation, to every 3 parts by weight add ammonium chloride, 1 part, rain water, 1 part. (2) "Müller's" soldering solution is a mixture of phosphoric acid with 1 or 1½ parts of methylated alcohol, 80 per cent. (3) Lactic acid, 1, glycerin, 1, water, 8. (4) Soldering fat. Melt rosin and tallow together, and when cold add a little powdered sal ammoniac. (5) Melt together olive oil and tallow, of each 50, stir in powdered rosin, 25, and allow the mixture to boil up for a time; when cool add saturated solution of sal ammoniac, 12·5, with constant stirring.—*Pharm. Centralh.*, **45**, 187, after *Neueste erfind und erfahr.*

Thymol Tooth-paste.

Thymol, 6 grains; cinnamon oil, 9 grains; winter-green oil, 78 grains; sassafras oil, 16 grains; alcohol, 90 per cent., ½ ounce; precipitated chalk, prepared chalk, of each 17 ounces; powdered soap, 480 grains; saccharin, 8 grains; solution of carmine *q.s.* to tint; mix and mass to a paste with glycerin, 7 ounces; water, 4 ounces; gelatin, 60 grains. The gelatin is first soaked in water until soft, then melted by heating.—*Pharm. Zeit.*, **49**, 156.

Vanilla Essence.

Vanilla pods, 20, are cut up small, then rubbed down with dry milk sugar, 40; the mixture is moistened with dilute alcohol (68 per cent.), allowed to stand in a well covered vessel, then packed in a percolator, and macerated with dilute alcohol 68 per cent.), 40, for eight days. Percolation is then allowed to proceed, more menstruum being added to give 110 parts of percolate. The residue may be dried, mixed with vanillin, 5, and sugar, 140, and rubbed through a fine sieve to produce a vanilla sugar.—*Pharm. Zeit.*, **48**, 691.

LEEDS AND DISTRICT CHEMISTS' ASSOCIATION.

ANNUAL PICNIC.

Wednesday, June 15, 1904. A brief visit was paid to Grassington and a few other villages in Upper Wharfedale. The party, which included numerous ladies and numbered about fifty, left Leeds in saloon carriages at two p.m., and reached Grassington about half-past three o'clock. Here char-à-bancs were requisitioned, and the party drove to Burnsall, where the Red Lion Hotel provided an enjoyable resting-place for about half an hour. The drive back to Grassington included a brief visit to the quaint village of Hebden. The Devonshire Hotel at Grassington was the source of attraction for the remainder of the day. Here an excellent tea was provided, and the bracing air of the neighbourhood enabled most members of the party—as some scribes would put it—"to do ample justice to the good things provided." After tea there was a brief concert of the free-and-easy sort, the ladies annexing the vocal honours. In the absence of Mr. Worfolk, the President of the Association, the duties of chairman devolved upon Mr. W. O. Pollitt, the Vice-President. There was no oratory, however. But members could not refrain from frequent allusions to the success of the last session of the Association, both educationally and socially. The return journey from Grassington to Leeds was accomplished in ninety minutes and without change of carriage. The outing, which was of the most enjoyable character, will afford many pleasant memories, and praise is due to the special committee on whom devolved the arrangements.

SOUTH AFRICAN PHARMACEUTICAL ASSOCIATION.

SPECIAL MEETING OF THE EXECUTIVE.

Thursday, May 19, 1904, in the Belgrave Hotel, East London, to consider the Treasurer-General's proposal to impose a stamp duty on proprietary medicines.

Medicine Stamp Duty.

Mr. Geo. F. Dutton, President, presided, and in introducing the subject of the meeting stated that he had wired the Hon. Dr. Smartt, M.L.A., asking for particulars of the duty as contained in the Additional Taxation Bill then before Government. The reply received stated that it was proposed to impose a duty as follows:—

"Where the packet, box, bottle, phial, or other enclosure, with its contents,

Shall not exceed 1s. 1d.—1d.
Shall exceed 1s. and not exceed 2s. 6d.—3d.
Shall exceed 2s. 6d. and not exceed 4s.—6d.
Shall exceed 4s. and not exceed 10s.—1s.
Shall exceed 10s. and not exceed 20s.—2s.
Shall exceed 20s. and not exceed 30s.—3s.
Shall exceed 30s. and not exceed 50s.—10s.
Shall exceed 50s.—£1.

After a lengthy discussion, Mr. Atterbury moved, and Mr. Cook seconded, the following resolution:—"This meeting of the South African Pharmaceutical Association and Border Chemists generally view with alarm the proposal of Government to introduce the patent medicine stamp into the colony. They would respectfully point out that it will drive a large proportion of their business away to the neighbouring colonies, besides being unworkable in the matter of stamping. Also the loss of revenue due to the transfer of business out of this colony will more than balance the increase derived by the infliction of the tax. In addition, the revenue of the same would be out of all proportion to the expenses of collection. In view, however, of Government's present financial predicament, they would be prepared to submit to a special licence for all dealers in patent medicines, such a tax being more workable and without the certainty of diverting business elsewhere."

This was unanimously carried, as was also a proposal by Mr. Cook, seconded by Mr. Ford, to wire copies of the resolution to the Treasurer-General, the President, and members of the Legislative Council, Cape Town Association, Mr. Walsh, Mr. Darroll (Cape Town), Mr. Carter, Mr. Wilson, Mr. Willett (Port Elizabeth), Mr. Mager (Queenstown), and Kimberley Association, with the request that the gentlemen named interview their local Chamber of Commerce with a view of securing their co-operation.

[There is reason to believe that the stamp duty has been dropped by Government, though no confirmatory report has reached the Association.—Ed. *P.J.*]

EDINBURGH CHEMISTS', ASSISTANTS', AND APPRENTICES' ASSOCIATION.

SECOND BOTANICAL EXCURSION.

Friday, June 17, 1904, conducted by Mr. William Duncan, F.C.S., of the Royal Dispensary. Unfortunately a smart shower of rain in the afternoon, and somewhat dull and doubtful weather conditions, militated against the attendance, but, notwithstanding, thirteen members travelled by the 8.30 p.m. train to Colinton, and had a most successful and instructive spell of field work in the Dell and along the railway bank to Slateford, operations being reluctantly suspended only when daylight failed. In addition to the plants met with in the Blackford Hill excursion on June 10 the following were gathered:—*Berberis vulgaris*, the irritant stamens were pointed out, and the function of the barberry as host plant for the æcidiospore stage of the smut of wheat (*Puccinia graminis*), *Cardamine impatiens*, with explosive siliqua, *Tilia intermedia*, the winged petiole was pointed out, *Hypericum perforatum*, with translucent oil glands on the leaf, *Acer pseudo-platanus*, with golden foliage, as in the famous Corstorphine maple or Scotch plane, *Trifolium repens*, *Geum rivale*, *G. intermedium*, *Fragaria vesca*, *Rosa canina*, *Cotoneaster microphylla*, *Epilobium montanum*, *Circæ alpina*, *Chrysosplenium oppositifolium*, *Hedera Helix*, *Sanicula Europæa*, *Sambucus nigra*, just beginning to flower, *Valeriana officinalis* var *sambucifolia*, *V. pyrenaica*, *Carduus crispus*, *Doronicum Pardalianches*, *Chrysanthemum leucanthemum*, *Fraxinns excelsior*, *Scrophularia nodosa*, *Lamium purpureum*, *Salix fragilis*, *S. Caprea*, *Allium ursinum*, *Scilla nutans*, *Polygonatum multiflorum*, *Melica uniflora*, *Aspidium Filix-mas*, and *Equisetum arvense*. A cordial vote of thanks was awarded to Mr. Duncan, and the party returned to town by train from Slateford at 10.32.

REVIEWS AND NOTICES OF BOOKS.

'A Safe Course in Experimental Chemistry.' By W. T. Boone, B.A., B.Sc. Pp. 180. Price 2s. London: University Tutorial Press, Limited, 157, Drury Lane, W.C. 1904.

The scope of this book will be more or less clearly understood when it is stated that the author recommends it for the London "Matriculant" who has the Intermediate Science Examination in view; for pupils entering on the first stage of the syllabus issued by the South Kensington branch of the Board of Education; and for those students in training colleges who have to take the prescribed course in general elementary science. The subject is treated throughout in quite an elementary manner, and sufficiently full directions, with illustrations, are given to enable the student to perform the experiments without the continual supervision of a demonstrator. The 'Safe Course in Experimental Chemistry' is eminently suitable for the pharmaceutical apprentice in his first or second year, and may be recommended as justifying its title.

'Pharmacopœia of the University College Hospital,' published by authority of the Medical Committee. Edited by Harold Wilson, B.Sc. (Lond.), Pharmaceutical Chemist. Pp. 65. Price 1s. 9d. London, 1904.

The new edition of this Pharmacopœia follows its predecessor after an interval of five years only, and is the second for which Mr. Wilson, who recently left University College Hospital for St. Thomas's, is responsible. Some formulæ have been omitted, some altered, and others added. As in the last edition, equivalent metric weights and measures are given side by side with those of the Imperial system. As in the Pharmacopœia of St. Thomas's Hospital, glycerin of atropine replaces the unsightly glycerin of belladonna. Probably the rising generation of medical men will learn to prescribe the newer and more satisfactory preparation. Among the new features of the Pharmacopœia is a dentition table, while the table of solubilities has been enlarged by the inclusion of the figures published in the *Pharmaceutical Journal* by Greenish and Upsher Smith in 1902. The pages on the testing of urine and blood, the uses and preparation of stains, have been entirely re-written by Dr. F. H. Thiele, pathologist to the hospital. As heretofore, the book is of a convenient size for the pocket, and contains at the end several blank pages for notes. The 'Pharmacopœia of the University College Hospital' is not a pretentious volume, but it has evidently been compiled with skill and care, and it will add to the high reputation which the dispensary and the pharmacists of the hospital have for many years enjoyed.

LEGAL INTELLIGENCE.

Sale of Food and Drugs Acts.

Chlorodyne Lozenges.

On Thursday, June 19, 1904, at Swindon Petty Sessions, the hearing was resumed of a summons against Alfred J. Manners, confectioner, for selling chlorodyne lozenges not of the nature demanded. A brief report of the hearing appeared on page 839 of last week's issue.

The Chairman of the Bench stated that the magistrates considered that there was a *primâ facie* case.

Mr. Withy, for the defence, said their worships had indicated that if any offence was committed it was a trivial one, and, in view of that expression, his clients were willing to accept the decision upon the case as presented by the prosecution, subject to the points which he had raised.

The Bench did not think it was a case for the imposition of a penalty, and the payment of costs would suffice.

A summons against Brash Godwin, confectioner, of Cucklade Street, Swindon (who had received his supply of chlorodyne lozenges from the defendant in the previous case), for a similar offence was withdrawn.

Tartaric Acid.

On Thursday, June 16, 1904, at Swindon Petty Sessions, Messrs. Clark and Reardon, grocers, Swindon, were summoned for selling tartaric acid which was alleged to contain one-twentieth of a grain of arsenic per pound.

Mr. Bevir, in opening, said that on February 25, 1904, Mr. Smith, the inspector under the Wilts County Council, was supplied with four ounces of tartaric acid, for which he paid 5d., being supplied by Mr. Reardon himself. Dr. Dyer's certificate showed that it contained one-twentieth of a grain of arsenic per pound. On May 25 the case was before the Bench, and, upon the application of defendants, an order was then made for sending the remaining one-third in the hands of Mr. Smith to the Government Analyst at Somerset House. The report from that authority showed that the Government Analyst had no hesitation in certifying that the proportion was one-tenth of a grain of arsenic per pound. Mr. Bevir quoted from cases which raised similar points, and stated that arsenic was hurtful if the taking was continual. In conclusion, he declared that arsenic could easily be kept out of tartaric acid.

Mr. Smith, inspector under the Sale of Food and Drugs Acts for North Wilts, bore out the statement of Mr. Bevir, and added that he had bought samples which were free from arsenic. He had reason to believe that defendants sold the article as they bought it. Probably that arsenic would get in through sulphuric acid. Witness admitted that since the arsenic scare chemists and inspectors had been on the outlook for arsenic, but they had not found much.

Dr. Dyer, county analyst, produced his certificate to finding one-twentieth of a grain of arsenic, but, as a matter of fact, he found more than that quantity. It was less than one-tenth.

Mr. Withy, for the defence, said that his client sold the stuff as he purchased it. When the certificate of the County Analyst was received his clients wrote to their wholesale agents, who, in turn, communicated with the manufacturers in Vienna, and their answer was that there was no arsenic in the tartaric acid they sold. They added the characteristic sentence that "the English are finding arsenic in everything." He was unable to bring the manufacturers before the Court.

The Bench held they were bound to convict, but it was a case for a small penalty—10s. and costs.

Cream of Tartar: Alleged Breach of Warranty.

On Wednesday, June 22, 1904, at Bow County Court, before Judge Smyly, K.C., Messrs. Picken Bros., Limited, trading as chemists and grocers, and having shops in various London suburbs, brought an action to recover £50 damages for breach of warranty from Messrs. W. and C. Pantin, drysalters and wholesale provision merchants, of 147, Upper Thames Street, E.C. Mr. Davenport appeared for the plaintiffs, and Mr. Neil Pearson for the defendants.

Mr. Davenport said the action was brought to recover damages for breach of warranty in connection with a quantity of cream of tartar which the defendants sold to the plaintiffs. A sample was taken by an inspector under the Food and Drugs Act. It was then found that the sample was adulterated, and the result was that the plaintiffs were fined £10 and £7 0s. 6d. costs. That amount was now claimed, and there was also a claim for costs incurred in the case, including counsel's fee, amounting to £15 15s. The value of the remainder of the cream of tartar was also claimed, and the remainder of the £50 was made up in consequence of the loss which Messrs. Picken had incurred through the publicity given to the case.

After giving particulars of purchases by the plaintiffs from the defendants, Mr. Davenport said that the magistrates had stated they were fully persuaded that the plaintiffs had acted in good faith, and were not to blame.

Mr. Richard Harry White, manager to the Leytonstone branch of the defendant's firm, stated that during the summer of 1903 they were supplied with three packets of cream of tartar from the defendants. The last parcel they had was in June; this consisted of 28 lb., and it was from this parcel that the smaller packet was made up, and which led to the firm being summoned and fined.

Miss Beatrice Goodall, who had formerly been employed in the chemistry department at plaintiffs' Leytonstone branch, gave corroborative evidence.

Miss Annie Score stated that she was assistant in the drug department, and sold the substance to the child who came in on behalf of the inspector.

Mr. Lawrence Bryant, analytical chemist, said he made a qualitative analysis of a sample of cream of tartar supplied by the plaintiffs, and found it contained lead. He then asked for a larger sample, and found that it contained lead to the extent of 4·78 grains to the pound.

Dr. Bernard Dyer gave similar evidence.

Mr. Alexander Picken stated that in consequence of the reports which had appeared in the papers, the takings at the Leytonstone branch materially decreased.

For the defence, Mr. Samuel John Adkins said the cream of tartar came from two casks which they had purchased from a high-class firm. Nearly all of it was sold, and no other complaints had been received.

A warehouseman named Jones said he put up the parcel for Messrs. Picken. This parcel was marked differently to that of which the plaintiffs' witnesses had spoken.

Mr. T. Smith, analytical chemist, stated he examined a sample of cream of tartar supplied by the defendants, and found that it consisted of 98·09 per cent. of bi-tartrate of potash, and no lead.

On this evidence Mr. Pearson submitted that it was not Messrs. Pantin's cream of tartar which had been supplied to the food inspector.

His Honour said both parties appeared to have made out a good case, so he would look over his notes and give judgment another day.

Pharmacy Act, 1868.

Proceedings in London under Section 15.

On Wednesday, June 22, 1904, at Bloomsbury County Court, five unqualified assistants of Mr. R. J. Dodd, chemist, trading as Dodd's Drug Stores at several addresses in London, were proceeded against by the Pharmaceutical Society of Great Britain for having sold poisons contrary to the provisions of Section 15 of the Pharmacy Act. Mr. W. Flux, solicitor, appeared in person for the Society for the first time for many years.

R. T. O'Donoghue, 151, Euston Road, W.C., admitted having sold white precipitate on April 27. Edward Reynolds admitted having sold oxalic acid at 123, Judd Street, W.C., on April 27. These cases, being undefended, came before the Registrar of the Court, who made an order for payment of a penalty of £5 in each instance. The defendant Reynolds explained that he had sat for the Minor Examination four times, and had spent £140 in his attempts to become qualified.

W. Webb, otherwise Betts, the next defendant, did not appear, and the case was proved before Judge Bacon in his absence. George Steer gave evidence to the fact that he had purchased white precipitate from the defendant at 35, Hampstead Road on April 25, when he had also purchased camphorated oil, and that on April 29 he bought a bottle of eucalyptus oil and a mixture of laudanum and soap liniment. The Judge remarked that the purchase of an innocuous drug at the same time as the poison seemed to be a new course of procedure. In the numerous cases which had been before him in the past that course had not been adopted. He did not complain, however, and he knew that the Pharmaceutical Society did very good service to the State by taking these prosecutions. Mr. Flux having put in an admission from the defendant that the two articles complained of contained poison, his Honour imposed a penalty of £5 for each offence.

E. H. Eggar, otherwise Davis, was also summoned for two sales of poison at 70, Tottenham Court Road. The poisons in this case were Kay's Compound Essence of Linseed and a mixture of laudanum and soap liniment. A penalty of £5 was imposed in this case also for each offence.

W. Brown was summoned for selling paregoric elixir at 146, Edgware Road, W., on April 27. He admitted the sale, but asked for a mitigation of the penalty on the ground that he is registered as a chemist and druggist in Australia. Mr. Flux showed to the satisfaction of the Judge that the Australian qualification is no defence to an action in this country, whereupon defendant stated that in a very short time reciprocal relations would be established with the Colonies, and his qualification would be recognised. A penalty of £5 was imposed, to be paid forthwith. His Honour also allowed costs to the Society for solicitor and witnesses in each case.

Pharmacy Act, Ireland.

Prosecutions in Belfast.

On Thursday, June 16, 1904, in the Sessions Court of Belfast, before Mr. Garrett Nagle, R.M., and Mr. Charles McLornan, J.P., two summonses were heard at the suit of the Pharmaceutical Society of Ireland. Mr. Joseph Donnelly, solicitor, of Belfast, appeared for the Society, and Mr. A. I. Lewis, solicitor, of Belfast, appeared for the defendants.

The first summons was against Samuel Edgar Kee, of 83, Falls Road.

Mr. McGlennon, inspector for the Society, deposed that he visited the defendant's shop and got a medical prescription compounded there. He obtained the prescription at the Royal Victoria Hospital, where he complained of a very bad cold.

Mr. Lewis: You went to the hospital with a big red handkerchief round your neck? You coughed and sneezed, and then you used as a trap the prescription you had lured the hospital authorities into giving you? No reply.

No defence was offered, and

The magistrates fined the defendant £5, with 12s. 6d. costs, one-third of the fine to go to the Inspector and the balance to the Society.

Mr. Lewis: One-third to the informer.

Mr. Donnelly: I object to that expression being applied to the Inspector.

The next summons charged Mr. Richard Hobson, of 6, Marlborough Road, with a similar offence.

The Inspector deposed that on March 29 he went to the defendant's premises and handed in a prescription to be compounded. Mr. Hobson said it would be ready if he returned in twenty minutes. He came back after that time, and the medicine was handed to him by an assistant.

Mr. Lewis, on behalf of his client, pleaded guilty of a technical offence. Mr. Hobson was a young man who hoped to qualify as a pharmaceutical chemist next October. He did not, as a rule, compound prescriptions, having entered into an agreement in writing with a qualified person who was to attend to that part of the business.

The magistrates fined this defendant also £5, with costs.

Alleged Illegal Sale of Sheep Dip.

On Wednesday, June 15, 1904, at Collooney Petty Sessions, Co. Sligo, before Major O'Hara, Chairman, and three other magistrates, James Henry was charged on two summonses with having, at Knockadoo, Co. Sligo, on March 26 last, kept open shop for the sale of poisons without being qualified, and with having sold Bogg's Sheep-Dipping Composition, containing arsenic.

Sergeant Barrett, R.I.C., *ex-officio* inspector of weights and measures, said he had been instructed by the Council of the Pharmaceutical Society of Ireland to institute the prosecutions. Mr. Fitzgerald, solicitor, of Sligo, defended.

The Sergeant deposed to having purchased the dip from the defendant, and sent a sample of it for analysis to Professor Tichborne, of Dublin. He had the Professor's certificate.

Mr. Fitzgerald said the certificate was not evidence, and insisted on the attendance of the analyst.

Sergeant Barrett applied for an adjournment.

Mr. Fitzgerald said the case was a hard one against his client, and he would take advantage of every point of law. Every shopkeeper in the district sold this sheep-dip. It could not be deemed a poison, for nobody would buy it with the intention of poisoning. His client had been selling it for the last ten years, and had never got any notice that it was wrong to do so. He asked that the case should be dismissed on the merits.

The Bench dismissed the summons, allowing 10s. costs, as the dismissal was on a technical point.

Sergeant Barrett said the case would not end there.

Two summonses for like offences against a shopkeeper of Collooney were dismissed on the same ground.

Merchandise Marks Act.

Pepper.

On Thursday, June 16, at Liverpool, Charles Johnson, formerly a chemical manufacturer, was charged with having given a false trade description in respect of a keg of pepper sold to a Lancashire Co-operative Society. The pepper was largely adulterated with ground olive stones, a large quantity of which was found on the defendant's premises. He was sent to prison for three months.

Birmingham County Court.

Actions Against Chemists.

On Wednesday, June 22, 1904, at the Birmingham County Court, Messrs. Hudson Brothers, printers, Birmingham, were plaintiffs in two actions brought against chemists to recover damages for breach of contract. Both had reference to orders alleged to have been given in respect of an almanac which the plaintiffs publish annually. In the case of Richard Sidney Smith, pharmaceutical chemist, Hastings, evidence was given to show that in July, 1902, the plaintiffs' traveller obtained an order for 2,000 copies of the almanac, to be reduced to 1,000 if the defendant was unable to obtain a sufficient number of advertisements. This reservation he subsequently took advantage of. In the course of the negotiations defendant complained of the cover as shoddy, and the traveller showed him a superior cover, without saying anything about additional cost, and thereupon defendant gave an order for 1,000 copies. Later on he was supplied with a proof, accompanied by an intimation that the extra cost would be two guineas. This defendant at once repudiated. Nevertheless, the plaintiffs sent the copies with the thin cover in February instead of at Christmas, and Mr. Smith at once returned them, on the ground that he had not got what he contracted for. The plaintiffs claimed £9 19s. 2d. damages. His Honour found for the defendant.

In the case of Hudson Brothers *v.* Clear it was stated that the defendant, carrying on business at Belgrave Gate, Leicester, gave an order for 1,000 copies of the almanac, and sent an advertisement of about fourteen pages concerning his own preparations. The plaintiffs replied that they could not insert this matter without payment. Mr. Clear declined to pay, on the ground that the traveller had made no such stipulation. The order was eventually cancelled, but the almanacs were sent nevertheless. It then appeared that Mr. Clear's advertisement had not been inserted. The plaintiffs claimed £5 18s. 1d., and the judge awarded them £4, the damages sustained down to the time of the cancellation, holding that if the defendant had read the plaintiffs' circular he would have seen that he could not advertise his own preparations without payment.

POISONING CASES AND INQUESTS.

The deaths from poisoning reported during the seven days ended Wednesday, June 22, 1904, numbered ten, thus:—

Poison.	Accident.	Suicide.
Carbolic Acid	1	—
Caustic Soda	1	—
Chloroform	2	—
Hydrocyanic Acid	—	1
Laudanum	1	—
Lead	1	—
Opium	—	1
Potassium Cyanide	—	2
Total	6	4

Carbolic Acid.—A joiner at Morland drank a quantity of liquid carbolic acid from a properly labelled bottle. It was thought that he had mistaken the carbolic acid for a tonic.

Caustic Soda.—A man at Broughton died as the result of drinking a quantity of caustic soda from a jug, under the impression that it contained tea.

Chloroform.—A young woman died at the Yarmouth hospital when under chloroform given for a dental operation, and a child died at Lincoln County Hospital while under chloroform.

Hydrocyanic Acid.—A chemist at Freemantle, near Southampton, committed suicine by taking prussic acid. A medical man, who made a post-mortem examination, said that the deceased could not have lived many weeks in any case.

Laudanum.—A miner at Spennymoor died from an overdose of laudanum.

Lead.—A potter's dipper of Longton has died from the effects of lead poisoning.

Opium.—An assistant to a veterinary surgeon committed suicide at Chelsea by taking a quantity of opium.

Potassium Cyanide.—A student at Malvern College, who was under a threat of expulsion, committed suicide by taking potassium cyanide, which he obtained ostensibly for use in photography. A marine engineer at Liverpool committed suicide in a similar way.

VETERINARY NOTES.

BY "CENTAUR."

INFLAMED JOINTS—ARTHRITIS (2).

The most serious injuries to joints seldom attract sufficient attention at the time of their occurrence. They are more often in the nature of small punctures than gaping wounds, and not, perhaps, discharging at all. In the case of cattle, sheep, and pigs, a farmer may notice that an animal is a "bit crippleish," and trust to it "coming right" without interference, until he finds the creature hobbling on three legs, when he will take the trouble to examine it. Except in the case of milch cows, horned stock do not lend themselves readily to minute examination and easy handling, and the careless man is put off. It is otherwise with the horse, properly trained by grooming and handling from the time of breaking in, if intractable prior to that period. The close hair and the matted dirt also conceal small punctured wounds until a discharge escapes from them. Again, the seat of lameness is not always and easily discoverable to the critical eye and hand of the experienced veterinary surgeon, let alone the average man in charge of animals. The common causes of inflamed joints among animals at grass are kicks from their fellows or contact with hedge stakes, and occasionally from the intrusion of thorns.

Symptoms.

The symptoms of heat, pain, and lameness should always attract and receive attention or the death of the animal may follow. The bruised hock, from the heel of a horse's shoe, may lead to a slough, and the injured joint coverings presently give way, and escape of the joint oil follows. The lameness may be so comparatively slight at first that careless carters will put such a horse to work, and irreparable damage follows. The actual escape of oil is not so great a matter, for the synovial membranes can readily replace it, but the ingress of air, carrying germs which quickly set up a form of inflammation difficult to subdue and attended with a high degree of fever. A saffron-coloured discharge marks this change in the synovial fluid and intense pain. If a hind limb is affected, the animal quickly "tucks up" or loses that abdominal fulness essential to thriving and a prosperous condition. Although the front limbs sustain a greater proportion of the weight, this effect is not so marked when a corresponding amount of pain is suffered.

Early diagnosis then is of the utmost importance, and complete rest, with application of antiseptics to the injured tissues. To secure this anatomical and physiological rest for animal patients is one of the great difficulties of the veterinarian. His patient cannot be put to bed and frightened into obedience to the doctor's orders, lest a worse fate befall him. He must be restrained as best we can by confinement in a narrow stall, by the support of slings, or such other devices as may suit the species and the particular individual. Even well-disciplined horses will often excite themselves and refuse the assistance of slings, and with unbroken animals very little restraint can be exercised until pain establishes a mastery over the will. Many animals will then stand like posts upon the three sound limbs, while continuously moving up and down the limb that so much needs repose. A number of substances are employed in the effort to seal up the orifice from which the synovia escapes, for there is hope for the patient if this can once be affected, although he may have a stiff leg for the rest of his life. In the case of a brood mare, a cow, a bullock destined for the shambles, or the useful "gintleman that pays the rint," this will not be of such great importance as for the horse, whose mobility is interfered with. It is deemed good treatment to administer a dose of aloes sufficient to gently purge in the first instance, there being a disposition to constipation (resulting from the high temperature and want of movement), besides the cooling effect aperients may be expected to exert.

Treatment.

As outward application, a dusting powder of chinosol or iodoform, with five to ten parts of starch powder, may be advised. If the situation of the wound is such that it is possible to keep it bandaged there is a greater prospect of healing. Any form of splint that will control the movements may be used, and in the case of small animals cardboard softened with hot water and stiffened again with glue, being suitable for dogs and cats, sheep and pigs. These are disposed to destroy our splints with their teeth, but show more willingness to lie down. A badly injured horse will not lie down, because he fears he will not be able to rise again. He knows, and we know, that if he remains long prone he will die. This is not so with ruminants; they may remain on the ground for weeks, while days settle the question with equines. The veterinarian and his "blisters for everything" used to excite the ridicule of medical practitioners until a few years ago, when some advanced human surgeons found much advantage in imitation, using the firing iron as well as the blister for similar cases to those for which the illiterate old farriers had justified their practice by success. For open joint a blister often proves a valuable aid in closing the aperture. The *modus operandi* may be explained in causing a swelling of the skin and subjacent structures, as well as that much disputed action of drawing out the inflammation from a deep-seated to a superficial part of the body. Anyhow, it does so act.

When all other applications have failed, the writer has sometimes succeeded by painting frequently with a paste consisting of creta prep. rubbed down with sp. vini meth. and a little ol. caryoph., which latter is a powerful antiseptic as well as deodorant. If during the inflammatory stage the cartilages of the joint are not eroded, and anchylosis does not follow, the immense swelling (which is usual) will very gradually subside, and a useful horse for slow work may be a sufficient reward for long and patient treatment. A holiday at grass under the auspices of "Dr. Green" is advised for convalescents.

ASTHMA.

Asthma is rare in the horse, and often confused with a respiratory trouble known as broken wind. It is infrequent in cattle, but extremely common in old and pampered dogs. The last-named species often come under the cognisance of the chemist and druggist, who should be able to alleviate the trouble, and earn the lasting gratitude of those old ladies who form so large a proportion of our customers. The writer has known more than one happy recipient of legacies from the late owners of spoiled pets suffering from asthma. The actual pathological condition is summed up by Finlay Dunn as "dyspnœa depending on intermittent bronchial spasm," but the origin of the trouble must be sought in chronic digestive disturbance. It is not often observed in young dogs, but in the elderly and obese, whose exercise too often consists in no greater exertion than is entailed in a sanitary run in the back garden or the street, where the waste products are desiccated and inspired upon our own mucous membranes, or brought into our houses as mud on our boots or skirts of the ladies.

Symptoms.

These are generally so well declared that we have no trouble in diagnosis. The owner will describe the malady with even more detail than the mother of a teething baby, and, what is more to the point, be prepared to pay more for a remedy than the price of a proprietary powder. The short-winded, wheezing, snoring pet will have disturbed my lady's own slumbers, and further pained her by its inability to dispose of delicacies. The frequent soft, yet distressing, cough, the futile efforts at expectoration, the bloodshot eyes and restlessness render the canine subject of asthma a truly pitiable object.

Treatment.

The teething powder is not a bad preliminary dose, if it contain a grain of calomel, which will either make the dog sick or stimulate his torpid liver. We wish to do both, and to unload the distended abdomen, whose volume presses forward on the diaphragm and diminishes the chest capacity. An emetic of any sort will be found to relieve the more urgent symptoms, but should be followed by an aperient, unless we are convinced there is a lax condition of the bowels already.

It will nearly always be found that the subject of asthma is habitually constipated, because he will be an indulged dog, and this will imply the eating of small bones, as those of chops, poultry, and game.

The gelatinous portion is dissolved out, and the mineral accumulates in the terminal portion of the bowel, often forming a solid plug the whole length of the rectum, and incapable of expulsion by the ordinary contractions of the muscular layer of the gut, unassisted by the fixing of a more or less paralysed diaphragm. The practised hand will have little difficulty in feeling to what extent the bowels are loaded, and by pressure under the perineum we may often distinguish one of the phosphatic plugs previously alluded to. Unless we reduce the volume and pressure of the abdomen upon the heart and lungs our sedatives to follow will largely fail. If we have unloaded by vomition, by aperients or enemata, we may proceed to prescribe chloral, bromides, morphia, cannabis indica, or other direct narcotics and sedatives.

Doses.

In any attempt at constructing a posological table for animals, we are met with the difficulty of their great variation in breed, size, and susceptibility. In the matter of sedatives we must be guided more by the weight and development of the brain than by the gross body weight or size. A fowl weighing four pounds will take five grains of morphia without any apparent effect, but a lap-dog of the same weight, with highly developed faculties, should not be given more than a twelfth to an eighth of a grain. While opium and its preparations have all their good effects and none of their bad ones, on most animals it will be found, in cases of asthma, that chloral hydrate and the bromides of potassium and ammonium, alternately or together, have a more direct and lasting value, and would appear to act as expectorants, which opium does not. Little dogs under seven pounds in weight and of the intelligent pet varieties, may be given from one-quarter to one-half of a grain of chloral, and from two to six grains of bromide, combined with two to six drops of vin. antim. tart. in preference to ipecac. If the conjunctival membranes are injected, and there are other evidences of high temperature, a mixture containing from five to ten minims of liq. ammon. acet. will be advisable.

Heart Complications.

It is not to be wondered at that old dogs are subject to the same senile degenerative changes as their masters, for their high spirits when young lead them to excessive exertion and consequent dilatation of the heart, and in later life they are victims to over-indulgence. Besides, the rheumatic and gouty temperament so common to dogs naturally leads to valvular trouble and other heart defects.

Seldom is asthma chronic in the dog without dilated heart and intermittent contractions. As a matter of practice, this does not preclude us from the use of sedatives, but when we find an intermittent pulse and palpitation, or hear of fainting fits, we may with advantage prescribe small doses of tinct. digitalis or strophanthus; one to four drops for such small dogs as we have in view in these notes, or twice that amount for an old warrior or sporting dog with a rheumatic history.

Prevention.

Only the breeders of valuable pedigree dogs are likely to be influenced by our good advice—and they do not need it. What we can do is to advise such dieting as will check the progress of the disease, and prolong the life and comfort of the patient and his human companions. No baiting between meals should be allowed. Only two meals a day, and these not large or such as to give distension. Not soups and gravies, or the evil contents of the "stock pot" when cook has warmed it up so many times as to have grown tired of its appearance (without suspicion of ptomaines); not morning tea, which pet dogs look forward to as a pick-me-up or a social pleasure in the afternoon.

A small sop or soaked biscuit at 10 a.m. and a meat meal at 5 p.m. will afford all the nutriment required, and that without distension. Constipation should be guarded against by an occasional dose of oil, taken in the agreeable form of clearing up the last sardine or two of a tin with the oil in it. No sweets, unless it is a cascara tablet, or one or two of sulphur if of rheumatic tendency. Only plain water should be given as drink, and no encouragement to take much at a time. Exercise should be regular but not excessive, and the animal must not be allowed to lie in front of the fire. Pure but cold air is better than warm, if such can be equally pure.

A CRIME AND A MISDEMEANOUR.

To the older generation of chemists familiar with the uneducated men who practised as farriers, cow leeches, and "cutters," and—in common with the few qualified veterinary surgeons—called themselves by the latter title, it may come as a surprise to learn that the profession of animal doctor is so sensitive of its honour and so insistent upon the observance of etiquette, that at a recent meeting of the Registration Committee of the Royal College of Veterinary Surgeons it was decided to strike off the register the name of a practitioner who had descended to such depths of professional dishonour as to solicit the clients of another practitioner. It is as though the clergyman were unfrocked for using a single "swear word" when his favourite corn is trodden upon, or the solicitor struck off the rolls for asking for 13s. 4d. instead of 6s. 8d. The chemist and druggist may well rub his eyes and ask, Why has not the advance of pharmaceutical education brought a corresponding improvement in the status of the chemist? If a deserter may answer the question, I would say, "Because you have not supported your Pharmaceutical Society." But to return to the Registration Committee of the R.C.V.S. and its punishments for "conduct disgraceful from a professional point of view," we get, for the first time, something like a clear line drawn between a crime and a misdemeanour. The utmost penalty (disqualification) is the reward of touting for clients, as stated above. What, then, shall be done to the man who has been successfully prosecuted for starving animals placed in his care? A very bad case was next dealt with by the committee, which decided that a reprimand would suffice. The culprit was called forward like a naughty boy, and told that he had disgraced himself and his profession, after which he withdrew in silence, with downcast look and modest mien, no doubt with deep sympathy for his fellow sinner who had lost his membership for the crime of bad manners.

PATENTS AND TRADE MARKS.*

New Patent Applications.

MANUFACTURE OF SULPHURIC ANHYDRIDE (No. 12,419 of 1903).—W. P. Thompson, 6, Lord Street, Liverpool. (Communicated by G. Wischin, 38, Hohenzollernstrasse, Munich, Germany.) Relates to an improved contact process for manufacturing sulphuric anhydride or gases containing the same, which consists in exposing the contact mass to the action of a gas mixture containing sulphurous acid and air or oxygen in a contact space consisting of two sections successively traversed by the said mixture, the first section being exposed upon its surface to a cooling atmosphere, and being comparatively narrow, and a second section enveloped by the first, with or without the interposition of a comparatively narrow intervening space between. The second section is considerably larger than the first, and in this section the SO_2 that has been unconverted in the first is worked up. The object of making the first section surround the second is to attain contact spaces of uniform temperature and of such height of temperature as is necessary for working the contact process in its most favourable economical condition. Suitable apparatus for the purpose is shown and described. The apparatus is kept at work by the heat of the reaction, and the heat supplied by the pre-heated gases to be operated upon. To start the apparatus it is first necessary to heat the apparatus to a suitable degree.

Note.—Opposition to the grant of above Patent application must be filed at the Patent Office on or before August 2, 1904.

New Trade Mark Applications.

"**TYPOPHOR**" ("Typo" disclaimed), for chemical substances used in manufactures, photography, or philosophical research and anti-corrosives, by the Badische Anilin and Soda Fabrik, Friesenheimerstrasse, Ludwigshafen-on-Rhine, Germany. 263,304.

"**PURIFEX**" and device of two glasses ("Pure" disclaimed), for a chemical compound to prevent incrustation in vessels in which water is evaporated, by Seawater Purifying Syndicate, Limited, 52, Gracechurch Street, E.C. 260,562.

Device of Triangle within a Steering Wheel, for photographic plates and films, by the Rotary Photographic Co., Limited, 14, New Union Street, Moorfields, E.C. 263,064.

Device of Whippet's Head and words "Never Fail" (words disclaimed), for pills for dogs, by G. Whitbread, 200, Romford Road, Forest Gate. 262,386.

"**LIFEGUARD DISINFECTANT SOAP**" and device (words disclaimed), for disinfectant soap, by C. J. Davies, Cedar Holme, Wellington Square, Cheltenham. 263,413.

"**CREOSALGEN**" ("Creosol" disclaimed), for chemical substances used for agricultural, horticultural, veterinary, and sanitary purposes, by C. J. Hewlett and Son, 40-42, Charlotte Street, Great Eastern Street, E.C. 263,587.

"**PILDORAS DE BRANDRETH**," for pills for man, by the Allcock Manufacturing Company, 22, Hamilton Square, Birkenhead. 262,505.

"**KAVAMIN**" ("Kava" disclaimed), for chemical substances prepared for use in medicine and pharmacy, by I. Bernhardi, 21, Constantin Strasse, Leipzig, Germany. 263,134.

"**NORCON**," for chemical substances used in medicine and pharmacy, by E. W. Norris and J. B. Connell, 8, Dunsany Road, Shepherd's Bush, W. 263,246.

"**NEIGEINE**" ("Neige" disclaimed), for medicated skin powders, medicated lotions, medicated ointments, and medicated plasters, by H. W. Bainton, 19, Salisbury House, Holloway Road, London. 263,296.

Device of a Sweet Pea, for Perfumery, etc., by W. F. Charles, Baxter Gate, Loughborough. 263,091.

Note.—Opposition to the registration of any of the above-mentioned trade-marks must be filed at the Patent Office on or before July 22, 1904.

WESTERN AUSTRALIAN NOTES.

Registration was recently granted to Mr. R. W. Maxwell, pharmaceutical chemist (Ireland), upon payment of fees.

It has been resolved to present a silver medal annually to the candidate passing the best preliminary examination of the year, always provided that at least 75 per cent. of the total marks be gained.

Mr. E. Gilbert, a South Australian qualified chemist, has been granted a poisons licence at Katanning, there being no Western Australian registered chemist within the prescribed distance. Mr. Gilbert could not be registered, as at present there is no reciprocity with South Australia.

A case of materia medica specimens has been received from the Pharmaceutical Society of Great Britain, forwarded by Messrs. Evans, Lescher, and Webb. No list had arrived as to contents of case on May 11, and, as suitable retainers cannot be obtained in the Colony, they have been ordered from England. In the meantime the package must be kept closed to avoid damage by insects, which are so prolific in Western Australia.

At a meeting of the Pharmaceutical Council of Western Australia, held on May 11, the President said that upon behalf and at the request of the Pharmaceutical Society of Western Australia it gave him much pleasure to ask Mr. Ezra Parry to accept a small testimonial (gold pendant, suitably engraved) as an earnest of their appreciation of Mr. Parry's regular and consistent work as Treasurer of the Society since March 1, 1895. In responding, Mr. Parry thanked the members of the Society for this further proof of their appreciation. Whilst expressing his sorrow that circumstances did not permit of his retaining the office of Treasurer, still in other directions the members could rely upon him doing his best in all matters for the advancement of the Society and its best interests.

COMPANY INTELLIGENCE.

Byrne's Pharmacy, Limited.—Capital, £300, in £1 shares. Objects, to carry on the business of chemists, druggists, and opticians, and any other business usually carried on in connection therewith. Registered office, 46, Main Street, Ashlow, County Wicklow.

Norwegian Oil Company, Limited.—Capital, £10,000, in £1 shares. Object, to adopt an agreement with A. Johnson, W. R. Harrison, A. Robb, and W. S. Sharp for the acquisition of the business carried on by them as the Norwegian Cod-liver Oil Company, and to carry on the business of extractors, manufacturers, refiners, importers, and exporters of and dealers in oils, etc. Registered office, 21, Scale Lane, Hull.

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* These abridgments of new patent applications and particulars of new applications for trade marks have been specially compiled from official sources, for the *Pharmaceutical Journal*, by Mr. Reginald W. Barker, agent for procuring patents and registering trade marks and designs, 56, Ludgate Hill, London, E.C., from whom any information on the subjects may be obtained. Mr. Barker will also send copies of his 'Trade Mark Notes' and 'Patent Notes for Inventors' free on application.

MISCELLANEOUS NEWS.

Divisional Secretaries and other Members of the Pharmaceutical Society are requested to assist the Editor by sending local newspapers containing items of interest to chemists and druggists.

The Twenty-Second Annual Meeting of the Proprietary Association of America was held at the Grand Pacific Hotel, Chicago, during the first week of June, under the presidency of Mr. D. S. Chamberlain.

Fire.—Damage to the extent of about £300 was done by fire on Sunday at the premises of Messrs. Clayton, Holdroyd and Co., druggists and drysalters, of Longroyd Bridge, Huddersfield. The loss is covered by insurance.

Hackney Analyst's Report.—The Public Analyst of Hackney reported on Tuesday that the only samples of drugs he examined under the Sale of Food and Drugs Acts during the past quarter were three of cream of tartar. They were all genuine.

The Encouragement of Scientific Research.—A gift of £20,000 has been made by Mrs. Percy Sladen, of Northbrook Park, Devonshire, in memory of her late husband, some time Vice-President of the Linnean Society, as a fund for the promotion of research in natural science.

Saponification by Soluble Ferments.—According to a recent number of *Les Corps Gras Industriels*, a soluble ferment has been isolated from castor oil "cake" which is likely to be used commercially as a saponifying agent in the manufacture of soap. (See note at page 852.)

Veterinary Surgeons Act.—At Cullompton, on Monday, Wm. Rawle, farrier, of Bradninch, was proceeded against, at the instance of the Royal College of Veterinary Surgeons, for acting as a veterinary surgeon without being qualified.—Defendant was fined £10 and £2 2s. costs.

Patent Medicine Vendors' Association.—The annual meeting of this Association was held at Leeds on Wednesday, June 22. The usual abuse was levelled at the Pharmaceutical Society on the ground that the Pharmacy Bill seeks to prevent the dispensing of prescriptions by unqualified persons, which would be a hardship, in the opinion of members of the Patent Medicine Vendors' Association.

Drug Supplies to Stockton Hospital.—At the meeting of the General Committee of the Stockton and Thornaby Hospital, on June 15, it was moved that in future drugs and dressings should be obtained from local chemists by tender, as this course would effect a considerable saving. Mr. C. W. Littleboy considered it was essential that the drugs obtained should be of the first quality, and he would support the motion if it only referred to dressings. Eventually it was decided that drugs should be obtained in the usual way, but that tenders for dressings should be obtained from local chemists.

The Gum Bichromate Process.—The Secretary of the Royal Photographic Society intimates that Monsieur Robert Demachy, of Paris, has consented to give a second exhibition of prints by the gum bichromate process. The exhibition was opened at 66, Russell Square on Wednesday, June 22, and the public is admitted, as usual, on presentation of address card between the hours of 11 a.m. and 7 p.m. It is hoped that the prints may be retained until about the middle of July. Everybody interested in the gum process and in pictorial photography is invited to view the exhibition, which will include some sixty examples almost—if not entirely—new to this country.

Edinburgh Chemists' Golf Club.—The third competition this year for the Gibson Handicap Medal was played over the Braids on Wednesday, the 15th inst., with the following result:—1, Mr. A. McCutcheon, 108 – 27 = 81. Mr. Jas. Finlay, 89 – 5 = 84; Mr. W. M. Manson, 90 – 6 = 84, tie for second and third places. Mr. Geo. Robertson, 95 – 7 = 88; Mr. D. N. Wylie, 98 – 10 = 88; Mr. Geo. Lunan, 100 – 12 = 88, tie for fourth place. The "Hole and Hole" Tournament for the "Connell Smith" Putter, which began in April, has now reached the final stage. The finalists are Messrs. Jas. Finlay and W. M. Manson. The "Bogey" Competition for the medal presented by Mr. David Brown will be played on Thursday, the 23rd inst., when a large turn-out is expected.

Funeral of Mr. Elias Bremridge.—At Norbiton Station, on Saturday, June 18, a number of pharmacists and old friends of the late Elias Bremridge assembled to pay him their last respects and to follow his remains to Kingston Cemetery. Mr. Richard Bremridge, the chief mourner, was supported by two grandsons of the deceased, also by Mr. C. B. Allen, Mr. Alfred Higgs, J.P., and several members of the Council of the Pharmaceutical Society, including the President (Mr. R. A. Robinson), Treasurer (Mr. Walter Hills), and Messrs. Cooper, Glyn-Jones, and Wootton. The office staff at No. 17, Bloomsbury Square was represented by Messrs. Jones and Moon, while the Society's Librarian (Mr. Knapman) also attended, and the Editor (Mr. John Humphrey) represented the Journal staff. No invitations to the funeral had been issued, but it was in the presence of a fully representative company that the coffin of the Pharmaceutical Society's ex-Secretary was lowered to its resting-place.

Cricket.—A match was played on the County Ground Leicester, in connection with the Leicester and Leicestershire Chemists' Association, between principals and assistants. The principals won the toss and batted first, making 84. The assistants made 72. After the match over seventy chemists and their friends sat down to tea in the new Pavilion. The great success of the gathering was due to the efforts of Messrs. Marfitt and Cleaver, who acted as sub-committee and made all the arrangements, which proved most satisfactory. Mr. W. Thirlby, President of the Association, welcomed the company in a neat speech, and hoped it would not be the last occasion on which they would meet under similar conditions.——Notts Chemists *v.* St. John's.—In this match, played on the Forest, the chemists showed improved form. Winning the toss, the chemists took first innings on a good wicket, and compiled 151 (H. C. Prince, 45; P. C. Cartledge, 27; A. H. Boggis, 17). St. John's succeeded in playing out time, having scored 109 for the loss of six wickets, an even game thus resulting in a draw.

A Day at Brighton.—On Saturday of last week the employees of Messrs. Potter and Clarke visited Brighton on the occasion of their twenty-first annual excursion, and, being favoured with fine weather, a very pleasant day was spent. Mr. R. C. Wren presided at a dinner held at the Unicorn Hotel, to which seventy-seven sat down, and, in replying to the toast of "The Firm" (proposed by Mr. C. N. Turner), Mr. Wren said that he always enjoyed these outings, and quite looked forward to spending at least one day a year in such gatherings, because they helped so much to a better understanding of one another. Greetings were received from Alderman H. Potter and from Alderman Goddard Clarke, L.C.C., who telegraphed from Plymouth. The afternoon was occupied in driving to Shoreham and back, for which purpose the Committee had chartered four large brakes, leaving the hotel at 2.45 and returning for tea at 5.30. The party arrived at London Bridge about ten o'clock, after having spent, according to general consent, one of the most enjoyable outings of the series.

Physiotype.—The *Journal of the Society of Arts* records a new method of obtaining printed impressions from animal or vegetable life. The subject to be reproduced is placed on a sheet of paper and pressure applied; this leaves a hidden design on the paper, strong or light, according to the amount of natural oils or moisture contained in the subject. This design is then developed by the aid of a coloured powder, which is dusted over the impression; this brings the complete print into view in a strong permanent colour. If necessary, the impressions can be made and remain undeveloped for a considerable time—three months have elapsed between printing and developing some of the work done by the inventor. The process is specially adapted for finger-printing, as it is no longer necessary to blacken the fingers with pigments. Pending the publication of the inventor's patent specification, full details cannot be published, but it may be stated that prints can be made on any ordinary paper, though the best results are obtained on the paper prepared for the purpose. The whole process is a speedy one, and takes less than a minute to make an impression and develop the print.

Pharmacy Reform in Germany.—It is understood that any legislative proposal regarding pharmaceutical reforms in Prussia will be brought under the notice of the apothecary chambers or official State representatives before being introduced in the Diet. As to the prospect of early legislative action, contradictory reports are in circulation. On the one hand it is stated that a Bill is in preparation, and has made such progress as to render it possible for the scheme to be placed before the apothecary chambers in the course of the present year. The labours in connection with the elaboration of a new Prussian pharmacy law have extended over several years. It was originally intended to provide uniform legislation for the whole of Germany, and various schemes were prepared for this purpose. After years of endeavours, the conclusion was arrived at that the difficulties of regulating the pharmaceutical business in the individual States were too great to allow Imperial legislation being carried into effect. The responsible Prussian authorities thereupon set to work upon a scheme for Prussia, and the discussions and considerations in this respect also commenced a long time ago.

The First American "Cutter."—According to an American contemporary, the first druggist to start cutting in the States was an Englishman named T. W. Dyott. His name appears in the Philadelphia directory for 1807 as the proprietor of a "patent medicine warehouse" at 57, South Second Street. Two years later he removed to 116, North Second Street, at the same time changing the name of his establishment to "Medical Dispensary and Proprietor of Robertson's Family Medicines." The following year, 1810, the title M.D. appears after his name, and in 1811 he moved once more, this time to the north-east corner of Second and Race Streets. Here he remained for a number of years and plied his trade as a dealer in drugs, chemicals, colours, and glass, and also as manufacturer of a long line of proprietary or patent medicines. He was a great advertiser, and announced to the public that he was the grandson of the celebrated Dr. Robertson, of Edinburgh, and that medicines could be obtained cheaper at his shop than elsewhere. Owing to a bank failure, Dr. Dyott came to grief, and at a later date was sentenced to three years' imprisonment in a penitentiary for fraud; before the expiration of his sentence, however, he was pardoned.

East Stirlingshire Medical and Pharmaceutical Bowling Association.—Last year a number of the medical practitioners and chemists in Falkirk and the surrounding districts engaged in a bowling competition for prizes kindly given by Mr. Wm. Greig, Glasgow. The wish was then expressed that the meeting might be an annual one. That wish is about to be gratified, for on Tuesday, the 21st inst., a meeting was held at Falkirk, when it was unanimously resolved to form an association, to be called the Eastern District of Stirlingshire Medical and Pharmaceutical Bowling Association. Mr. James MacNiven, chemist, Grahamston, an enthusiastic bowler (who is President this year of the Grahamston Bowling Club), presided over a representative gathering. The following were appointed office-bearers of the new Association:—Hon. Presidents, Mr. Wm. Greig, Glasgow, and Mr. Jas. Baxter, chemist, Grangemouth; President, Dr. Smith, Falkirk; Vice-President, Mr. Jas. MacNiven, chemist, Grahamston; Secretary and Treasurer, Mr. John W. Bennie, chemist, Polmont Station; Committee, Dr. Stewart, Grahamston; Dr. McCracken, Grahamston; Mr. Robt. Sinclair, chemist, Falkirk; and Mr. Andrew Forrester, chemist, Falkirk. A meeting will be held next week for the purpose of making the draw for the competition.

Chemist's Action Against Edinburgh Opticians.—In Edinburgh Sheriff Court, on June 16, proof was led before Sheriff Guy in an action at the instance of John Carmichael, chemist, 71, High Street, Leslie, against Fraser and Elrick, opticians and photographic dealers, 93, North Hanover Street. The pursuer sought payment of £100 as compensation for the loss he had sustained through the failure of the defenders to fully carry out a contract they had with him. On January 2 last the pursuer had engaged to give two concerts in Leslie, one in the afternoon and one in the evening, and at those concerts a cinematograph entertainment provided by the defenders was to be the chief attraction. Between four and five hundred persons assembled in the Town Hall at the afternoon concert. When the defenders' operator arrived with his machine he found that he had left an important part of the instrument in Edinburgh, and an attempt to work the cinematograph failed. The audience thereupon rose and left the hall, apparently displeased at the failure of the cinematograph. As a result of that occurrence the evening concert suffered considerably, the attendance being very small. The defenders stated that the operator did throw several views on the screen at frequent intervals during the performance in the afternoon, when the arm of the machine accidentally fell off. The pursuer instructed the operator not to proceed with its adjustment, as the people were beginning to leave the hall. The defenders also contended that they were not responsible for the small attendance at the evening concert.

SCHOOL AND COLLEGE NEWS.

Nottingham School of Pharmacy.—Mr. S. Royce, pharmaceutical chemist, lately lecturer and demonstrator at the London College of Pharmacy, announces that he has taken the premises formerly occupied by the late Mr. A. R. Bennet, and that the school is now open for pharmaceutical students. Evening classes will commence on Monday, June 27, and a full time course will begin next September. The address of the School is Carlton Chambers, 13, Victoria Street, Nottingham.

Westminster College of Chemistry and Pharmacy.—On Thursday, June 16, the students of this college had their last botanical excursion of the season to Kew. The party left the Bank Station at one o'clock, and, after spending about three hours in the gardens, the students adjourned to the Rose and Crown Hotel, where a substantial tea was provided by the principal, Mr. G. S. V. Wills. During the evening a smoking concert was held, in which a number of old pupils took part. The usual toasts, good wishes, etc., were exchanged, and the party returned to town about nine o'clock.

Cricket.—Metropolitan College v. Walham Green Wesleyan Church C.C.—This match was played on the ground of the latter at New South Park, Fulham, on Saturday, June 18. The "Metros" batted first and opened well, Palmer and Tomlinson adding 32 for the first wicket. Later, a stand by Trick and Lucas added 27, the side being eventually out for 93. The Walham Green team found too difficult a task set them, and, in spite of a well-played innings of 30 by Holloway, they were all out for 50, and the "Metros" were left the victors by 43. Palmer, for the "Metros," again bowled with great success, taking seven wickets for 14 runs.

North of England School of Chemistry and Pharmacy.—The students of this school, accompanied by the Principal, Mr. F. R. Dudderidge, held their annual outing to Morpeth on Saturday. During the forenoon Mitford was visited, and in the afternoon the Chapel Woods were explored. Many botanical specimens were collected and described during the ramble. "Mine Host" of the Earl Grey Hotel catered in his usual style for the party. After tea Mr. Dudderidge announced that at the new term he was to be joined in partnership by Mr. John G. Murdoch, Ph.C., his assistant during the last two years, and Mr. Murdoch suitably responded to the congratulations and good wishes expressed by the party.

TRADE NOTES.

P.A.T.A. List Additions.—The most recent of these are W. Martindale's preparations, a series of articles bearing the generic name of Dulsoline, manufactured by Berkeley and Pilling, Boinine, Vibrona, and a cough syrup made by Mr. P. H. Galloway.

Messrs. W. Butcher and Sons, Camera House, Farringdon Avenue, E.C., one of the most enterprising of photographic houses, have several interesting features in connection with their business. The firm will be pleased to lend electros to any of their customers who need them for their own catalogues at a nominal charge, which is credited when the electros are returned. In order to help dealers in this connection, Messrs. Butcher and Sons issue a list with a series of six different covers, upon which the name and address of the dealer appears. The list contains 128 pages, is profusely illustrated, and the cost is quite nominal. Above all, the dealer is saved the worry and trouble of bringing out a list himself. "The King's Bounty" is a competition open to dealers and their travellers and assistants only. An offer of one guinea is made every month for the most curious or interesting picture taken with the King of Guinea Cameras. The "Coxin" Competition, which is open until October 31 next, is attracting a good deal of attention. No less than sixty-eight valuable prizes are offered, and the competition should result in making the "Coxin" system of daylight developing of plates and films very widely known. The "Camera House Journal," a monthly chat with the trade, is an excellent idea, enabling the dealer to keep well abreast of the times. Changes and improvements in photographic apparatus and processes are now so rapid that a frequent medium of communication is necessary. The No. 1 focal plane extension camera with anastigmat lens is a light and compact little camera, and will make a good selling line, as also the new Cameo Roll-holder, which can be fitted to any camera, and which holds spools $3\frac{1}{4} \times 4\frac{1}{2}$.

PERSONALITIES, BUSINESS CHANGES, &c.

Mr. Herbert Jenkins, M.P.S., has been elected a Fellow of the Chemical Society.

Mr. Thomas W. Hazelby, chemist, is leaving Southampton to start in business at Hungerford.

Mr. E. M. Holmes is still confined to his bed, but is making good progress towards recovery after his recent illness.

Mr. J. E. Matthew, chemist and druggist, has been nominated to fill a casual vacancy that has occurred on Hoyland Urban District Council.

Mr. G. W. Bernini-Palmer, M.P.S., of Princetown, S. Devon, was on June 15, 1904, elected a Fellow of the Royal Meteorological Society.

Mr. David Jennion, chemical manufacturer, of Winmarleigh Street, Warrington, has been placed on the Commission of the Peace for the borough.

Messrs. C. J. Hewlett and Son, 35-42, Charlotte Street, E.C., ask us to state that their establishment will be closed on Saturday (this week), June 25, for the annual outing of the staff.

Mr. D. F. MacDonald, M.P.S., Edinburgh, has taken the premises 25, Raeburn Place, where he will personally conduct a dispensing business, leaving his present shop at 29, London Road under able management.

Mr. R. W. Hogg, M.P.S., Newcastle-on-Tyne, has purchased the business of Mr. Matthew Bell, chemist and druggist, Gateshead, who has relinquished the drug trade to enter the ministry of the Episcopal Church.

Mr. F. H. Glew, of Clapham Road, whose name will be familiar to readers in connection with "Radium" experiments, has invented a pitchblende scintilloscope, a little contrivance which is about a thousand times more sensitive than the spinthariscope. The instrument will shortly be on the market at the price of 7s. 6d.

Dr. A. P. Luff has resigned his appointment as Scientific Analyst to the Home Office, owing to the increasing demands of his consulting practice. The Council of the Royal College of Surgeons has approved of the recommendation, by its President, of Dr. William Henry Willcox, of St. Mary's Hospital, to succeed Dr. Luff as Official Analyst to the Home Office.

Mr. A. N. Palmer, of Wrexham, author of "The Early Landed System of North Wales," and other valuable topographical works, has been recommended by the First Lord of the Treasury for a grant of £50 per annum from the Civil List, in acknowledgment of his eminent contributions to Welsh history and archæology. Mr. A. N. Palmer, pharmaceutical chemist, Wrexham, was Junior Bell Scholar of the Pharmaceutical Society in 1867, and took a medal for chemistry and pharmacy at the School of Pharmacy in the following year.

Miss Margaret I. Bedell has been appointed dispenser to the Seamen's Hospital Society's Branch Hospital in the Royal Victoria and Albert Docks, to which is attached the London School of Tropical Medicine. Miss Bedell was trained at the Pharmaceutical Society's School of Pharmacy, Bloomsbury Square, and has passed both the Minor and Major Examinations of that Society. She also holds the dispenser's qualification of the Apothecaries' Hall. Miss Bedell was formerly dispenser at the Victoria Eye and Ear Hospital, Herefordshire.

NOTES IN PARLIAMENT.

Methylated Spirit Duties.

In the House of Commons, on Monday last, Mr. Brand asked the Chancellor of the Exchequer if methylated spirit, when imported from our Colonies, paid a duty of 11s. 4d. per proof gallon, whilst methylated spirit produced at home paid no duty but received a drawback of 4d. per proof gallon; and, if so, whether any alteration would be proposed in regard to these duties. Mr. A. Chamberlain replied to the effect that if methylated spirit were imported from the Colonies it would pay a duty of 11s. 5d. per gallon; but, as a matter of fact, there is none imported. Spirits used for methylation in this country are taken out of bond, duty-free, and no allowance is given except in case of exportation, when an allowance of 3d. per gallon on the quantity of spirits methylated is given in respect of the Excise restrictions on the manufacture of spirit.

Postal Orders for the Empire.

Lord Stanley, answering a question of Colonel Lockwood's, has stated that proposals for facilitating the remittance of money throughout the Empire by means of British postal orders were made to all the Colonies and Dependencies in August last. Those proposals had been already accepted in the case of twenty-six Colonial Administrations, and the services would be established very shortly. There was reason to hope that notification of additional adhesions would be received before long. As matters stood at present British postal orders were procurable for remittance to this country in India, New Zealand, Sierra Leone, Malta, Gibraltar, Straits Settlements, Hong Kong, British Guiana, Newfoundland, and at the British Post Office Agencies at Ascension, Constantinople, Smyrna, Salonica, and Panama; and they could be remitted for payment in New Zealand, Sierra Leone, Malta, Gibraltar, and at the British Post Office Agencies abroad. He fully recognised the advantages of an arrangement which would simplify the remittance of small sums of money by post, not only between the United Kingdom and the Colonies, but from any one part of the Empire to another; and, so far as the Imperial Post Office was concerned, every effort would be made to render possible the general adoption of the system.

Cash on Delivery.

Lord Stanley, Postmaster-General, has informed Mr. Runciman, M.P., that the question of the introduction of a postal "cash on delivery" system is still under consideration, and he is not yet in a position to say when circumstances will admit of a decision.

PARIS NEWS.

Galen Club Meeting.—As general pharmaceutical gossip has for the most part hitherto characterised the meetings of this club, a very welcome departure was inaugurated by one of its members—Mr. C. H. Le Bosquet—at last Saturday's meeting. Among other objects of the club, one is the reading of papers, etc., which its members are invited to prepare. The honour of being the first to fulfil this duty has fallen to the above-mentioned gentleman, whose subject was "The Royal Army Medical Corps." The experiences of a *confrère*, as contributed in a recent issue of the Journal, may possibly have suggested the choice of this subject. It is many years ago since Mr. Le Bosquet joined this useful but much-maligned corps, still the memory of that time is yet very fresh in his mind, and Galenites were treated to a recital of his personal experiences, interspersed with abundant humorous anecdotes, which highly amused his listeners. The paper was extremely interesting, which may be judged from the fact that, though it lasted a trifle over an hour, his hearers could have continued listening all night. At the conclusion the President, Mr. G. A. Ashton, proposed a vote of thanks to Mr. Le Bosquet, which Mr. Lewis seconded, and all the members heartily accorded. At the opening proceedings Messrs. Muston and Ross were elected new members, which proves that the Galen Club is gradually growing in strength.

BANKRUPTCY INTELLIGENCE.

Re **Edward Owen,** Pharmaceutical Chemist, Newtown.

At the Newtown County Court, before Judge William Evans, Mr. J. T. C. Gittins made an application for the approval of a scheme of composition in bankruptcy in the case of Edward Owen, chemist, Newtown. The composition offered was 7s. 6d. in the pound, payable in three months. The amount required to pay the composition (including the expenses) would be £210 or £220, and he estimated the assets to realise £237. The estimates of the realisations were made without any allowance for accidents. There was very little difference therefore between the composition and the amount estimated to be realised under adjudication. The composition would be secured.—The Judge said he thought he should be acting in the best interest of the creditors if he approved of the scheme. The margin was so small that there was no appreciable difference between the composition and the amount expected to be realised under adjudication. The application would be granted.

Re **James Kiddle,** Chemist and Druggist, Bishopston.

The affairs of this debtor, who lately carried on business as chemist at 68, Gloucester Road, Bishopston, were recently under consideration at the Bristol Bankruptcy Court. Mr. Henry C. Anstey appeared for the debtor. Gross liabilities were £333 7s., of which £221 1s. 7d. were expected to rank for dividend. The deficiency was £126 7s. The Official Receiver, in his comments on the case, explained that the debtor commenced business in Gloucester Road in 1886, with a capital of about £60, and attributed his insolvency to keen competition. A distress for rent and taxes, prior to the commencement of the bankruptcy, had not produced sufficient to cover the amount demanded, and there was nothing available for division among the creditors.

Re **William Newton,** Analytical Chemist, London.

The debtor, who stated that he was carrying on business in partnership with another person as analytical chemists and mining engineers, was described as of 39, Mincing Lane. Under the receiving order made against him upon the petition of Mr. John Woodhouse, solicitor, Bank Chambers, Ludgate Hill, the first meeting of creditors was now held before Mr. G. W. Chapman, official receiver. A statement of affairs was filed showing liabilities £1,243 10s. 7d. and assets nil. He attributed his failure to a judgment for £100 having been recovered against him in an action for libel brought by the petitioning creditor and to business losses. There was no proposal before the meeting, and the matter remained in the hands of the Official Receiver, the public examination being appointed for July 22.

LONDON GAZETTE NOTICES.

Adjudication.

Thomas, Thomas Henry, late Birmingham, chemist and druggist.

MARKET REPORT.

The quotations given below are the lowest prompt cash prices for bulk quantities, to which other charges have to be added. It is important that this should be borne in mind in making any comparison between the prices quoted and those of the wholesale drug trade.

The Drug Sales.

London, Thursday, June 23, 1904.

The auctions held to-day may be fitly described as unimportant. The offerings were on a much smaller scale than usual, and the sales terminated shortly after noon. Only new goods were put up, and the catalogues numbered eleven. The demand, generally speaking, was very slow, and a feature of the sales was the number of lots offered without reserve. Perhaps the five most interesting items catalogued were Menthol, Camphor, Peppermint Oil, Ipecacuanha, and Cascara Sagrada, for the reason that the market for these articles has latterly been in a more or less uncertain condition. Thirty-eight cases of various brands of Menthol were offered without reserve, and all these were knocked down at lower rates than those recently obtained privately. Three cases of Kobayashi were disposed of at 13s. 6d. per lb.; twenty cases of Suzuki sold at irregular prices, varying from 11s. to 12s. 9d.; ten cases of Yazawa at 12s. 6d. to 13s. 3d., and five cases of Chujo at 11s. 6d. The offerings of Camphor consisted of eleven cases of Japanese refined, and the values were about steady as compared with last sales. Five cases of ½ oz. tablets sold, without reserve, at 2s. 2d. per lb., and 3 cases of 1 oz. tablets were disposed of before the sales. Five cases of H. G. Hotchkiss' Peppermint Oil sold, without reserve, at 14s. 3d. per lb., at which price a few small sales have recently been made privately. It is doubtful, however, whether much more could be had at this price, as from reports received from the other side the market is tending higher. Five cases of Japanese dementholised Kobayashi also offered without reserve sold at 5s. 2d. and 5s. 3d. Ipecacuanha was in good supply and fair demand; 17 bales of bulked and sifted Johore were disposed of at 4s. 6d. One bale of Mattogrosso found a buyer, but the rest were firmly held at 4s. 9d. 9 bales of Minas sold at 4s. 5d. and 4s. 6d. These prices are substantially the same as those paid at the last auctions. The offerings of Cascara Sagrada consisted of 100 bags of new crop, and were held at 65s. Cardamoms were not in demand, and only a few lots sold at steady rates. The senna offerings were unimportant, consisting only of 8 bales of Tinnevelly, which found buyers at 3d. for fair medium leaf and 2d. for small to medium; there is a good demand for small senna, but practically none to be had. A quantity of Aloes were sold for account of the underwriters, and for the most part these were in by no means good condition—hence the low prices, 11s. to 32s. being obtained for Zanzibar, according to quality. Cape was firmly held at 42s. for hard bright. For Gamboge £13 5s. was paid for ricey Saigon pipe, while good fair slightly blocky Singapore was held for £15. Honey was in fair supply, and a good proportion sold "according to quality" at previous rates. For Buchu leaves 7½d. was paid for small green, and 7d. and 7¼d. for yellowish green round. Coca leaves sold at 1s. 1d. and 1s. 2d. for good green Ceylons, 10d. for brown green; broken green Truxillo were held for 1s. Senega was held for 2s. 6d., a bid of 2s. 2d. being refused. The price reported from New York and Germany, by the way, is 2s. 8d. and 2s. 9d. 20 bags Liquorice Root, rough decorticated Serin, found a buyer at 14s. A limit of 11s. 6d. per lb. was put on five cases of sound Persian Opium; 1 case of slightly damaged sold at 8s. 6d., a case of badly to very badly damaged at 6s. 3d., and three cases of very bad at 5s. 9d. 4 cases of Gum Kino sold at 3d. for good bright Cochin grain. 2 cases of round Canton Rhubarb were disposed of at 1s. 3d. Six bags of good bold East Indian Kola Nuts sold at 5d. "subject," while small shrivelled green were held for 4½d. Wax, which was in very fair demand, sold at previous rates.

General Markets.

The markets in Drugs and Chemicals continue very dull. Fluctuations are few and transactions have been unimportant. Citric Acid is slightly dearer and in good demand. Zanzibar Cloves are easier, Menthol is lower, Camphor is *in statu quo antea;* while Quinine, in common with most other things, is miserably flat, and, of course, the by no means moderate bark shipments from Java for the first half of the month have not tended to strengthen the market.

ARROWROOT—Was slow of sale on Wednesday. Out of 203 packages of St. Vincent offered only 5 found buyers at 1⅝d. for good manufacturing.

BORACIC ACID.—Crystals, £1 2s. 6d.; powder, £1 4s. 6d.

BROMIDES.—The official quotations for English B.P. are: Potassium, 1s. 10½d. for 10 cwt. lots; Sodium, 2s. 1½d.; and Ammonium, 2s. 2½d. in 1 cwt. lots.

CAMPHOR.—English refined is uncertain, and no prices can be quoted. For Japanese refined, *vide* sales.

CARBOLIC ACID.—Crystals, 39-40°, 6¾d.

CASCARA SAGRADA.—The position is practically unchanged, and prices remain as last quoted. The offerings of new crop were held for 65s. at to-day's auctions.

CASTOR OIL.—Belgian 1sts, £19 15s.

CHLOROFORM.—1s. 7d. to 1s. 9d. for B.P.

CITRIC ACID—Firmer at 1s. 0½d. per lb.

CLOVES.—Twenty bales of Zanzibar were offered at the spice sales and bought in at 8¼d. Eight cases Penang sold at 8¾d. for fair dark picked. Privately, Zanzibar are quiet and easier since last week.

CLOVE OIL.—5s. to 5s. 3d. for B.P.

COCAINE—Firm at 12s. 8d. to 13s. 3d. per oz. for the Hydrocloride, according to quantity.

CODEINE.—8s. 4d. per oz. for the pure alkaloid.

CREAM OF TARTAR.—98 per cent. foreign powder, 86s.

GINGER.—At the spice sales Calicut and Cochin sold at rather easier rates for cut kinds; good bold, rough descriptions were steady. About a third of the offerings of Japan sold at steady to full rates.

GLYCERIN.—1·260 chemically pure, in tins and cases, is quoted 67s. to 69s. 6d. per cwt., according to quantity, the lower figure being for 5 ton lots.

IODIDES—Unaltered. Sodium Iodide, 11s. 10d. to 12s. 1d.; Potassium Iodide, 10s. 3d. to 10s. 9d.

ISINGLASS.—At the auctions held on Tuesday, larger supplies were offered, comprising a total of 887 packages against 636 packages at the previous sales. An improved demand was noticeable, and about one-third found buyers. Brazil imports were larger; Para and Maranham sold with fair competition at steady rates. Rio Grande purse was all bought in. West Indian met a good demand at 1d. decline for lump, purse being steady. Maracaibo was steady, and rather more sold than usual at full prices. Penang met a good demand, and most of it found buyers; the better qualities of leaf were bought in, other kinds being firm. Tongue was disposed of at very firm rates.

LINSEED OIL.—London spot pipes are quoted fifteen guineas and barrels £16 5s. The market is firmer.

MACE.—All varieties were quiet at Wednesday's sales.

MENTHOL.—*Vide* sales.

MERCURIALS.—Calomel, 2s. 7d.; Corrosive Sublimate, 2s. 3d.; Red Precipitate, 2s. 10d.; White Precipitate, 2s. 10½d.; Mercuric Sulphate, 2s. 3d.

MORPHINE.—Muriate (powder), 4s. 3d.; crystal, 4s. 5d.; Pure Alkaloid, 5s. 4d.; Acetate, 4s. 3d.

NUTMEGS—Sold at steady rates for West Indian at the spice sales on Wednesday.

OPIUM.—There is no further news of importance from Smyrna.

PEPPER—Sold at rather lower prices on Wednesday, and rates are also easier privately, and the market is dull.

PIMENTO—Was not offered in the Spice sales on Wednesday, and privately the market is quiet.

QUININE.—The market is very quiet. It is stated that weak holders are seeking buyers at 11⅛d., 11d., and perhaps even 10⅞d. for B&S, and for Brunswick Sulphate for 1,000-oz. lots for immediate delivery.

SANTONIN.—26s. to 27s. 3d. per lb., the lower price being for 2 cwts. in one delivery.

SHELLAC.—The spot market is quiet; futures are dearer.

TURPENTINE—Is a quiet market. American spot, 41s. 4½d. to 41s. 6d.

CHEMICALS FROM BORDEAUX.—The following table shows the quantities of several important chemical products exported from Bordeaux to the United Kingdom in 1902 and 1903:—

Articles.	1902.	1903.
	Cwts.	Cwts.
Kermes (mineral)	256	—
Crude tartar	8,945	5,094
Tartar crystals	59	—
Cream of tartar	41,518	41,244

THE UNITED STATES GOVERNMENT ENCOURAGES THE CULTIVATION OF DRUGS.—The United States Department of Agriculture, so it is reported, has under consideration the cultivation of drugs. An official bulletin is to be distributed among the farmers with a view to teaching them how to grow medicinal plants. An experimental garden has been selected near Washington. Aconite, cannabis indica, digitalis, belladonna, arnica, henbane, valerian, senega, golden seal, serpentaria, and stramonium are among the drugs that are to be cultivated.

PEPPERMINT PROSPECTS.—The American market for oil of peppermint is in a very firm position at present, and will probably continue to be so for some time, due to the advices of unfavourable crop conditions from the producing districts, notwithstanding the fact that numerous reports have freely circulated in the trade of late to the contrary. Owing to the backward spring and unseasonable weather (says the *O. P. and D. Reporter*) the planting of the new crop took place almost a month later this year than in years heretofore, and the acreage, both in Wayne County, N.Y., and the West is small in consequence. Based on these conditions, it is estimated that the new crop in Wayne County will be about the same as last year, while that of the West will not exceed the amount produced there in 1903. Last year at this season there were 100,000 pounds of oil in stock, while at present writing there is no oil left in the growers' hands in the West, and but little held in New York. The average crop of peppermint oil in the United States is estimated at 200,000 pounds, of which about 10 per cent. comes from Wayne County, N.Y., and the remainder from Van Buren County, Wayne County, the Kalamazoo region of Michigan, and various other sections of the West.

The following table shows exports of peppermint oil during the last few years:—

Year.	Pounds.	Value in Dollars.
1899	177,462	118,227
1900	72,052	72,338
1901	47,224	62,501
1902	36,301	54,898
1903	13,033	34,942
1904 to June 1	9,649	26,679

At present the demand from European markets is very light, which has tended to keep local prices from responding to the firm reports from the producing districts as to the prospective scarcity of crops.

PROSPEROUS CHEMICAL COMPANIES IN GERMANY.—A further batch of annual reports of German companies which are engaged in various branches of the chemical manufacturing trade has recently been issued, and a summary may not be without interest at the moment. In the first place, the Baden Aniline and Soda Works Company of Ludwigshafen, which has a share capital of £1,050,000 and a bond issue of £500,000, may be mentioned as having returned in dividends the entire share capital in the past four years. The German Solvay Works Company, of Bernburg, has a share capital amounting to £500,000, and the trading results for 1903 show net profits totalling £342,000, as against £321,000 in the previous year. The Consolidated Alkali Works (Westeregeln) Company, which has an ordinary share capital of £420,000 and a preference issue of £200,000, is a second instance of an enterprise which has repaid the entire ordinary share capital within a comparatively short period—namely, in six years. The Ronnenberg Alkali Works Company, of Hanover, is apparently in a stage of development in the direction of shaft sinking operations. This accounts for the loss which has been incurred, and which at present totals £13,700. It is stated in the report that the company has now received definite sanction to erect and carry on a chloride of potassium factory. The Chemical Works (late Weiler-ter Meer) Company, of Uerdingen, which has a combined share and bond capital of £346,000, shows a slight diminution in the net results. These are, however, sufficient to enable the payment of a dividend at the rate of 10 per cent., being the same as in 1902. In the case of the Chemical Works (formerly H. and E. Albert) Company, of Amoneburg-Biebrich, the net profits for 1903 are shown to reach £137,800, as against £138,900 in 1902. Among other undertakings may be mentioned the Farbwerke vorm. Meister, Lucius, and Bruning, of Hochst-on-Main, which company has declared a dividend at the rate of 20 per cent. for 1903, as in each of the three preceding years, and as against 26 per cent. in 1899. It is now proposed to increase the share capital from £850,000 to £1,000,000. The company's report, as in the case of that of several others, states that the outlook would be satisfactory were it not for the uncertainty in regard to Germany's future commercial relations with other countries, and also in respect of foreign political affairs. The Farben Fabriken vorm. Fred Bayer and Company, of Elberfeld, continues to progress, as the net income of £301,000 in 1903 is higher than in any previous period. It has been decided to pay a dividend at the rate of 25 per cent. on the share capital of £700,000.

AN EXTENSIVE BUSINESS is carried on at Hamburg in all kinds of drugs, and during 1903 transactions in most are stated to have been profitable for Hamburg merchants, prices mostly showing an advancing tendency throughout the year.

LETTERS TO THE EDITOR.

All Communications for the *Pharmaceutical Journal* must be addressed to the Editor, 72, Great Russell Street, London, W.C., and, if intended for publication in the current week's issue, should reach the Office not later than Wednesday, unless specially arranged for in advance. The matter should be written clearly and concisely on one side of the paper only and must be authenticated by the names and addresses of the writers, as no notice can be taken of anonymous letters. Articles submitted for the Editor's approval should be accompanied by stamped addressed envelopes, otherwise no guarantee can be given that they will be returned if not found suitable. Reprints of articles cannot be supplied unless the authors communicate with the Editor before publication. The right to reproduce all original matter and illustrations published in the Journal is strictly reserved.

The Late Elias Bremridge.

Will you permit me to gratefully acknowledge, through the medium of the Journal, the numerous expressions of sympathy and tokens of affectionate remembrance which have been evoked by the death of my father? If it had been possible to write to each of the members of the Society who have been good enough to convey to me their much-appreciated tribute to the memory of their former Secretary I should have preferred that personal mode of manifesting my sense of gratitude, but I trust the impracticability of individual acknowledgment will be accepted by my corespondents as sufficiently absolving me from any appearance of discourtesy or indifference. I am, also, much indebted for the sympathetic and gracefully written memoir of my father, printed in the last issue of the Journal.

Richard Bremridge.

17, Bloomsbury Square, W.C., June 21, 1904.

The Duty on Alcohol.

In your issue of June 18 last, page 821, you have stated that the contemplated movement towards duty-free alcohol is the removal of the 5d. differential duty on *foreign* spirit. I beg to say that I am in touch with the very latest developments of the question, and with confidence can say that any contemplated concession is not as regards *foreign* spirit. If such a mode of freeing British spirit does eventuate—it will, I venture to assert, not be to the full extent of 5d. per proof gallon, much as that is needed to place spirit for industrial purposes on anything like the same plane as our Continental rivals. In my papers read before the Society of Chemical Industry and the Society of Arts this year the history of the differential duty is set forth. It is clear that the duty is a compensation for "restrictions" and hindrances imposed by the Excise. Its incidence on the British distiller is protected by a similar impost on foreign spirit. Before the Corn Tax was imposed, this differential duty was 4d. per proof gallon, which was increased by 1d. per proof gallon, making it 5d. The Corn Tax was taken off, but the duty was not lowered to 4d. No one has asked for it to be so lowered—certainly the distillers will not. Mr. Nicholson, a noted distiller, expressed his willingness to forego 3d. a gallon for the spirit used for industrial purposes not now existing, bringing the duty down to 2d. a gallon. Obviously, as no additional restrictions have been imposed on the distiller's business, he is benefited to the extent of 1d. per proof gallon. Logically, if the duty was again 4d., as for years it stood, and the distiller would forego 3d., then the duty would be only 1d. a gallon, a position of things we should all hail. All I can say at this moment is that the attitude of obstruction has completely passed from the official mind, that a serious attempt is being made to grant concessions consistent with revenue and moral safety. I could write more, but I will conclude this communication by reminding your readers that the Treasury cries ever and louder still "give! give!! give!!!" I can tell, too, of records of "tricks" and fraudulent attempts to circumvent the Excise and Revenue, which do more to impede the realisation of our hopes in this important matter of concessions as to the use of spirit for industrial purposes than anything else.

Stratford, E., June 22, 1904. Thomas Tyrer.

The Inventor of Liquor Donovani.

I have often wished to know something of the personality of a pharmacist whose name is known to every chemist in the world—Donovan, of Dublin. In an old number of the *Lancet* I chanced to find the following sketch of him, and perhaps it ought to be rescued from oblivion. The writer speaks of the Richmond Hospital:—"Attached to this school, as professor of chemistry and materia medica, there is an individual of very rare attainments and singular manner, named Donovan. He is the only exception we have ever known to the universal ignorance and worthlessness of that body to which he belongs—the apothecaries of Dublin—a body from the nature of whose pursuits so much might be expected, and from whom so many splendid discoveries in science have emanated in other countries. In person Mr. Donovan is a short, square-built, dark-looking man, without, apparently, a single ray of talent illuminating the gloomy disc of his countenance. His physiognomy, indeed, is the very antithesis of intellectual expression, and, but for a certain morose abstraction of look, as if wholly absorbed in the intensity of his speculations, and that his countenance is rendered still more sombre by a dark cosmetic, seemingly compounded of the dust of the laboratory with the oily dews of laborious cogitation, he might pass without being remarked by the most expert disciple of Spurzheim and Zoroaster. His demeanour corresponds pretty much with his personal appearance. His stern features are seldom or never seen to relax into a smile, or to assume for a moment any one shade or modification of the expression of painful or pleasurable emotion. Go where he will his face, like certain points of our earth, however it may revolve, is shrouded in perpetual darkness. His conversation, from the philosophic orbit in which his mind travels, is stiff and formal as his appearance. His words flow from him with the regulated punctuality of a pendulum, and his descriptions are conducted *à la* Euclid. We have frequently heard him describe, geometrically, his passage from Apothecaries' Hall to his residence in Townsend Street, and reduce the circumstances of a visit to one of his patients into a variety of syllogisms. He speaks on all subjects and on all occasions as if he thought that Newton should supersede Blair, and that prosody, or the doctrine of verbal quantities, is the only part of *belles lettres* which should be consulted in conversation. Mr. Donovan, however, is a gentleman of undoubted ability, and his eccentric manner has been remarked only because it is allied with superior qualifications." It had generally been thought that Mr. Donovan lived in Clare Street, at the pharmacy now owned by Mr. Bernard, but perhaps he retired to it at a later period.

Dublin, June 17, 1904. J. C. McWalter.

The Conference Research List.

The research list published by the British Pharmaceutical Conference seems to be substantially the same from year to year. May I suggest that there are some instances in which an alteration of the wording of the suggestions for research might with advantage be effected? For example, under "chamomile," reference might be given to the paper published in the *Pharmaceutical Journal* of December 12, 1903 (p. 878), by Professor Greenish, who suggested a menstruum for the extraction of the bitter principle, and prepared a solid extract containing it. In the same volume of the Journal (pp. 73 and 101) a long paper was published by

Paterson, who had experimented, among other things, on the separation of the alkaloids of ipecacuanha root. The research list might have indicated what experiments remain to be performed on this subject. Thirdly, in view of the important research recently published by three German investigators on the isolation of the most active principle of what is considered the most useful species of strophanthus, the suggestion may be offered that the wording of the paragraph on strophanthus should be altered. A "better method of assay than that now official" for sodium arsenate was described by Mr. W. A. H. Naylor in the *Pharmaceutical Journal* of March 12 last (p. 363). I might name some prolific contributors to the Conference who, if they wished, could doubtless furnish a "report on the strength and quality of the compressed drugs of commerce." Perhaps such a contribution would be considered to have more of the taint of advertisement than attaches to lengthy dissertations on Chinese drugs of doubtful value and little interest."

London, June 22, 1904. J. Wilson.

The Jacob Bell Scholarship Questions.

When I read in the Journal some months ago that changes in the system of conducting the examination for the Jacob Bell Scholarships were contemplated, I was hopeful that the questions in Latin and arithmetic this year would be found to have been framed more intelligently than has been noticeable in the past. The hope was vain. I would respectfully but earnestly ask the attention of the Education Committee of the Council to the fact that the compiler of the questions in the first paper always appears to take those of previous years as a model which must be copied as nearly as may be; and that, in this way, the student with the most intelligence and knowledge runs the risk of being beaten by another whose preparation has consisted only of "special cramming." I would also ask whether any qualified pharmacist in the country thinks that Question 2 in the Latin paper is a proper question to set in the year 1904. (I assume that the questions will be printed in this issue of the Journal.) Again, surely the best educated of pharmaceutical apprentices might be expected to possess a rather more advanced knowledge of mathematics than it is possible to apply to the solution of the three arithmetical "problems" with which we were faced on Tuesday? The recurring decimal is not shrouded in mystery in these days, while the first question in arithmetic is so simple as to be insulting to a grown youth of twenty or twenty-one.

June 22, 1904. "Candidate" (12/51).

MARRIAGE.

Harries—Rees.—On June 23, at Trinity C. M. Church, Swansea, by the Rev. N. Prytheel, Benson Harries, chemist, Newport, Mon., to Lizzie, daughter of Mr. James Rees, J.P., Haverfordwest.

DEATHS.

Alcock.—On June 18, James Henry Alcock, Chemist and Druggist, Manchester. Aged 69.

Brown.—On June 19, at 9, Guildford Road, Brighton, Mary, the beloved wife of R. E. Brown, M.P.S. Aged 60.

Cutting.—On June 16, James Cutting, Pharmaceutical Chemist, Leamington. Aged 70. Mr. Cutting was a well-known citizen of Derby, whose business career commenced in Leamington, where his father carried on business as a chemist. He went to Derby in 1876, entering into partnership with Mrs. Severn as wine and spirit merchants in the firm of Severn and Co., of Curzon Street. In 1897 he retired and took up his residence at Leamington. Mr. Cutting was in his younger days an enthusiastic Volunteer, and retired about ten years ago with the Volunteer decoration. Mr. Cutting was also a prominent Freemason, and occupied the chair of the W.M. in the Leamington Lodge, and in 1897 a similar honour was conferred upon him in the Tyrian Lodge.

Holt.—On June 16, Richard Wylde Holt, Chemist and Druggist, Liscard. Aged 79. Mr. Holt was elected an annuitant on the Benevolent Fund in 1900.

Madgwick.—On June 12, Rufus Madgwick, Chemist and Druggist, Andover. Aged 59. Mr. Madgwick, who was for many years an associate, and latterly a member, of the Pharmaceutical Society, succeeded to the business at the Bridge Street Pharmacy, Andover, on the death of his brother, Mr. W. B. Madgwick, some years ago. He was highly esteemed in the district, and his death, which followed a paralytic stroke, is deeply regretted by all who knew him.

Stokoe.—On June 12, William Stokoe, the Manchester representative of Messrs. Oldfield, Pattinson, and Co., wholesale druggists. Mr. Stokoe, whose death occurred unexpectedly, after a short illness, was apprenticed in 1854 to Messrs. Glazier and Bingley (afterwards Glazier and Taylor). Subsequently he represented Messrs. John Reddish and Co. for about ten years, and then became associated with the late William Mather, representing the drug department under Mr. Oldfield. On the death of Mr. Mather Mr. Stokoe took service with Messrs. Oldfield, Pattinson, and Co., who purchased the business, and he remained their representative up to the time of his death—about twenty-five years. Mr. Stokoe was a man of strong personality, and had made many friends in the Manchester district. He was also highly esteemed by his employers, by whom he will be greatly missed. The photograph from which our illustration is reproduced was taken by a customer while Mr. Stokoe was transacting business.

Tigar.—On June 15, Hardwick Brigham Tigar, Chemist and Druggist, Freemantle. Aged 54. Mr. Tigar was suffering from the first stages of tubercular meningitis, and death occurred from the effects of prussic acid, taken during a fit of temporary insanity.

Trimmer.—On June 18, Edward James Alfred Trimmer, M.A., for forty-two years Secretary to the Royal College of Surgeons of England. Aged 77.

PUBLICATION RECEIVED.

The Examination of Water and Water Supplies. By John C. Thresh, D.Sc. (Lond.), M.D. (Vic.), D.P.H. (Camb.). Pp. xvi. + 460. Price 14s. net. London: J. and A. Churchill, 7, Great Marlborough St., W. 1904. From the Publishers.

REPLIES TO CORRESPONDENTS.

Information required by readers will be published in this column as early as possible, but the Editor cannot undertake to reply by post, even though stamped addressed envelopes accompany the queries. Replies will, in all cases, be referred to the sender's initials, and the registered number added in each instance should be quoted in any subsequent communication on the same subject. When formulæ are given without definite weights and measures, it should be understood that the solids are to be weighed and liquids measured. Plants for recognition should be addressed to the "Curator, 17, Bloomsbury Square, London, W.C.," accompanied by a stamped, directed envelope for reply. No notice can be taken of anonymous communications.

Label (R. E. O. B.—113/22).—The disclosure on the label appears to be sufficient.

Label (T. C.—113/36).—The wording on your label does not incur liability to Medicine Stamp Duty.

Suggestions (M. A.—113/44).—Many thanks. We are always glad to receive useful suggestions.

Branntwein (W. H. B.—113/16).—The name may be applied to spirits other than brandy, properly so-called.

Hardening Gelatin (H. F. T.—113/18).—Try the addition of 5 per cent. of formalin and use sheet gelatin of good quality.

Marsh Gas (E. J. L.—113/6).—We know of no special test for very minute quantities of marsh gas in the air of coal-mines.

Foot-rot in Sheep (J. P. W.—113/13).—You will find a variety of practical recipes in the 'Pharmaceutical Journal Formulary.'

Book (W. J.—113/15).—The best book containing explanations of pharmaceutical processes is 'Pharmacopedia' (Kimpton, 14s. net).

Recipes (F. R.—12/6).—They have not been published in the Journal, but will appear in the 'P.J.F. Supplement,' now in course of preparation.

Analysis (M. N.—113/40).—We do not undertake analyses, and you can hardly expect us to pay an analyst's fee for having the work done for you.

Parian Cement (A. M. H.—113/14).—Plaster of Paris is treated with a saturated solution of borax, and then recalcined and reduced to powder.

Optical Diploma (A. H. B.—113/17).—We know nothing about the institution you mention, and are, therefore, unable to advise you in the matter.

Dispensing Question (J. E. F.—11/49).—Why imagine that there is any difficulty? The instructions are simply to mix the ingredients, and take the medicine at once.

Liquid Soap (R. and C.—113/20).—Dissolve soft soap, 1, in boiling water, 8, and when cool add 2 to 3 per cent. of carbolic acid and sufficient spirit (perfumed as desired) to keep the preparation liquid.

Students' Competitions (L. C.—113/43).—The competitions are open to all Student-Associates of the Pharmaceutical Society, and are intended to encourage systematic study during apprenticeship.

Legal Information (A. J. T.—112/35).—You will find sufficient information for all practical purposes, on this and other legal subjects, in the 'P.J.F.' We cannot afford the space for continual repetition of such information.

Change of Address (C. B.—113/39).—Yes, the whole of the business—editorial, advertising and publishing—will henceforth be carried on at the same address, 72, Gt. Russell Street, London, W.C., and we shall be pleased to see you at the new offices when you are in town.

Wrapper (T. F. W.—113/19).—The use of your name in the possessive case will render the plaster liable if it can be shown that it is intended to be used for the prevention, cure, or relief of any human ailment. Why not omit the name and replace it by the words "Corn and Wart"?

Botanical (A. S. B.—113/21).—1 is probably *Juncus acutiflorus*, but leaf should be sent. 2, lower leaves wanted; probably *Cochlearia danica*. 3, *Eriorphorum angustifolium*. 4, *Lepidium Smithii*. 5, Salix species; cannot say definitely without flower or fruit. 6, *Menyanthes trifoliata*. 7, *Sedum anglicum*.

Compliments (F. M.—113/41).—Thanks for your kind remarks. The success of the *P.J.* as an advertising medium must obviously depend largely upon its proprietors—the six thousand or more members of the Pharmaceutical Society—who ought to realise that the more the revenue of the paper increases the larger and more useful can the paper be made.

Price of 'P.J.F.' (S. M.—113/42).—Any member of the Pharmaceutical Society who desires to present or sell copies of the 'P.J.F.' to medical men will be allowed the usual trade discount of one-sixth the published price, provided a remittance accompanies the order. Accordingly, you can obtain one or more copies at 17s. 6d. each, or 18s., including cost of postage.

'P.J.F. Supplement' (H. R. J.—113/38).—In addition to a further large number of chemists' and druggists' recipes, not previously registered, it is proposed to include in the supplementary pages an alcohol conversion table, lists of thermometric equivalents, and tables of equivalents of metric and imperial weights and measures. The whole of the matter is now in the printer's hands, and the date of publication will be announced shortly.

Veterinary Recipe (H. G. M.—11/39).—You ask if a solution of mercuric chloride, of a strength of 1 in 60, is not too strong for painting the navel string to prevent joint-ill, because a 1 in 1,000 solution is sometimes found too strong for other purposes. The explanation is easy, and in practice will be found correct. An antiseptic for use in surgical operations is quite a different thing. In the case of navel strings, it has to be remembered that they are destined to early atropy and death, and the recipe in the 'P.J.F.' is intended to facilitate the process. It is when the cord remains moist and gelatinous looking that it so readily allows access to the germs which lead to arthritis or joint-ill. When a purely natural course is followed the cord withers in a few days. In infected districts this rather strong mercuric dressing is applied as a protector, antiseptic if you will, and as a caustic that will dry up the structures by coagulation of albumin and arrest of nutrient supply.

NOTICES TO CORRESPONDENTS.

All Communications respecting matter for publication should be addressed to the Editor, 72, Great Russell Street, London, W.C. No responsibility can be accepted by the Editor unless this rule be observed. Communications for the current week's issue should reach the office not later than Wednesday, unless specially arranged for, but news can be received by telegraph until 4 p.m. on Thursday.

Business Communications, Advertisements and Orders should be addressed to the Manager, 72, Great Russell Street, London, W.C. cheques, money orders, etc., being made payable to The Pharmaceutical Journal, and crossed "London and Westminster Bank."

Correspondents should write in ink, on one side of the paper only, and must authenticate the matter sent with their names and addresses—though not necessarily for publication. No notice can be taken of anonymous communications.

Drawings for Illustrations should be executed twice the desired size; clean, sharp lines being drawn with a pen and liquid Chinese ink. Shading by washes should be avoided if possible. Photographs can be utilised in certain cases.

Inquiries addressed to the Editor will be answered in the Journal as early as possible after receipt, though not necessarily in the next issue. Replies will not be sent by post, even though stamped envelopes accompany the queries.

Manuscripts submitted to the Editor will not be returned except in the case of contributions which are not accepted for publication, and then only if stamped and addressed envelopes are sent with the manuscripts by the contributors.

Names and Formulæ should be written with extra care, to avoid risk of error. All systematic names of plants and animals should be underlined, and capital letters used to commence generic but not specific names.

Original Articles and Letters, sent to the Editor for publication, are understood to be offered to The Pharmaceutical Journal exclusively, unless the contrary be stated, and will only be accepted for publication on that understanding.

Reprints of Articles cannot be supplied unless authors communicate with the Editor before publication of the articles. The right to reproduce all original matter and illustrations published in the Journal is strictly reserved.

LETTERS, NEWSPAPERS, QUERIES, and other COMMUNICATIONS have been received from Messrs. Beacher, Bell, Birkbeck, Brown, Burrell, Dunlop, Freeman, Glew, Golitz, Goodess, Harries, Hickman, Hill, Hooper, Jamieson, Jarvie, Jenkins, Lucas, Luff Macdonald, McHarg, Maddison, Mayhew, Price, Ramsay, Rowe, Royce Sargeant, Thomas, Trunchion, Walker, Wills.

This Prospectus has been filed with the Registrar of Joint Stock Companies.

The Subscription List for the undermentioned Preference Shares will be opened on the 17th day of February, 1904, and will close on or before the 19th day of February, 1904.

T. & H. SMITH, LIMITED

Incorporated under the Companies Acts, 1862 to 1900.

CAPITAL - - - -		**£130,000**
DIVIDED INTO		
13,000 Ordinary Shares of £5 each - - - - - -	**£65,000**	
And 13,000 Five per cent. Cumulative Preference Shares of £5 each	**65,000**	
		£130,000

PRESENT ISSUE

13,000 Ordinary Shares of **£5** each (all of which are taken by the Vendors in part payment of the purchase price) - - - - - - - - -	**£65 000**	
13,000 Five per cent. Cumulative Preference Shares of £5 each, of which the Vendors are prepared to take one-third, being the largest amount allowed by the Stock Exchange - -	**65,000**	
		£130,000

The Preference Shares will be entitled to a Cumulative Preferential Dividend of Five per cent. per annum, payable on 1st January and 1st July, and will also be entitled to rank on the Property and Assets of the Company for return of Capital in priority to the Ordinary Shares.

8,700 of the Preference Shares are now offered for Subscription at par, payable as follows :—

On Application - - - -	**£1**	per Share.
On Allotment - - - -	**£2**	,,
On 15th May, 1904 - - - -	**£2**	,,
	£5	

The Preference Shares may be paid up in full on the date on which any instalment falls due. Interest at Five per cent. per annum will run from the dates of payment of instalments.

Directors.

H. EWING SMITH, Esq., F.C.S., Chemist, Washington Street, Glasgow.
T. CONNELL SMITH, Esq., Chemist, Blandfield Chemical Works, Edinburgh.
} *Managing Directors.*

JAMES SMILES, Esq., Chemist, Blandfield Chemical Works, Edinburgh.

DONALD MACKENZIE, Esq., Chemist, 22, City Road, London, E.C.

ALEXANDER J. DEY, Esq., Chemist, 21, Duke Street, Edinburgh.

ROBERT A. WRIGHT, Esq., Manufacturing Chemist, 37, Washington Street, Glasgow.

Bankers.

THE BANK OF SCOTLAND, Edinburgh, Glasgow, London, and Branches.

SOURMAIS ET CIE., 17, Rue de la Banque, Paris.

BALSER ET CIE., 9, Rue d'Arenberg, Brussels.

Solicitors.

MESSRS. FRAME AND MACDONALD, 104, West George Street, Glasgow.

Auditors.

MESSRS. RATTRAY BROTHERS and CO., C.A., 45, West Nile Street, Glasgow.

Secretary.

RICHARD MARSHALL, *Secretary pro tem.*

Offices.

21, DUKE STREET, EDINBURGH—*Registered Office.*

22, CITY ROAD, LONDON, E.C.

37, WASHINGTON STREET, GLASGOW.

PROSPECTUS.

This Company is formed for the purpose of acquiring as at 1st October 1903 the well-known and old-established business of T. and H. Smith and Company, Manufacturing Chemists and Druggists, at Blandfield Chemical Works, Lower Broughton Road, Edinburgh; 21, Duke Street, Edinburgh; Bellevue Works, Law Junction; 22, City Road, London, E.C.; and 37, Washington Street, Glasgow.

The business was founded in 1827 by the grandfather and grand-uncle of the Vendors, and has been successfully carried on without interruption, and with widely extending connections, ever since.

[*Continued on next two pages.*

T. & H. SMITH, LIMITED (PROSPECTUS).—*Continued.*

The property of the Vendors to be taken over by the Company consists of the following, as particularly described in the Minute of Agreement after referred to, *videlicet*:—

		£	s.	d.
1.	Blandfield Chemical Works, including ground, buildings, and water rights, valued at	£13,600	0	0
2.	Bellevue Works, Law Junction, including ground and buildings, valued at ...	1,800	0	0
3.	The Vendors' rights under Lease of premises, 21, Duke Street, Edinburgh (value included under Goodwill).			
4.	The Vendors' rights under Lease of premises, 37, Washington Street, Glasgow (value included under Goodwill).			
5.	The Vendors' rights under the Lease of the premises, 22, City Road, London, E.C. (value included under Goodwill).			
6.	The Goodwill of the said Business	26,604	12	10
7.	The Machinery, Plant, Fittings, and Fixtures belonging to the Vendors in, on, or about the above-mentioned properties and premises	11,385	9	6
8.	All Book Debts, Bills, Notes, Obligations, and Contracts pertaining to the Business, and belonging to the Vendors	22,982	4	0
9.	The whole other Assets belonging to the Vendors so far as forming part of said Business	2,914	8	11
10.	Stock-in-Trade	50,713	4	9
		£130,000	0	0

Where the foregoing figures are not derived from the Valuators' Reports printed below, they are the values placed on the various items, in accordance with the settled usage of the firm, for the purposes of the balance made as at 30th September, 1903.

The properties have been valued by Messrs. Cousin and Ormiston, 140, Princes Street, Edinburgh, and the fixed machinery, working plant, utensils, fittings, office furnishings, and heating installations by Messrs. Alex. Mather and Son, Orwell Works, Edinburgh, and the following are their Reports:—

140, Princes Street,
Edinburgh, 29th January, 1904.

Messrs. T. and H. Smith and Company

Gentlemen,—

We have carefully examined, for the purpose of valuation, the property of Blandfield Works, situated in Lower Broughton Road, Edinburgh, belonging to and occupied by you as Manufacturing Chemists.

The ground extends to 1·04 acres or thereby, and the feu-duty thereon is only £1 14s. 6d. per annum. It has a frontage to Lower Broughton Road of 300 feet or thereby, of which 35 feet or thereby to the west is over the railway tunnel, and this portion is 34 feet deep. This frontage to the road is a valuable tenement building site, and the ground behind is available for workshops, stabling, or cottages.

We value the site at £3,900.

The original buildings comprising the works are as shown on lithographed plan, and consist of still houses, boiler and engine house, stores, packing rooms, offices, etc.

There has lately been erected on the north side of the ground a large laboratory, boiler house, and still room of brick, with iron and slate roofs, and two laboratories of timber, covered with corrugated iron all round. An additional strip of ground has also been acquired to the north, on which these later buildings have been erected.

The firm has a parliamentary right to a valuable constant water supply from the Water of Leith Commissioners, allowing 22 cubic feet per minute all through the 24 hours, and which is, after use, returned to the Water of Leith.

The buildings and water supply are specially adapted for the various works carried on, and, as such, we value them at £9,700.

Total valuation of land, buildings, and water supply—Thirteen thousand six hundred pounds (£13,600). The property and water right have prospective values which we do not include in this total.

We have also visited and examined the property at Law Junction, Lanarkshire, lately acquired by you, which has been altered and fitted up principally for the manufacture of your essence of coffee. The ground occupies a corner site and fronts the Station Road; it extends to one imperial acre, and the feu-duty is £20.

The buildings consist of a factory, 114 feet by 50 feet, a roasting house 33 feet by 12 feet, a boiler house, 33 feet by 12 feet, ammonia house, large chimney stalk, water tanks, all of brickwork; iron tanks, large shed, two smaller workshops and conveniences, all of timber. The brick buildings are substantial and in good order, and, in our opinion, well adapted for the purposes to which they are put. There is also a cottage of four rooms, scullery, bath room, coal cellar, and garden.

There is a large space of ground available for extension.

We value this subject at Eighteen hundred pounds (£1,800).

Machinery, boilers, tanks, utensils, and plant are not included in the foregoing valuations.

Yours truly,

(Signed) COUSIN AND ORMISTON.

Orwell Works,
Dalry Road,
Edinburgh, 22nd January, 1904.

Messrs. T. and H. Smith and Company, Edinburgh.

Gentlemen,—

In accordance with your instructions we have made a careful examination of the fixed machinery, working plant, and loose utensils, fittings, office furnishings, and heating installations at—

Blandfield Chemical Works, Edinburgh.
21, Duke Street, Edinburgh.
Bellevue Works, Law Junction.
37, Washington Street, Glasgow.

We consider the fair value thereof, taken as a going concern at 20th January, 1904, to be £13,421 9s., apportioned as follows:—

	£	s.	d.
In Blandfield Chemical Works	£10,064	14	10
In Duke Street premises	1,295	19	6
In Bellevue Works, Law Junction	1,320	14	8
In Washington Street Warehouse, Glasgow	740	0	0
	£13,421	9	0

We found the whole of your plant and machinery in good condition and excellent working order.

Yours truly,

(Signed) ALEX. MATHER AND SON.

The books of the Vendors have been regularly audited for the past four years by Messrs. Rattray Brothers and Company and their predecessors, and they have granted a Certificate in the following terms:—

Gresham House,
45, West Nile Street,
Glasgow, 3rd February, 1904.

We have audited the books of Messrs. T. and H. Smith and Co., Manufacturing Chemists and Druggists, for the last four years and two months to 30th September, 1903,

T. & H. SMITH, LIMITED (PROSPECTUS).—*Continued.*

and certify that the average annual profits for that period, after providing for all charges and expenses of management, are amply sufficient to pay a dividend at the rate of five per cent. on the Preference Shares, leaving a sum to meet Directors' salaries and fees, depreciation, and to pay a dividend on the Ordinary Shares.

(Signed) RATTRAY BROTHERS and CO., C.A.

The Vendors, T. and H. Smith and Company, and Henry Ewing Smith and Thomas Connell Smith, the sole partners thereof, and having equal interests therein, are the promoters of the Company. They have neither paid nor undertaken to pay any promotion money, and they have not underwritten any of the Shares. The statements in this Prospectus are made on information furnished by them, except in so far as such statements are vouched by the Reports and Certificate above-mentioned.

The price to be paid to the Vendors for the property, heritable and movable, real and personal, including machinery, plant, fittings, fixtures, stock-in-trade, book debts, bills on hand, patents, recipes, trade marks, and goodwill of the business, is £130,000, allocated as above. This will be paid by the issue to Messrs. Smith, equally between them at par, of the whole of the Ordinary Shares fully paid up, and of 4,300 of the Preference Shares fully paid up, and the balance in cash.

The properties will be transferred to the Company free from all Bonds or Mortgages, and the Company will have no power to issue Debentures without the consent of the holders of two-thirds of the Ordinary Shares and two-thirds of the Preference Shares of the Company. The Vendors will pay all debts due by their firm as at 30th September last.

The Vendors propose to retain the largest interest in the business allowed by the Rules of the Stock Exchange in the case of a Company intending to apply for a quotation of its shares. They have also agreed to engage themselves as Managing Directors of the Company for a period of ten years, and during that period not to be concerned in any similar competing business. The Vendors have also come under an obligation not to sell any of their Ordinary Shares during the said period of ten years.

The following Agreement has been made, namely:—

A Minute of Agreement between Henry Ewing Smith and Thomas Connell Smith, the sole partners of T. and H. Smith and Company, and the said T. and H. Smith and Company, Manufacturing Chemists and Druggists, in Edinburgh, London, Glasgow, and elsewhere, of the first part, and Alfred James Billinghurst, Cashier, 22, City Road, London, E.C., for and on behalf of T. and H. Smith, Limited, of the second part, dated 2nd and 3rd February, 1904.

The Agreement and copies of the Reports and Certificate above-mentioned, and copies of the Memorandum and Articles of Association of the Company, may be inspected at the office of the Company's Solicitors, at any time before allotment, between the hours of 11 a.m. and 3 p.m.

In order to comply with the Companies Act, 1900, the minimum subscription on which the Directors may proceed to allotment is declared to be £40,000.

The estimated amount of the preliminary expenses payable by the Company, including legal charges and registration fees, as above-mentioned, is £1,400.

The Articles of Association of the Company provide, as regards Directors' qualifications and remuneration, as follows:—

"The qualification for being a Director shall be the holding, in his own right, of Twenty Shares of the Company, "and no person shall be elected a Director of the Company "unless he shall hold Shares of the Company for at least "one month preceding the day of election, except in the "case of the Directors who are herein named. A first "Director may act before acquiring his qualification, but he "shall, in any case, acquire the same within one month "from the date of his appointment, and unless he do so, he "shall be deemed to have agreed to take the said Shares "from the Company, and the same shall forthwith be allotted "to him accordingly.

"The members of the Board shall be entitled to set apart "and receive for their remuneration the sum of £150 per "annum, or such other larger sum or sums as the Company "may, in general meeting, determine. The moneys so payable shall be divided among the members of the Board in "such manner as they shall determine.

"Henry Ewing Smith, Manufacturing Chemist and Druggist, residing in Uddingston, shall be Chairman of the "Company, and the said Henry Ewing Smith and Thomas "Connell Smith, Manufacturing Chemist and Druggist, residing at Murrayfield, Edinburgh, shall be Managing "Directors of the Company, and shall communicate to the "Company for its own use all fees, commissions, honoraria, "or other sums they may make by any work incidental to "the business of the Company. They shall devote their "whole time to the management of the Company; without "prejudice to their acting as Directors in such other businesses as they may be permitted by these presents to hold "an interest in, unless competing concerns; and they shall "hold office until both or either of them shall die, become "disqualified, be removed, or are otherwise permanently "incapacitated from conducting business; provided, however, "that neither of the Managing Directors shall be entitled to "resign office for ten years from 1st October, 1903, without "the consent of the Company and of the other Managing "Director, so long as the other is a Managing Director: "and neither of them shall be removable from office except "with the consent of three-fourths of the holders of the "Preference Shares of the Company and three-fourths of the "holders of the Ordinary Shares of the Company. Each "Managing Director, so long as he continues to serve the "Company in that capacity, shall be entitled to a salary "of £500 per annum, payable by equal quarterly instalments "as from the First day of October, 1903, and that in addition to his remuneration as Director of the Company. The "Managing Directors of the Company shall have power, so "long as both or either of them is in office, to exercise all "the powers conferred by the Articles of Association of "the Company on the Directors of the Company as a body, "excepting the special powers with reference to the issuing "and transferring of Shares and the borrowing of money. "In the event of any difference of opinion between the "Managing Directors as to any matter relating to the conduct of the business of the Company, the same shall be "determined by the vote of the Directors as a body, in "conformity with the provisions of the Articles of Association. In the event of both Managing Directors dying, "resigning, becoming disqualified, being removed, or becoming permanently incapacitated, the Company shall have "power to appoint successors or a successor to them, at "such salary as they may determine."

It is intended to apply for a Stock Exchange quotation.

A copy of the Memorandum of Association is printed with the Prospectus, and forms part of it.

Applications for Shares should be made on the prescribed form, and sent to the Company's Bankers, together with the necessary remittance for the amount payable on application.

If the number of Shares allotted be less than the number applied for, the surplus paid on application will be credited to the amount due on allotment, and any excess will be returned

Dated, 11th February, 1904.

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Photographic and Optical Supplement

TO THE

PHARMACEUTICAL JOURNAL

17, BLOOMSBURY SQUARE, LONDON, W.C., SATURDAY, MARCH 26, 1904.

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CHEMISTS AND THE OPTICAL TRADE.

The optical business—*i.e.*, the sale of spectacles, pocket magnifiers and microscopes, photographic lenses, optical lanterns, etc.—may be effected by persons without any special knowledge of optical principles, but it can obviously be conducted more satisfactorily by individuals who have been properly trained with that object in view. Pharmaceutical chemists ought to possess a fair nucleus of information on which to base such a practical knowledge of optical principles as will prove of value from a business point of view, and those who have not passed the Major Examination will find it advantageous to make themselves conversant with the subject of optics, as outlined in the following extract from the Major syllabus:—

> The undulatory theory of light; reflection; refraction; interference of light; propagation of light, the photometer; mirrors and lenses, the microscope; decomposition of white light by a prism; the spectroscope, spectrum analysis; double refraction; polarisation, the polariscope; influence of light in promoting chemical change, the principles of the ordinary photographic processes.

In commencing the study of optics or physics generally, one of the best text-books to use is Cook's 'Physics' (Longmans, 2s. 6d.), which may be supplemented later by Aldous's 'Elementary Course of Physics' (Macmillan, 7s. 6d.). If it be desired to pass the examinations conducted by the Spectacle Makers' Company, or the British Optical Association, more specialised works must be procured subsequently. Whether the chemist who proposes to become a retail optician intends to pass one of those examinations or not, he ought to regard a sound theoretical and practical knowledge of optical principles as no more than the foundation upon which to build a sound business. The chemist who embarks in the spectacle trade ought to possess an elementary knowledge of anatomy and physiology, in order to enable him to advise customers about the choice of glasses, and to determine whether or not an oculist should be consulted in particular cases. A skilful optician must be capable of discriminating promptly between cases of refractive error and cases of disease, also between simple optical cases and more complicated ones, which require medical or surgical treatment. He should understand the structure of the eye and the properties of light in so far as they affect vision, and be conversant with the shapes, properties, analysis, neutralisation, and transposition of lenses. The errors of refraction and accommodation ought also to be familiar to him, as well as the methods of determining and measuring those errors, including acquaintance with the trial case and its use, the principles and applications of test types and charts, and last, but not least, the use of the different instruments employed in testing and examining the eye. He should also understand how to conduct an optical business, what stock to keep, how to read and write optical prescriptions, the conditions regulating the use of different kinds of

Worshipful
Company of
Spectacle Makers

◆◆◆

A REVISED
SYLLABUS

With full particulars of the
Examinations, including that recently
organised for the

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Sight Testing

May be obtained on application to

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frames, the taking of facial measurements, and the methods of fitting and manipulating frames so as to obtain the best results from the lenses ordered.

THE S.M.C. EXAMINATIONS.

The Worshipful Company of Spectacle Makers examines and registers opticians with a view to protecting the public from injury by the use of badly adapted spectacles, and the regulations made by the Company in connection with the examination held under its educational scheme are as follow:—

APPLICATION FOR EXAMINATION.—An official form must be fully filled up by the candidate, and sent to the Clerk of the Company, Colonel T. Davies Sewell, 9-11, Temple House, Temple Avenue, London, E.C., at least fourteen days prior to the date of the examination. The form must bear the signed recommendation of one or more magistrates, medical men, or Liverymen of the Company. When an examination is claimed on the ground of previous experience, the application form must bear the signature of some responsible person or persons in a position to certify thereto. When a candidate is doubtful as to whether he is entitled to the special modified examination, or to exemption from the special examination, he should enquire of the Clerk of the Company.

	£	s.	d.
FEES.—For the Special Examination.........	2	2	0
For the General Examination.........	3	3	0
For the Sight Testing Examination	2	2	0

The fee for examination must accompany the application form. All cheques and postal orders must be made payable to the Clerk of the Company, and crossed "& Co." If a candidate fail wholly or partially in any division he must pay at each subsequent examination a fee of £1 1s. in each such division. The diploma is issued to a successful candidate only after he has taken up the freedom of the Company by a payment of the reduced fee (including £3 Government stamp duty) of £4 4s. If a candidate can produce formal indentures of apprenticeship to an optician, or if at the time of his birth his father was a member of the Company, the above fee is £2 4s., the Government stamp duty being then £2 less. No member of the optical industry can, except under exceptional circumstances, become a Freeman of the Company unless he has passed the examination prescribed. A Freeman of the Company may obtain the freedom of the City of London at a cost of £1 1s., payable to the Corporation for the benefit of the Freeman's Orphan School. A freeman may become a Liveryman of the Company by a single payment of £22. The annual payments to the Company by diplomates are as follows:—Holders of the diploma in general optics (Freeman's *quarterage*) pay 4s.; holders of the diploma in sight-testing pay 6s., in addition to the 4s. *quarterage.* The payments are due at Midsummer, and must then be remitted to the Clerk. A candidate is not permitted to take more than two divisions of the examination on the same occasion, except by special permission of the Company. A candidate who satisfies the examiners in any section may be excused taking up such section again. A private notice is sent to each candidate after the examination, notifying him of the results in his case. A candidate who fails wholly or partially must present himself for re-examination within two years; otherwise a fresh application must be made, and fees again paid. The Company has the power to determine how many times a candidate may compete. Candidates cannot enter for the Special Examination until they have attained the age of eighteen years, nor for the General and Sight-testing Examinations until they have attained the age of twenty-one years. There are three divisions of the Company's examinations, particulars of which are given below:—

THE SPECIAL EXAMINATION.

This examination is taken in three sections:—

(*a*) A written examination in elementary mathematics.
(*b*) A written examination in light, optics, the elementary theory of optical instruments, and in heat.
(*c*) A *viva-voce* examination in the use and adjustment of the camera and projection apparatus, the telescope and binocular, the miscroscope, the sextant.

Candidates are excused this section (*a*) on production of a certificate from any of the following examining bodies, showing a sufficient knowledge in mathematics:—

The Oxford and Cambridge Local; Science and Arts, South Kensington, Mathematics, Stage II.; Matriculation of any University; College of Preceptors, First Class; Major Examination of the Pharmaceutical Society of Great Britain.

A candidate who has been connected as master or assistant with the optical industry for over seven years is entitled to be excused the whole of this special examination.

The General Examination.

This examination is taken in three sections:—

(*d*) A written examination in general and visual optics.
(*e*) A *viva-voce* examination in general and visual optics.
(*f*) A practical examination in the optical analysis of lenses, knowledge of materials employed and workmanship; frame-fitting.

Until 1908, a candidate who has been engaged as master or as principal assistant in fitting spectacles for at least ten years, and who is over thirty-five years of age, will be excused section (*d*) of this general examination, as well as the whole of the Special Examination, provided that he is entered for the Examination in Sight-testing.

The Examination in Sight-Testing.

This examination is taken in two sections:—

(*g*) A written examination in optics as applied to sight-testing.
(*h*) A practical examination in the adaptation of lenses to correct errors of vision.

In the near future the Company will require evidence of experience before admitting a candidate to the examination.

The diploma in general optics is conferred on a candidate who has passed the General Examination (preceded by the Special, if necessary). This diploma, however, is not granted alone unless the candidate undertakes not to engage in sight-testing.

The diploma in sight-testing is only granted to a candidate who has already gained the diploma in general optics.

The Syllabus.

The official Syllabus for the Special Examination is as follows:—

(*a*) Elementary Mathematics, as Applied to Optics.—Arithmetic; algebra to quadratic equations; equations; the measurement of trigonometrical angles; the elementary use of tables of natural sines, cosines, and tangents, and of tables of logarithms and reciprocals. Text-books: 'Elementary Algebra,' Hall and Knight; 'Elementary Trigonometry,' Hamblin Smith.

(*b*) Light and Heat.—Elementary laws of light; laws of refraction; the index of refraction; refraction as applied to lenses and prisms; conjugate foci; formation of images; laws of reflection as applied to curved and plane mirrors; umbra and penumbra; photometry; dispersion and achromatism; lens systems and their aberrations. The elementary theory of optical instruments. The construction and uses of instruments for measuring temperature, atmospheric pressure, and moisture. Text-books: 'Heat and Light,' Glazebrook. 'Optical Tables and Data,' Silvanus P. Thompson.

(*c*) Practical Work with Instruments.—A general acquaintance with the construction and use of the camera, projection apparatus, telescope, binocular, microscope, and sextant, use of the vernier. Text-book: 'Drawing, Optical, and Surveying Instruments,' Heather.

For the General Examination (formerly termed the "Modified"):—

(*d*) and (*e*) Light—Elementary laws of light; laws of refraction; the index of refraction; refraction as applied to lenses and prisms; conjugate foci; formation of images; laws of reflection as applied to curved and plane mirrors. Text-book, 'Heat and Light,' Glazebrook. 'Optical Tables and Data,' Silvanus P. Thompson.

(*d*) and (*e*) Visual Optics.—General anatomy of the human eye. The course of light passing through the media of the eye alone and modified by spherical and cylindrical lenses and prisms. Hypermetropia; myopia; astigmatism; presbyopia. Instruments commonly used for determining the refraction of the eye:—Trial lenses—test types—astigmatic chart—the optometer. The principle of the ophthalmoscope and retinoscope; transposing. Text-book, 'Refraction of the Eye,' Hartridge.

(*f*) Practical Work in Visual Optics.—Testing a plane surface; measurement of focal length of spherical, cylindrical, and compound lenses; use of the spherometer or lens meter; determination of the axis of a cylinder, and the angle of deviation of a prism; analysis and neutralisation of spherical, cylindrical and compound lenses, and lenses combined with prisms; centring and adjustment of spectacle lenses and frames; face measurement for spectacles. Knowledge of the materials and of the workmanship employed in the manufacture of lenses and frames; use of pebble tester. Reading and Writing Prescriptions for lenses and frames. Text-book: 'The Opticians' Handbook.'

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All **WISE** Chemists now know that the Photographic Trade has fallen into their hands, and it must be their policy to do everything possible to cultivate and extend it.

Send Trade Card for Photographic Price List, now in the press, and in due course a copy shall be forwarded.

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LONDON, E.C.

For the Examination in Sight-testing:—

(*g*) The theory and methods of the determination and correction of errors of refraction and accommodation in the healthy human eye.

(*h*) The determination of visual acuity. The practical correction of errors of refraction and accommodation by subjective methods. Muscle testing. A knowledge of the instruments used for objective sight testing. Colour blindness.

Candidates are permitted to use their own trial case and test charts, and may employ such methods—whether subjective or objective—as they are accustomed to, in order to arrive at the correction needed by the subjects they are required to test at the examination.

In addition to the books mentioned above, the following are recommended to candidates:—'Contributions to Photographic Optics,' by Prof. O. Lummer; 'Photographic Optics,' by R. S. Cole; 'Optics,' by A. S. Percival; 'Practical Physics,' by Glazebrook; 'The Microscope,' by Gage; 'Ophthalmological Prisms,' by E. E. Maddox; 'Physics,' by Ganot.

BRITISH OPTICAL ASSOCIATION.

The B.O.A. was founded in 1895, and up to 1897 respectable candidates who had been in business for several years, and who could supply good references as being well known in the trade, were admitted without examination. After that date such admissions became very much more restricted, and in 1899 were practically totally withdrawn, admission now being only by examination.

The objects for which the Association was established are:—

(1) The encouragement of (*a*) the science of optics and (*b*) the art of the application of the science of optics to the improvement of human vision.

(2) The protection of the members of the Association from influences inimical to the prosperity of the profession of an optician.

(3) The doing all such other lawful things as are incidental or conducive to the attainment of the above objects, provided that the Association shall not impose on its members or support with its funds any regulation or object which, if an object of the Association, would make it a trade union.

There are only two grades of examination—Membership and Fellowship. Certificated membership of the Association is obtainable only by examination in the Dioptric grade. Certificated fellowship is obtainable only by examination in the Fellowship grade. Examinations for membership and fellowship are held twice yearly in London only. The summer examination takes place about the last week in May, and the winter examination about the last week in November of each year. The annual subscription of certificated members and fellows is one guinea, payable on election, and afterwards on October 22 yearly. This subscription entitles the subscriber to receive a certificate of the Association, to attend the discussions and meetings of the Association, to have postal use of the Library, to be supplied free of charge with the *Dioptric Review* monthly, and to receive such legal protection and support as the Council may deem advisable. There is no entrance fee.

Candidates must be of respectable character and good antecedents, and must give two trade references. Masters must supply evidence of having been engaged either as assistants or masters in optical business for at least five years. Assistants must supply evidence of having been engaged in optical business at least three years. All candidates must be of British nationality. By an "assistant" is meant one who is neither actually a proprietor of the business nor a member of the firm who participates both in the losses and profits of a business. Commission on receipts and a salary will not be held to constitute a partnership. Candidates under the age of twenty-one must furnish evidence that they have had at least twelve months' actual experience at the bench or workshop of some known optician. Successful candidates over the age of twenty-one, or on attaining the age of twenty-one, will be required to take up the membership of the Association, and must sign a form expressing willingness to comply with the regulations of the Association. Honours are given in very exceptional instances. No special examination is necessary, excellence of work and high percentage of marks only being required. Each candidate must sign an application for examination. The last date of application is fourteen days before the date of each examination. Every member is supplied with a certificate of membership under the seal of the Association, and signed by the President, Vice-President, and Honorary Secretary. Every candidate must furnish the name of some person residing in the United Kingdom who will become bond to the extent of £10 for the safe return to the Secretary (in the case of death, bankruptcy, or misconduct of the member) of the certificate, which always remains the property of the Association. Separate forms of bond are required from assistants and masters. All certificates are the property of the Association, and not of members named therein, and are subject to the conditions of the Articles of Association. The holder of a certificate, on ceasing to be a member, or in case of death his legal personal representatives, must forward the certificate to the Secretary. If a candidate for examination for any grade shall withdraw his name, or fail to present himself at the examination, or fail to pass such examination, he is entitled to present himself at any subsequent examination for the same grade, upon payment of a fee of one guinea, or less, as the Councill shall direct, for each subsequent examination. Provided always that after presenting himself for two subsequent examinations he shall not be entitled to present himself at any other examination or examinations without the previous consent in writing of the Council. The withdrawal by a candidate of his name from any examination for which he shall have entered and paid a fee does not entitle him to a return of the fee or any part thereof. Candidates who pass in one of the sections and fail in the others may not be required to sit for the sections in which they were successful. Candidates who fail in any part of a section will be required to sit again for the whole of that section. At every Dioptric examination held after January 1, 1907, all candidates, assistants, and masters, whatever age, must supply proof of having had at least twelve months' actual experience at the bench or workshop of an optician.

The Dioptric Examination.

This examination is open to both sexes above the age of eighteen. Candidates must have attained the age of twenty-one before either membership or a certificate can be granted. The fee for examination in the Dioptric grade is £3 3s. This fee is reduced to £1 11s. 6d. to such candidates as were members of the Association previous to October 22, 1896. Members who have passed the Dioptric grade are entitled to use the initials D.B.O.A. after their names. The use of other initials, such as "M.B.O.A.," etc., is not allowed. The certificate shows that the candidate has satisfied the examiners in the several sections; and, in addition to certifying that he is a member of the Association, has permission to use the initials D.B.O.A. Candidates must in every instance supply their own test cases, trial frames, test types, pliers, rules, drawing instruments, dissecting knife, etc. Spherometers and tables of reference are not permitted at the examination. Pens, ink, and paper will be found by the examiners. Illumination for testing purposes will be supplied. Candidates will be required to satisfy the examiners in each of the following sections:—I., II., and III. Candidates who already possess an optic grade certificate granted previously to December 31, 1902, will not be required to sit for section I. (a) and (b), or section III. (a). It will be necessary in all cases to sit for Section II. (a) and (b) and section III. (b), (c), and (d).

Section I. (Practical).

(*a*) The neutralising or "flattening" by trial lenses of about one dozen spectacle lenses (plano, spherical, cylindrical, prismatic, etc., both singly and in combination). The marking of centres, axes, and base lines with a wax pencil or some other such means. The judgment of quality and nature of curvature of each surface of edged or unedged lenses in the matter of blemishes, colour, centering, polish, workmanship, etc. The marking of an unedged lens for insertion in an oval frame. A fair acquaintance with the various extra or eccentric lenses sometimes used in spectacle work, such as hyperbolic, orthoscopic, isometric, toric, etc., lenses. The comparison and analysis of a pair of glazed spectacles with the written prescription. A knowledge of the signs used in optical prescriptions.

(*b*) The setting up and straightening systematically of one or more badly twisted frames. (Marks will be given for method as well as results.) The judgment of the approximate wholesale commercial value of about one dozen frames of different materials. (Evidence of nationality is not necessarily required.)

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Yellow and Green sensitive.

Speed twice as fast as any other plate of same grade.
Can be freely used in red light.
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THE PRICE IS THE SAME AS ORDINARY PLATES.

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A new and remarkable Bromide paper.
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Beautiful surface.
Rich and lustrous black shadows, giving a wealth of detail.
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SOLE MANUFACTURERS—
ELLIOTT & SONS, Ltd., Barnet, Herts, ENGLAND.

Written remarks as to quality, style, purpose, and general workmanship of the above. A fair acquaintance with the various extra and eccentric patterns of frames sometimes used in spectacle work for special purposes. The measurement of a symmetrical or assymetrical face for an eyeglass or spectacle frame. (Any system or rule may be used.)

Section II. (Practical) (*a*) and (*b*).

(*a*) The personal subjective testing of one or more living subjects, either ametropes or emmetropes, artificially made ametropic by means of trial lenses. Subjective methods only must be employed. The candidate is required to exhibit deftness with test lenses, familiarity with his test case, and to proceed with the subjective examination on similar conditions, as far as possible, as practised in his own testing-room. No particular system or method is exacted. Any defined method may be employed, but he will be expected to be thoroughly conversant with the theoretical and optical principles underlying whatever system he may use, and give reasons when required for any particular step in the testing.

(*b*) At the discretion of the examiners candidates will be required either to dissect roughly the eye of a freshly-killed calf, sheep, or pig, and point out to the examiners such commonly known parts as the iris, lens, extra-ocular muscles; or to make similar demonstrations from a model supplied by the examiners.

Section III. (Theoretical) (*a*), (*b*), (*c*), (*d*).

(*a*) The nature of light; Transmission of light; Shadows and Penumbra, Photometry; The law of inverse squares; Refraction by prisms and lenses; The Gauss theory; Cardinal points; Conjugate images; Menisci; Index of refraction; Critical angle; Real and virtual images and foci; Formulæ[*] and construction of images formed by lenses; Determination of focal lengths; Spherical and chromatic aberration; Caustics; The decentration of spherical and cylindrical lenses; numeration of prisms and lenses; Refrangibility; Dispersion; On the surface grinding of spectacle lenses and the manufacture of frames; On the optical principles of such instruments as are commonely used in the ordinary business of a dispensing optician—*e.g.*, the tourmaline pebble tester; On the transposition, addition, and subtraction of spectacle lenses.

(*b*) The optic system of the eye; optic axis; Angles gamma and alpha; Visual line; Ocular spherical and chromatic aberration; Optometers or near-point measures; Influences of position of lenses from the eye; The history and mechanism of accommodation; Anomalies of the refracting system; Their history, diagnosis, and treatment with lenses; Optical functions of the pupil; The light sense and its measurement; Fechner's law; The colour sense; After-images; The form sense; The measurement and statistics of visual acuity; The ocular movements; The law of listing; Measurement of convergence; Relations between accommodation and convergence.

(*c*) The cornea; Aqueous and vitreous humour; Iris; Lens and capsule; Ciliary body; Choroid; Sclerotic; Retina; Optic nerve; Eye-lids; Lachrymal gland; Conjunctiva; Orbit; Ocular muscles; Macula lutea; Ora serrata.

(*d*) Strabismus; Diplopia; Monocular and binocular vision; Phorometry; Trial case appliances used in the measurement of muscular im-balance; Stereoscopic exercises; Use of prisms in refraction anomalies.

The ethics of optology; The necessity for specialism in optological work; The relations of the optologist to the general dispensing optician; The general medical practitioner and the oculist.

The Fellowship Examination.

Candidates must in all cases hold the Dioptric examination certificate. This examination is open to principals who have held for one year the Dioptric certificate of the Association, and to assistants and managers who have held for two years the Dioptric certificate of the Association. The examination fee required by the Association is £5 5s., unless the applicant was a member of the Association previous to October 22, 1896, in which case the fee is £2 12s. 6d. The certificate grants Fellowship to the member, and clearly shows the various sections in which he has passed. Candidates must provide test case, trial frame, test types, small appliances, ophthalmoscope, and retinoscope. They are at liberty to bring their own ophthalmometers and larger instruments, if suitable notice be given to the Secretary, in order that due arrangements may be made for lighting. An endeavour will be made (without charge) to supply for examination any particular make of ophthalmometer, perimeter, phorometer, or other instrument (provided that such instrument is a facsimile of the one actually in use in the testing-room of the candidate). Candidates must communicate in good time with the Secretary in order that due arrangements may be made. Candidates will be expected to satisfy the examiners in the following sections:—I., II., III.

Section I. (Practical), (*a*), (*b*), (*c*).

The candidate is examined at his own choice in one only of the following divisions:—

(*a*) The eyes of freshly-killed sheep, calves, or pigs will be furnished to the candidates, who will be expected to find and point out to the examiners such parts of the eye as required.

(*b*) Candidates will be required to recognise certain embryological specimens and microscopical sections under the microscope. Credit will be given for specimens previously prepared by the candidates.

(*c*) Recognition of external diseases. Models will be provided for the candidates, who will be expected to recognise some of the commoner forms of disease evident from external observation.

Section II. (Practical).

(*a*) Examination of living subjects. One or more living subjects will be provided for examination. The candidates are expected to make a thorough and searching examination, objective and subjective, embodying the conclusions arrived at in a written report on a form specially provided by the examiners. The candidates will be expected to be familiar with methods of focal illumination for diagnosis of cataract, corneal opacities, etc.; with the use of the ophthalmoscope for ascertaining the condition of the fundus, vitreous, and lens; with the ophthalmometer for estimation of corneal curvature and deductions therefrom; with the perimeter for the field of vision; with the retinoscope for estimation of the refraction; with the phorometer, etc., for muscular anomalies. Questions may be put to the subject by the candidates with a view to aid in diagnosis. The subjective part (if required) of the examination by trial lenses will occur at the close of the examination.

Section III. (Theoretical).

Separate papers (*a*), (*b*), (*c*), (*d*), (*e*), of about one hour to one and a half hour's duration each, are set on the following subjects:—

(*a*) Advanced physiologic and physical optics. The Dioptric apparatus; The schematic eye; Retinal images; Optical defects of the eye; Functions of the iris and retina; colour perception; Theories of accommodation; Regular and irregular astigmatism; The twisting properties of cylinders; Effect of spherical and cylindrical lenses on size of retinal images; Reflection in curved mirrors; Images of Purkinje; False images of the eye; Entoptic phenomena; The optical principles of ophthalmometry; The optical principles employed in the use of objective instruments.

(*b*) The development of the eye; Optic vesicles; Medullary folds; The ectoderm; The mesoderm; Optic stalk; Development of the lens, optic nerve, fibrous coats, vitreous humour, and eyelids; The anatomy of the orbit; Eyelids; Conjunctiva; The ocular muscles; The lachrymal apparatus; Fibrous tunics; Choroid; Retina; Ciliary body; Iris; Optic nerve; Optic tract; Optic membranes; Crystalline lens; Suspensory apparatus; Blood vessels and lymphatics of the eyeball, etc.

(*c*) The relations of the optologist to the medical practitioner and the optician; Discussion of possible problems ensuing therefrom; The meaning of certain prefixes and suffixes in ophthalmological words and phrases; The ethics, etymology, history, biography, and bibliography of refraction and ophthalmology.

(*d*) The condition of the fundus as seen by the ophthalmoscope and their relation to refraction; The appearances and conditions of the reflexes in retinoscopy; The uses of perimetry, together with an acquaintance of the principles underlying the various principles of known instruments; Amblyopia, amaurosis and disturbances of vision without ophthalmoscopic

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[*] The candidate may be required to demonstrate practically some of the constructions.

THE 'VICTORIA' STAND CAMERAS
fitted with the celebrated
BUSCH RAPID APLANAT LENS
WRITE FOR PARTICULARS.

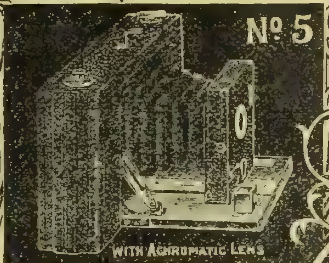
THE "VICTORIA" HAND CAMERAS
embodying all the latest improvements.
From £1 1s. to £4 10s.

THE "VICTORIA" BACKGROUNDS
in Flatted Oil, Washable, made in various sizes. . .
From 2/3 each.

THE "MERMAID" CAMERAS
Reliable British-made goods.
Price 5/-, 6/6, 8/6 & 10/6.

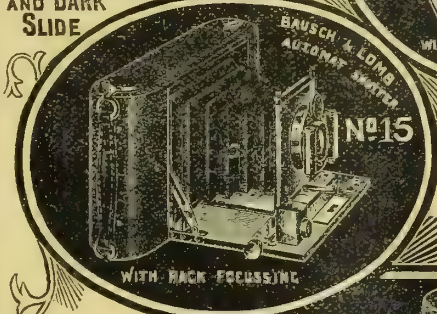
THE "VICTORIA" DEVELOPERS
An improved method of packing Chemicals for Photography in Glass Tubes and Cartons. . .

THE "VICTORIA" FILM CAMERAS



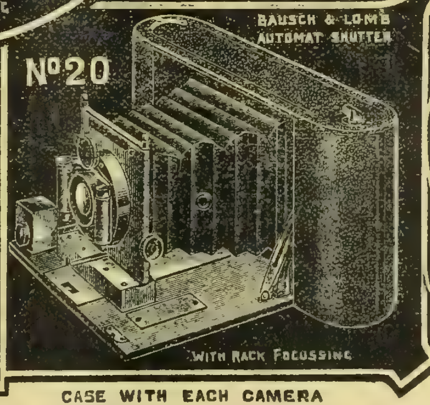
No 5
QUARTER PLATE
£1·1·0

No 10 QUARTER PLATE
£ 1·15·0
DITTO WITH FOCUSSING SCREEN AND DARK SLIDE £2·2·0



No 15
QUARTER PLATE
£ 3·17·6

No 20
5½ + 3¼
POST CARD SIZE
£ 4·12·6



CASE WITH EACH CAMERA

James Woolley, Sons & Co Ltd.
VICTORIA BRIDGE, MANCHESTER
Our 1904 Photographic Catalogue (180 pp.) is now ready, and will be sent post free on application

TRADE DISCOUNTS ON APPLICATION.

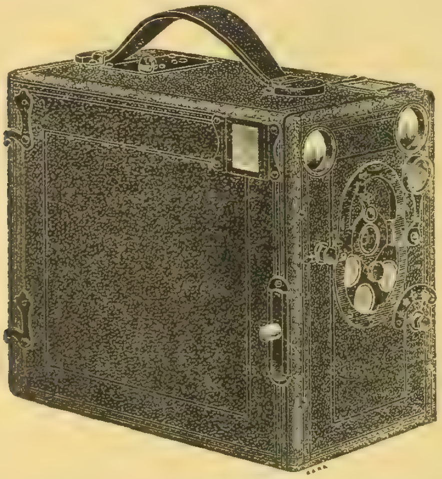
change; Diseases of the eye, and common ophthalmic operations.

(*e*) Physiological action of the ocular muscles; Field of fixation; Binocular and monocular perception of depth; etiology and measurement of strabismus; Diplopia; Associated movements; Heterophoria; Anomalies of individual ocular muscles; Optical and therapeutical value of prisms; The various appliances suggested or used in prismetry and measurements of muscular anomalies, together with the optical principles underlying their construction; Effect of prisms on retinal images.

Further particulars concerning the examinations held in connection with the British Optical Association may be obtained on application to the Secretary, Mr. J. H. Sutcliffe, 17, Shaftesbury Avenue, London, W.

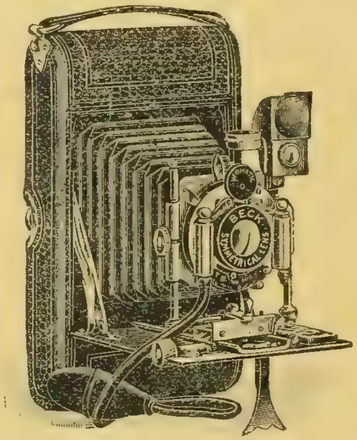
HAND AND STAND CAMERAS.

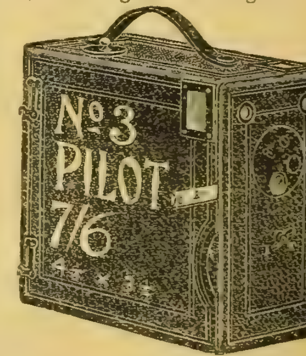
Houghton's Cameras for 1904.—Messrs. Geo. Houghton and Son, Limited, 88-89, High Holborn, W.C., are to be complimented on the improvements effected in several of their well-known cameras for the coming season. The "Holborn Guinea" hand camera, as shown in the illustration, now has a new changing arrangement, a shutter working at several speeds, with rotating stops adjustable from outside, a set of three magnifiers for taking portraits at close quarters, and an isochromatic screen attached to the camera front and easily adjusted over front of lens. The "Holborn" hand cameras, Nos. 1 and 2, have the magnifiers permanently attached to the front of the camera, and are easily brought into position by moving them either upwards or downwards. An isochromatic screen is also supplied, and the shutter works at four different speeds as well as for time exposures. The "Holborn" focussing hand camera No. 6*a* has a changing and focussing arrangement, rising and cross front, dust cover to lens, isochromatic screen, and is fitted with the "Ilex" patent shutter, which gives a more accurate and greater range of exposure than the ordinary shutter. The "British Ensign" folding roll film hand camera will be sold in the form which has already gained for it a well-earned popularity. A new model is, however, being prepared for the coming season which will be known as the "Royal Ensign," and will embody several important improvements. The "Scout" hand camera is also being improved both in appearance and design. In camera sets the 1904 "King," retailed at one guinea, is excellent value, as is also the "Queen" camera, a new introduction. The "Triple Victo" ½-plate set, retailing at 70s., is an extremely good line, while special attention should be directed to the No. 3*a* set, which is sold with an Aldis Series III. Anastigmat lens (f7·7) and Thornton-Pickard time and instantaneous, behind lens shutter, at £4 4s. Send for fuller particulars.



"Mersey" Cameras.—From the banks of the Mersey we have particulars of some well-made cameras, the products of Messrs. Evans Sons Lescher and Webb, Limited, 56, Hanover Street, Liverpool. The No. 5 "Mersey" ¼-plate is fitted with a Beck symmetrical lens in Bausch and Lomb "unicum" shutter, giving speeds up to 1/100th of a second. Price 63s. The No. 6 ¼-plate has rising front and finest British planastigmat lens, with aperture of 6.8, with Bausch and Lomb "automat" shutter. The cost is 90s. These goods, together with a large variety of others, are all British made, and for further particulars we would refer our readers to Messrs. Evans Sons Lescher and Webb's 1904 catalogue, which is now ready.

Camera House, 1904.—In the front row of camera makers for chemists are Messrs. W. Butcher and Sons, Camera House, Faringdon Avenue, E.C. When applied to for particulars of new goods and photo novelties, our representative was informed that he could be accommodated up to almost any amount of space, and we verily believe so. Happening to drop in when their Advance Camera List had just come in hot from the press, it was soon seen that it would be a question of delicate selection, for the large number of articles available for chemists was astonishing. And, by the way, readers should not fail to obtain a copy of this handy little brochure, which is printed in three colours, with a neat green cover. By this date Messrs. Butcher's complete list will be ready. This is quite a bulky volume, crammed full with photographic information. From the advance list, however, which is divided into three parts—Part I. dealing with roll-film cameras, Part II. with hand cameras, and Part III. with outfits—the following goods, which are either entirely new or improvements on last season's makes, are worthy of notice. The Carbine roll-film cameras—No. 1 (size 2¼ × 3¼), price £1 1s.; No. 2, £1 10s.; No. 3, £2 2s.; also post-card Carbine, of which an illustration is shown, price £4 12s. 6d. This camera makes pictures 5½ × 3¼ inches, which will cover the ordinary post-card. The No. 4 Carbine, with 1904 improvements, is listed at £3 12s. 6d. Its points are swing back, rack and pinion focussing, plates or films, automatic shutter, spirit level, improved scale, detachable shutter. Among hand cameras is a very cheap line, the little "Jap," to sell at 3s. Quite a new line is the "Pilot" series of hand cameras, a well-made article, the No. 2 at 5s., the No. 3 at 7s. 6d., and the No. 4 at 12s. The folding "Express" camera at 10s. 6d. is good value, and the guinea "Midg" needs no recommendation. We notice also a Post-card "Midg" at 31s. 6d., which is sure to be popular. Another new series is the "Cameo" Pocket Camera, No. 1, 21s., taking quarter-plate picture; No. 2, 32s. 6d., with special aplanatic lens; and No. 3, 50s., with Beck symmetrical lens. These are only morsels out of a great variety of apparatus. Chemists should certainly obtain and peruse the lists which Messrs. Butcher and Sons send on application. We have just received particulars of their monster competition in connection with "Coxin," the new daylight developer, and the prizes—sixty-eight in all—are something out of the common, including a Humber motor-bicycle, combined billiard and dining-table, gramophone, and cameras. Dealers who supply to competitors winning the first five prizes will also receive duplicate prizes. Chemists are likely to hear more about this from their customers.





. . *The* . .

Photographic Season has commenced

If you want the most up-to-date Photographic Tablets, Solutions, &c., for retail . .

WITH YOUR OWN NAME

we invite you to send for Samples of our Preparations and Copies of our Pamphlets on Photography.

WRIGHT, LAYMAN & UMNEY LTD.

SOUTHWARK, LONDON, S.E.

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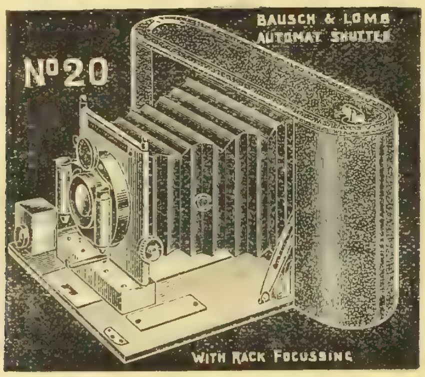
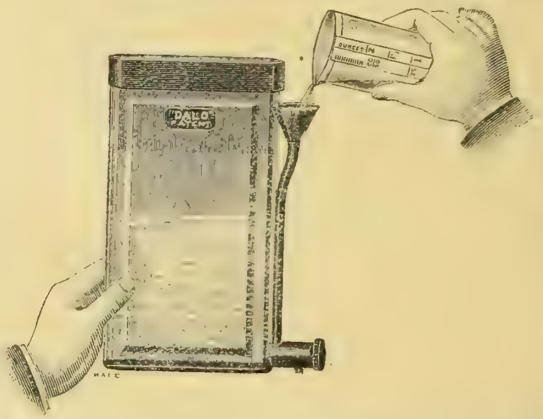
Messrs. Woolley, Sons, and Co., Limited, Victoria Bridge, Manchester, send us advance sheets of their catalogue of photo. goods, and the perusal of these is quite a photographic education. The "Victoria" series of hand cameras are just the line which chemists will find most profitable to stock. The No. 14 is a neat ¼-plate leather-covered article, with achromatic lens and diaphragms, giving excellent definition, and also fitted with magnifiers for various distances. Price £1 2s. 6d. Camera No. 22, introduced last year, and fitted with rapid rectilinear lens and improved shutter, is priced at £2, and is a cheap and, at the same time, a reliable camera. No. 26, of superior make and finish, best morocco-covered, and with rapid aplanatic lens working at large aperture, sells at £3; while No. 30 is in general construction similar to No. 26, only fitted with rising and cross front, and embodying the very latest improvements. Price £4 10s. The "Victoria" film cameras, for daylight loading, are very well made, with mahogany body, covered with best quality morocco-grain material. The No. 5 folding pocket camera is to sell at £1 1s., and the No. 10 at £1 15s. No. 15 is fitted with rising, falling, and cross front, and also rack and pinion to the baseboard. The latter is quite a special feature, enabling the operator to use any lens having a focus up to 7 in. The price is £3 12s. 6d. No. 20 is on the same lines, only post-card size. We might also draw attention to the No. 66 and No. 80 Victoria outfits, comprising ½-plate camera, double dark slide, lens, shutter, and tripod stand, at £3 6s. and £4 respectively, the former having a "Beck" rectilinear lens and the latter a No. 2 Bausch rapid aplanat lens. Another special line is the "Excelsior" hand cameras, an excellent sample being the No. 15, at 21s. The tourist folding cameras are suitable for cyclists and others requiring portability as a feature, and the price of No. 00 is 12s. 6d., No. 0 £1 17s. 6d. Messrs. Woolley, Sons, and Co., Limited, put up the "Victoria" developing, toning, and other solutions, as well as dry powder developers, and the "Excelsior" outfits are a useful series for the beginner.



F. Darton and Co., 142, St. John Street, E.C., are a very old firm in the optical trade, but their connection with the making of cameras is not perhaps so widely known. An inspection of their "Exceptional" hand camera (new pattern) would show that at any rate they know how to turn out a reliable article at a very moderate cost. This apparatus is fitted with a slow speed shutter with a range from two seconds to 1/100th second, and possesses four stops, with F. valuations, time instantaneous shutter, brilliant finders with hoods, and automatic register. By a clever arrangement at the back it is impossible for two slides to fall at once. The camera is keratol covered and sells at a guinea. Another pattern with ordinary shutter sells at 15s.; while a rectilinear lens camera, on similar lines to the one described above, with focussing lenses working behind the iris diaphragm, and leather covered, sells at 45s. A stereoscopic camera ordinary lens is priced 45s.; rectilinear, 70s. With regard to optical goods, we need say little, as Messrs. F. Darton and Co. are so well known in this connection. We might, however, direct attention to their complete cases of spectacles and folders, which would be found profitable to stock. The prices range from two guineas upwards. They also supply very neat mahogany show-cases, and customers can, moreover, be provided with spectacle signs for placing over the doorway and electros for illustrating their price-lists, etc. Chemists should have no difficulty with regard to oculists' prescriptions; all they need do is to pass them on to Messrs. Darton for execution. With the interchangeable lenses now supplied, it would be very easy, Messrs. Darton say, for the country chemist to keep an extra stock of lenses by him, and with the slightest mechanical skill to screw in new lenses without trouble. This is a profitable side-line, as many have proved, when dealing in the proper quarter. A post-card will obtain a copy of Messrs. Darton's catalogue of electrical novelties, which is another branch of their business.

PHOTOGRAPHIC AND OPTICAL SUNDRIES.

Some of Houghton's Novelties for 1904.—Messrs. Geo. Houghton and Son, Limited, have several new things for the season just beginning. Perhaps the most attractive and novel is the "Dalo" Daylight Developing Trough. This is a flat, transparent, ruby celluloid case, capable of holding a photographic plate and a sufficient quantity of developing solution. The plate is inserted under cover of a changing bag or focussing cloth, and can then be developed safely in daylight. The method of introducing the solution is shown in the illustration, and the used developer is removed by means of the screw tap at the bottom of the trough. Water may then be run through for a few minutes before slipping the plate into the fixing bath. This apparatus should become very popular with tourists and travellers, as it permits the development of a plate or film to be watched and the density judged without difficulty. The "Benethian" water-wheel washer for plates is another recent introduction which will doubtless commend itself to amateurs. The latest thing in printing apparatus is a Circular Post-card Printing Frame, which has a revolving movement, thus enabling post-cards to be printed in any position on the negative. It marks a distinct advance in post-card printing. Messrs. Houghton and Son have this year begun to publish *Houghton's Monthly*, a journal showing the progress made in the photographic world, and giving full particulars concerning recent introductions. Photographic chemists whose names are not yet on Messrs. Houghton's list to receive a copy of this publication each month should write to the firm, as the journal will be of considerable use in keeping them posted as to the working and uses of new apparatus.



A Photographic Sundries House.—F. Newbery and Sons, 27 and 28, Charterhouse Square, E.C., keep stocks of a large variety of cameras, plates, and papers of the best-known makers, and also a large assortment of accessories. A particular line is the Midg guinea hand camera (new pattern), with patent back to prevent unexposed plates falling out when taking out used plates. It is an exceedingly well-made quarter-plate camera, with three magnifiers, and is exceptional value. Among other articles noticed were celluloid dishes and printing-frames, a good, well-made line of the latter ranging in price from 5½d. ¼-plate size to 1s. 8d. whole-

Developing, Toning, Fixing, Intensifying, etc., etc.

Photographic Tablets.

	Cartons.	
Pyro Soda	4/-	per doz.
Pyro Soda, "Ilford Form." ...	4/-	"
Metol Quinol	7/6	"
Pyro Metol	8/-	"

Full List on application.

Each carton will make 20 ozs. developer.

Concentrated Solutions.

	Boxes.			
Pyro Soda	3/9	and	7/6	per doz.
Pyro Soda, "Ilford Form."	3/9	"	7/6	"
Metol Quinol ...	3/9	"	7/6	"
Pyro Metol	3/9	"	7/6	"

Full List on application.

Each box makes 15 or 30 ozs. developer.

THE "GLOBE" PHOTOGRAPHIC SOLUTIONS.

A series of concentrated one-solution products, packed in amber panelled bottles, the corks sealed with wax and capsuled. Each bottle is packed in an attractive carton containing pamphlet, rubber stopper and corkscrew.

	6 oz. Size.			12 oz. Size.	
No. 1 Developer	5/6	per doz.	...	9/6	per doz.
No. 2 Restrainer	2/3	"	...	3/9	"
No. 3 Fixer	2/3	"	...	3/9	"
No. 4 Reducer	5/-	"	...	9/-	"
No. 5 Intensifier	3/-	"	...	5/6	"
No. 6 Toner and Fixer ...	11/-	"	...	18/-	"

HYPOSULPHITE OF SODA. (In Transparent Pea-size Crystals.)

In 1 lb. Cartons ... ... 14/- per gross.

We can supply everything you want in the way of Photographic chemical Preparations, either according to our formulæ or yours, in bulk or packed for retail sale.

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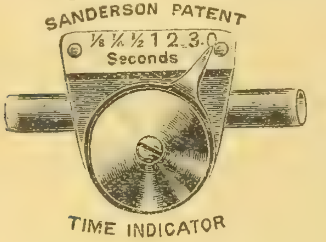
plate, less 33 1/3 trade discount. The Jaynay printing-frames for post-cards sell at 1s. Chemists would do well to obtain a copy of Messrs. Newbery's photographic list, which is now about ready. A little novelty for which there should be a demand is the "John Bull" Pedometer, which, carried in the pocket, registers the distance walked. The selling price is 5s. 6d., trade price 47s. per dozen, registering up to ten miles, or up to 100 miles 7s. 6d., and 63s. per dozen.

A Catalogue of Photographic Specialties has come to hand from the Altrincham Rubber Co., Altrincham, and the contents comprise shutters, lenses, cameras, carrying cases, backgrounds, bromide printing machine, and various other accessories. We illustrate the Sanderson Patent Solid Box Shutter, price 10s. 6d., which is described as the smallest, neatest, cheapest, and best time and instantaneous roller-blind shutter in the world. It is suitable for small lenses used in hand and folding pocket cameras, as well as for quarter, half, and whole-plate cameras. Another article to be noted is a negative and print-washing rose for fitting on water-taps; price 1s. 6d., or with extension tubing 1s. 9d. This company are agents for the Suter lenses, which are of high-class quality, and eminently suitable for instantaneous work and all classes of subjects. They range in price from £3 12s. upward, including iris diaphragm. The new Timing Device or Time Indicator, which we illustrate, is a very simple little article, enabling users of rapid shutters to obtain short-time exposures of ⅛, ¼, ½, 1, 2, and 3 seconds automatically; price, 3s. 6d. A large number of other articles are included in the catalogue, but space forbids us from particularising, and we would recommend readers to obtain a copy of the booklet.



The "Wellington" Brand.—The veriest tyro will instantly recognise this name as a synonym for all-round excellence. Three very attractive booklets have come to hand from the proprietors, Messrs. Wellington and Ward, of Elstree, Herts, and we would recommend all our readers interested in photography to obtain copies. They are worth procuring if only for the ideas they suggest, being original in contents and general "get-up." The calendar is a twenty-four page narrow book, with coloured pictures of Alphonso and Belinda on every other page above the calendar for the month. A book of instructions (third edition) tells all about the "Wellington" photographic papers and films, and how to work them, and should be invaluable to those who wish to produce the best results with first-class materials. The third is a price-list in a convenient form for referring to.

Messrs. Harrington Bros., of 4, Oliver's Yard, City Road, E.C., are well known for their photographic chemicals of exceptional strength and purity. These are supplied either in bulk or in bottles of various sizes, and chemists can have their names printed on the labels. Their price-list also includes fine chemicals for laboratory, technical, and research work, and our readers should write for a copy.

Messrs. A. E. Staley and Co. have now removed to 19, Thavies' Inn, E.C. Their excellent series of lenses are already known to many of our readers, and the comparatively moderate prices are appreciated, especially taken in conjunction with the quality of the articles supplied. Lens No. 2,743—an R.R., with ring iris diaphragm—sells at 12s. 6d., and is of exceptional value. The ordinary amateur will obtain splendid results from this lens. An inspection of Messrs. Staley's catalogue will reveal many good articles which chemists might stock with advantage this coming season, including their popular "Weno" and "Premo" series of cameras. All cheap sets are now fitted with Bausch and Lomb lens and shutter in place of the roller-blind shutter previously supplied.

Photo Chemicals.—One does not readily connect the name of Messrs. Wright, Layman, and Umney, Limited, with photography. Nevertheless, this firm are manufacturers of photographic chemicals. The new department was inaugurated twelve months ago, and is rapidly forging ahead in supplying tablets and solutions for chemists who cater for the "camerist." They have discovered an opening for this class of goods to be sold under chemist's own name, and we have no doubt that this new departure will be appreciated by large numbers. The Globe photographic solutions are already known to many dealers. They are a handy assortment of solutions (six in all) for the use of the amateur whose knowledge of the photographic art is not too profound; also for the man who wishes to take the most direct and convenient route in the prosecution of his hobby. A little pamphlet which accompanies the solutions deals very concisely with the method of using them, and ought to make the beginner happy. The solutions are in two sizes, 6 oz. and 12 oz., and the prices vary from 2s. 3d. to 11s. a doz. for the 6-oz. bottle, and 3s. 9d. to 18s. a doz. for the larger size. Messrs. Wright, Layman, and Umney, Limited, also supply a comprehensive list of tablets for photographic purposes packed in cartons and in bottles. Each carton will develop twenty quarter-plates, and for pyro-soda the price is 4s. a doz., metol-quinol 7s. 6d. a doz., and gold toning 9s. a doz. In connection with these there is also a useful little pamphlet, entitled "Practical Hints for Using Photographic Tablets for Developing, etc." The firm are shortly bringing out a new line of solutions which, like the tablets, will bear the chemist's own name. There is a good margin of profit, and interested readers should write at once to 48, Southwark Street for full particulars.

Fallowfield's Photographic Annual, 1904.—This publication is perhaps the largest guide or catalogue yet issued to the photographic public. It contains 1,040 pages, with 1,860 illustrations, and an effort has been made to make it as comprehensive as possible, goods manufactured by nearly every reliable firm in England being included. The volume has been entirely revised and various alterations effected. Photographic dealers desirous of possessing a copy should forward 1s. 6d. to Mr. Jonathan Fallowfield, 146, Charing Cross Road, London, W.

Leather Polish for Cameras.—Mr. J. E. Lockyer, 244 to 250, Evelyn Street, Deptford, London, S.E., is placing on the market a preparation which he names "Black Leather Reviver," which is, as the title implies, for polishing up leather cameras, straps, etc., which have become rubbed and shabby through use. This preparation should appeal to most amateur photographers who wish to polish up their cameras ready for the spring. Mr. Lockyer, in sending a copy of his 1904 price-list, intimates that he will be glad to forward a copy to any chemist or photo dealer applying for same.

New Barnet Products.—Messrs. Elliott and Sons, Limited, of Barnet, Herts, are this season introducing several new things, notably an orthochromatic plate, working at twice the speed of most other orthochromatic plates, and the "Barnet" lustra matt bromide paper, which renders all the detail in the high lights. Reference is made in our "Practical Photographic Notes" to these new products, which are sold at the usual prices.

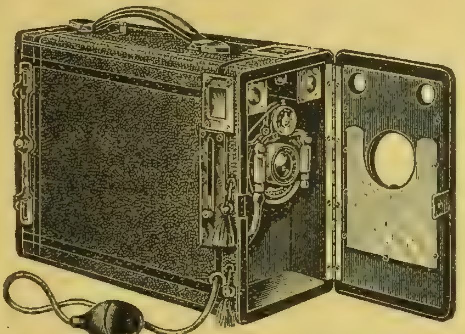
The Compounding of Oculists' Prescriptions.—Now that a considerable number of chemists have, by special study, qualified themselves to supply the public with spectacles and eye-glasses, scientifically suitable for each individual's special requirements, it may frequently become necessary for the chemist-optician to refer would-be customers to the oculist. Hence oculists' prescriptions will probably be brought to them to be compounded in much greater numbers than has hitherto been the case. It is extremely important that these, sometimes most difficult and intricate, prescriptions should be compounded with the greatest accuracy, but it is doubtful whether, in all cases, the chemist-optician will have the time or the appliances to deal with them satisfactorily; therefore, it is necessary that those engaged in supplying spectacles should know where to get prescriptions executed accurately and expeditiously. With the object of ascertaining

'MERSEY' Hand Cameras

ARE

BRITISH MADE

Send for our 1904
CATALOGUE
Ready March 29th



The No. 5 MERSEY, 63/-

QUARTER-PLATE.

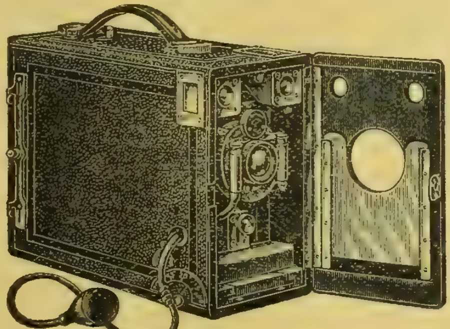
Mahogany Throughout, Covered in Leather.

BECK SYMMETRICAL LENS

in Bausch & Lomb '**UNICUM**' Shutter, giving all speeds up to 1/100th of a second.

FOCUSSING TO SCALE & TWO BRILLIANT FINDERS

Perfect changing mechanism for **12** Plates.



The No. 6 MERSEY, 90/-

QUARTER-PLATE.

Mahogany Body, well seasoned, and covered in Leather, and will stand any Climate.

RISING FRONT & FOCUSSING TO SCALE
FINEST SELECTED BRITISH . . . . .
PLANASTIGMAT LENS, APERTURE 6·8.

Giving exquisite definition at full aperture in

BAUSCH & LOMB "AUTOMAT" SHUTTER

Giving all exposures up to 1/100th of a second.

TWO SELECTED BRILLIANT FINDERS

and Perfect changing mechanism for **12** plates.

WHOLESALE :—

EVANS SONS LESCHER & WEBB

Limited,

56, Hanover Street, LIVERPOOL

what facilities are offered in this branch of the optician's business, a Journal representative called the other day at 47, Hatton Garden, E.C., where the Anglo-American Optical Company has established itself, and he was shown over the premises. In the shop, show-rooms, and stock-rooms were to be seen all the requisites for the business of an optician, and the company is evidently in a position to supply any particular line at the shortest notice. But our representative was most interested in the prescription department, where he saw a staff of skilled workmen busily engaged in compounding the prescriptions received that day. For it is one of the special features of the Anglo-American Optical Company that all orders received on any day must be executed and despatched the same day. The facilities are undoubtedly there, and the chemist-optician who has not already settled upon a reliable firm with which to do business should not fail to apply to 47, Hatton Garden, for particulars as to terms, etc.

An Optician's Outfit.—The cost of an outfit to a chemist who thinks of taking up spectacle dealing as a side-line need not be great. The most important part of the outfit is perhaps what is known in the trade as a "trial case." This consists of a selection of numbered lenses and a spectacle frame. In addition to this the optician will require test type and a small rule for measuring the distance of pupils; a stock of spectacles, eye-glasses, etc., is also necessary. With this outfit the chemist-optician will be able to suit the requirements of most of his customers. It will sometimes happen, however, that he has not in stock lenses to suit certain cases, when he will fill in a prescription form which he will send to a manufacturer to be dispensed. Messrs. Raphael, Wheway, and Redfern, 51, Clerkenwell Road, London, E.C., do a large business in prescription orders, and hold a very large stock of everything required by an optical dealer. Among other contrivances supplied by this firm are the following:—Binocular test and exerciser, consisting of a hand frame of polished mahogany, 7½ in. × 5½ in., with handle, upon which the reading type is placed, above which is a mounted brass-bronzed rod 7 in. long by ½ in. wide, adjustable to various heights. The rod cuts the printed line at right angles, and if one eye only is in use, the head must be moved to complete the line. It can also be used for practising binocular reading after correction of strabismus—cone muscle test for ascertaining the position of base of corrected prism without calculation. It consists of a small coned disc of glass mounted upon a circular disc of ground glass which fits into trial frame. By occluding one eye and looking at a small flame through the cone with the other eye an annulus of light is observed. The occluded eye is then uncovered and to the normal eye the source of light occupies an exactly central position. If to the contrary, prisms are indicated, and such of proper correcting strength and in such a position as regards base should be added as to bring the direct image to the centre—test for binocular vision consisting of the word FRIEND in 12-metre type, alternate letters of red and green, mounted in a black reeded frame 9 in. × 4 in. in such a manner that the letters are transparent. The type is viewed through a pair of red and green discs. If binocular vision exists, the whole word is seen. If one eye only is used, the word visible becomes either F I N or R E D by the exclusion of alternate letters. Readers interested should write to Messrs. Raphael, Wheway, and Redfern for fuller particulars.

Enlargements required by chemists may be entrusted to Messrs. Myers and Frost, of 41, Oxford Street, Manchester, who make a specialty of this department of photography, The work turned out by them is of excellent quality, and customers can rely upon prompt and careful attention.

Enlargements, etc.—Messrs. J. Martin and Co., Photographic Works, New Southgate, N., lay themselves out for developing, printing, enlarging, and copying, and chemists should write for a catalogue of prices and particulars.

Atherton, Rudd, and Co., Norwood Junction, S.E., have a line in photographic chemicals—viz., hydroquinone, finest white crystals. This they send in 1 lb. parcels, carriage paid, for 4s. 6d., or 2 lb. 8s. 9d. A ½ lb sample can be obtained for 2s. 6d., cash with order.

Messrs. Wyleys, Limited, Coventry, have for a number of years packed their "Three Spires" brand of photographic chemicals and developers for sale by chemists. These are in cartons and bottles, and sell at popular prices. A full descriptive circular can be obtained on application.

THE PHOTOGRAPHIC LIBRARY.

The following are the more important and generally useful works which the chemist who is also a photographic dealer should possess:—

Abney's 'Instruction in Photography' (Sampson Low, 6s. net).

Brown's 'Photographic Apparatus' (Dawbarn and Ward, 1s. net).

Cole's 'Treatise on Photographic Optics' (Sampson Low, 6s.).

Meldola's 'Chemistry of Photography' (Macmillan, 6s.).

Taylor's 'Optics of Photography' (Whittaker and Co., 3s. 6d.).

Townsend's 'Chemistry for Photographers' (Dawbarn and Ward, 1s. net).

Wall's 'Dictionary of Photography' (Hazell, Watson, and Viney, 7s. 6d.).

The 'British Journal Almanac' (Greenwood and Co., 1s. net) will also be found a most useful annual for reference.

Any other photographic works, including those dealing with special branches, can be obtained from Messrs. Dawbarn and Ward, Limited, 6, Farringdon Avenue, London. E.C., who will send a complete list on application.

BOOKS ON OPTICAL SUBJECTS.

The following is a list of books recommended as suitable for candidates intending to sit for the examinations (see page ii. *et seq.*) of the Spectacle-Makers' Company, or the British Optical Association, or for chemists who, without intending to sit for those examinations, are desirous of perfecting their knowledge as opticians:—

Visual Objects.

Hartridge's 'Refraction of the Eye.' (Churchill), 6s.

'The Optician's Manual' (The Keystone, U.S.A.), 9s.

'The Optician's Handbook' (Gutenberg Press, 125, Fleet Street, E.C.), 3s. 6d.

General Heat and Light.

Glazebrook's 'Heat and Light' (Cambridge University Press), 5s.

Glazebrook's 'Physical Optics' (Cambridge University Press), 7s. 6d.

Mathematics.

Pendlebury's 'Elementary Arithmetic' (Bell and Sons), 4s. 6d.

Hall and Knight's 'Elementary Algebra' (Macmillan), 3s. 6d.

Hamblin Smith's 'Elementary Trigonometry' (Longmans), 4s. 6d.

Special Subjects.

In addition to the above subjects, opticians will also find it necessary to possess a practical acquaintance of the use and adjustment of the photographic camera, the microscope, the projection instruments, etc., all of which are fully dealt with in the following works:—

Traill Taylor's 'The Optics of Photography and Photographic Lenses' (Whittaker), 3s. 6d.

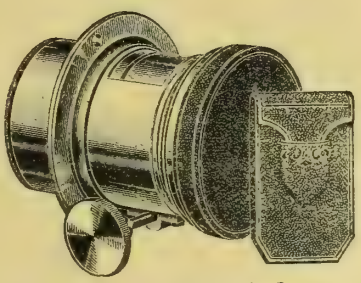
Gage's 'Microscope and Microscopical Methods' (Comstock Publishing Company, New York), 7s. 6d.

Glazebrook and Shaw's 'Practical Physics' (Cambridge University Press), 7s. 6d.

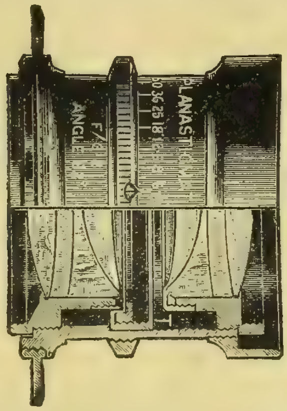
Lewis Wright's 'Optical Projection' (Dawbarn and Ward), 6s.

A. E. STALEY & CO., OPTICIANS, 19, THAVIES INN, HOLBORN CIRCUS, E.C.

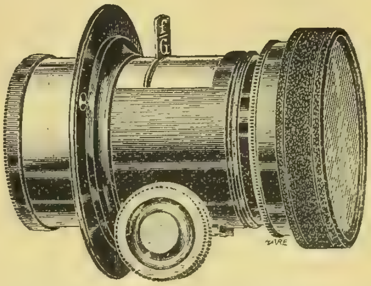
SPECIALISTS in PHOTOGRAPHIC LENSES.



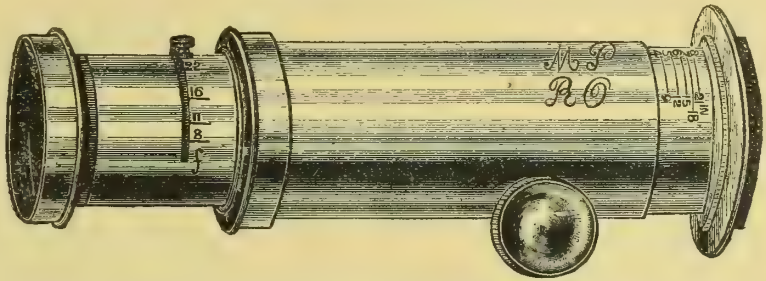
Cheap Series F4 **Portrait Lenses,** from **14/-**



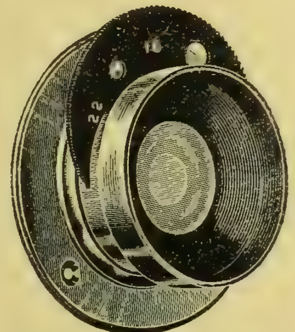
8 Lens System **Planastigmat,** a Perfect Lens, from **60/-**



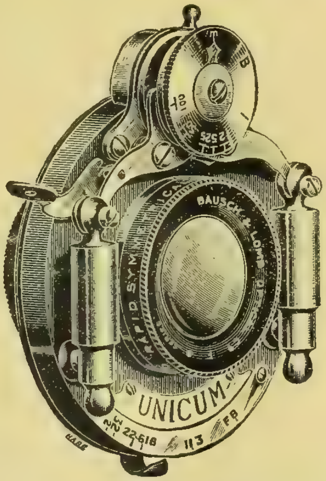
Best Series F4 **Enlarging Lenses,** from **18/-**



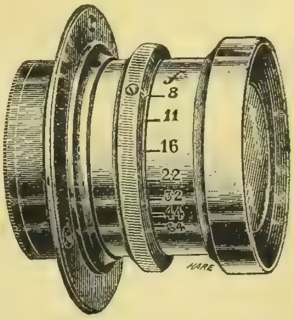
Special **Telephoto Lens,** giving amplifications from 3 to 8 times, **87/-**



Wide Angle Rectilinear Lenses, from **13/6**



Unicum Shutters, and Rapid Rectilinear F8 **Lenses,** from **33/-**



Rapid Rectilinear, F8 Series, from **10/-**

Lists Free on Application.

VERY LIBERAL TERMS TO DEALERS.

THE SALE OF PHOTOGRAPHIC CHEMICALS.

Many of the chemicals enumerated in the following list will be found amongst the ordinary stock of the pharmacist, but the prices given will be found to differ somewhat from the usual retail prices, while there are some chemicals included which are not usually kept in stock by chemists. In regard to the question of price, it is obvious that dispensing rates cannot be charged for chemicals supplied for photographic purposes; the prices here given correspond to those which photographers are accustomed to pay. Chemists who are in doubt regarding the selection of stock, not knowing what chemicals to purchase, or in what quantities they should procure them, should write to Messrs. Harrington Bros. or Messrs. Waller, Malvine, and Co., two firms which offer photographic chemicals bottled in convenient quantities for sale to photographers. The bottles are stoppered where necessary, and can be supplied either with plain labels or with the chemist's own labels. In case the chemist should prefer to purchase the chemicals in bulk—as he is certain to do if his photographic trade develops—he will find the lists issued by the above-named firms a useful guide as to the articles he should stock, and the relative quantities in which he is likely to require them.

	Per Oz. s. d.	Per Lb. s. d.
Acetone	—	—
Acid acetic glacial	0 2	1 0
Acid citric	0 2	1 8
Acid formic	0 2	1 9
Acid hydrochlor. pur.	0 2	0 8
Acid nitric pur.	0 2	0 8
Acid pyrogallic	1 0	9 9
Acid sulphuric	0 1	0 6
Alcohol (0·795)	0 5	4 0
Alcohol meth. (64 o.p.) 3s. 4d. per gallon	—	0 6
Alum 7 lb., 1s.	—	0 2
Alum chrome	0 1	0 8
Amidol	2 0	—
Ammonia (0·880)	0 1	0 8
Ammonium bromide	0 4	3 6
Ammonium sulphocyanide	0 4	2 6
Anthion (ammonium persulphate)	0 4	—
Benzole (No. 1)	—	1 6
Borax	0 1	0 6
Calcium carbide (tins free)	—	0 10
Calcium chloride, exsic.	0 1	0 8
Copper sulphate, recryst.	0 2	1 3
Dextrin	0 1	0 6
Diogen (bottles free)	1 6	—
Diphenal (bottles free) (3 oz.) 1s. 9d.	—	—
Eikonogen (bottles free)	1 2	14 0
Ether meth. (0·720)	0 2	2 0
Formalin (bottles free) 4 oz. 9d.; 8 oz., 1s. 3d.	—	2 0
Glycerin (1·260)	0 2	1 0
Glycin (bottles free)	2 0	—
Gold chloride 1s. 9d. per tube; 20s. per doz.	—	—
Hydroquinone (bottles free)	1 0	9 6
Iron ammonio citrate	0 3	2 0
Iron perchloride (dry)	0 2	1 0
Iron sulphate, pure	—	0 6
Lead acetate	0 1	1 0
Magnesium powder (bottles free)	1 4	20 0
Magnesium ribbon	2 0	—
Mercury bichloride	0 4	4 0
Metol	2 6	—
Ortol	2 6	—
Platinum bichloride, 15 gr. tube, 1s. 6d. each	—	—
Potassium bichromate	—	0 8
Potassium bromide	0 3	2 9
Potassium carbonate (pure)	0 2	1 6
Potassium caustic (sticks)	0 3	1 3
Potassium chloroplatinite, 15 gr. tube, 2s. 3d.	—	—
Potassium ferricyanide	0 3	2 6
Potassium ferrocyanide	0 2	1 6
Potassium metabisulphite	0 3	2 9
Potassium oxalate (neutral)	0 1	0 10
Potassium sulphocyanide	0 4	4 0
Rodinal (bottles free), 3 oz. 1s. 6d.	—	5 0
Silver nitrate	2 0	—
Sodium acetate	0 1	0 10
Sodium carbonate (cryst.)	—	0 6
Sodium caustic (sticks)	0 3	1 6
Sodium hyposulphite, 7 lb., 1s.; 28 lb., 3s. 6d.	—	0 2
Sodium hyposulphite gran. in boxes free	—	0 3
Sodium phosphate	0 1	1 0
Sodium sulphite	—	0 6
Thiocarbamide (bottles free)	1 6	—
Uranium nitrate	1 6	—

Caramel, which is sometimes in demand for backing plates, should not be used in the form of "Liq. Sacchar. Ust."; the best for this purpose is the dry form "crystal caramel," which may be obtained from Lichtenstein and Co., Silvertown Chemical Works, London, E. Dextrin: White dextrin should always be supplied. Pyrogallol should be stocked and sold in 1 oz. bottles. Schering's is the most popular, but the light form of this has been declining in sale somewhat of late, owing to the introduction of the heavier crystalline variety, which occupies but one-eighth the space, and is consequently more convenient as well as less expensive. This is supplied as "Pyraxe" by Messrs. Fuerst Brothers, of 17, Philpot Lane, E.C., and also by the agents for the "Actien-Gesellschaft für Anilin-Fabrikation." Pyroxylin, usually employed for dry-collodion work, should be obtained from Messrs. Hopkin and Williams, Ltd.; that prepared at "high temperature" should be specified. Schering's "Celloidin" is also an excellent pyroxylin for photographic purposes. Sodium hyposulphite should be in clean pea crystals, and is supplied of excellent quality, in bulk and in 1 lb. cartons, by Messrs. Waller, Malvine, and Co., of Castle Street, Oxford Street, W. This firm makes a special feature of the supply of photographic chemicals in packed form and in bulk.

TABLE FOR FINDING THE MINIMUM LENGTH OF STUDIO FOR A GIVEN LENS.

(From the *American Amateur Photographer.*)

DISTANCES IN INCHES FROM OBJECT TO LENS.

Equivalent Focus of Lens. In.	3 in. high.	4 in. high.	5 in. high.	6 in. high.	8 in. high.	10 in. high.	12 in. high.	16 in. high.	20 in. high.	24 in. high.	30 in. high.	36 in. high.	48 in. high.	54 in. high.	60 in. high.	72 in. high
3	75	57														
4	100	76	$61\frac{3}{5}$	52												
5	125	95	77	65	50											
6	150	114	$92\frac{3}{5}$	78	60	$49\frac{1}{5}$										
8	200	152	$123\frac{1}{5}$	104	80	$65\frac{3}{5}$	56									
10	250	190	154	130	100	82	70	55								
12	300	228	$184\frac{4}{5}$	156	120	$98\frac{2}{5}$	84	66	$55\frac{1}{5}$							
16	400	304	$246\frac{2}{5}$	208	161	$131\frac{1}{5}$	112	88	$72\frac{2}{5}$	64	$54\frac{2}{5}$	48				
20	500	380	308	260	200	164	140	110	$90\frac{3}{4}$	80	68	60	50	$46\frac{2}{3}$		
24	600	456	$369\frac{3}{5}$	312	240	$196\frac{4}{5}$	168	132	$110\frac{2}{5}$	95	$81\frac{3}{5}$	72	60	56	$52\frac{1}{5}$	48
30	750	540	462	390	300	246	210	165	$136\frac{1}{8}$	120	102	90	75	70	65	60
36	900	684	$554\frac{2}{5}$	463	360	$307\frac{1}{5}$	252	198	$165\frac{3}{5}$	144	$122\frac{2}{5}$	108	90	84	$79\frac{1}{5}$	72
48	1200	912	$739\frac{1}{5}$	624	480	$393\frac{1}{5}$	336	264	$220\frac{1}{5}$	192	$163\frac{1}{5}$	144	120	112	$105\frac{3}{5}$	96
60	1500	1080	1024	780	600	492	420	330	$27[illegible]\frac{1}{4}$	240	204	180	150	140	132	120
72	1800	1368	$1108\frac{4}{5}$	936	720	$614\frac{2}{5}$	504	396	$321\frac{3}{5}$	288	$244\frac{4}{5}$	216	180	168	$158\frac{3}{5}$	144

DISTANCES IN INCHES FROM LENS TO GROUND GLASS.

Equivalent Focus of Lens. In.	3 in. high.	4 in. high.	5 in. high.	6 in. high.	8 in. high.	10 in. high.	12 in. high.	16 in. high.	20 in. high.	24 in. high.	30 in. high.	36 in. high.	48 in. high.	54 in. high.	60 in. high.	72 in. high.
3	$3\frac{1}{8}$	$3\frac{1}{6}$														
4	$4\frac{1}{6}$	$4\frac{2}{9}$	$4\frac{5}{18}$	$4\frac{1}{3}$												
5	$5\frac{5}{24}$	$5\frac{5}{18}$	$5\frac{25}{72}$	$5\frac{5}{12}$	$5\frac{5}{9}$											
6	$6\frac{1}{4}$	$6\frac{1}{3}$	$6\frac{5}{12}$	$6\frac{1}{2}$	$6\frac{2}{3}$	$7\frac{1}{9}$										
8	$8\frac{1}{3}$	$8\frac{4}{9}$	$8\frac{5}{9}$	$8\frac{2}{3}$	$8\frac{8}{9}$	$9\frac{1}{9}$	$9\frac{1}{3}$									
10	$10\frac{5}{12}$	$10\frac{5}{9}$	$10\frac{25}{36}$	$10\frac{5}{6}$	$11\frac{1}{9}$	$11\frac{7}{18}$	$11\frac{2}{3}$	$12\frac{2}{9}$								
12	$12\frac{1}{2}$	$12\frac{2}{3}$	$12\frac{5}{6}$	13	$13\frac{1}{3}$	$13\frac{2}{3}$	14	$14\frac{2}{3}$	$15\frac{1}{3}$							
16	$16\frac{2}{3}$	$16\frac{8}{9}$	$17\frac{1}{9}$	$17\frac{1}{3}$	$17\frac{7}{9}$	$18\frac{2}{9}$	$18\frac{2}{3}$	$19\frac{5}{9}$	$20\frac{4}{9}$	$21\frac{1}{3}$	$22\frac{2}{3}$	24				
20	$20\frac{5}{6}$	$21\frac{1}{9}$	$21\frac{7}{18}$	$21\frac{2}{3}$	$22\frac{2}{9}$	$22\frac{7}{9}$	$23\frac{1}{3}$	$24\frac{4}{9}$	$25\frac{5}{9}$	$26\frac{2}{3}$	$28\frac{1}{3}$	30	$33\frac{1}{3}$	35		
24	25	$25\frac{1}{3}$	$25\frac{2}{3}$	26	$26\frac{2}{3}$	$26\frac{5}{9}$	28	$29\frac{1}{3}$	$30\frac{2}{3}$	32	34	36	40	42	44	48
30	$31\frac{1}{4}$	$31\frac{2}{3}$	$32\frac{1}{12}$	$32\frac{1}{2}$	$33\frac{1}{3}$	$34\frac{1}{6}$	35	$36\frac{2}{3}$	$38\frac{1}{3}$	40	$42\frac{1}{2}$	45	50	$52\frac{1}{2}$	54	60
36	$37\frac{1}{2}$	38	$38\frac{1}{2}$	39	$39\frac{2}{3}$	40	42	44	46	48	51	54	60	63	66	72
48	50	$50\frac{2}{3}$	$51\frac{1}{3}$	52	$53\frac{1}{3}$	$54\frac{2}{3}$	56	$58\frac{2}{3}$	$61\frac{1}{3}$	64	68	72	80	84	88	96
60	$62\frac{1}{2}$	$63\frac{1}{3}$	$64\frac{1}{6}$	65	$66\frac{2}{3}$	$68\frac{1}{3}$	70	$73\frac{1}{3}$	$77\frac{2}{3}$	80	85	90	100	105	110	120
72	75	76	77	78	$79\frac{1}{3}$	80	84	88	92	96	102	108	120	126	132	144

Suppose the lens used is 24 in. equivalent focus, and you wish to make a full-length portrait of a man 6 ft. high, in which the image will be 6 in. high. Look at the left-hand column for lens focus, and in the top line for size of image. At the intersection of these columns we find 312 in. = 26 ft., to be the distance the person must stand from the lens. In the next table, using the same lens and size of image as before, at the intersection of the columns we find 26 in., which represents the distance of the ground glass from lens centre. And in the same way any lens and size of image may be computed for.

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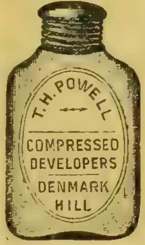

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PHOTOGRAPHIC NOTES.

BY A PHARMACIST PHOTOGRAPHER.

Keeping Qualities of Dry Plates and Films.

The question as to how long dry plates may be kept without deterioration is one which is frequently discussed, and, though it is by no means advisable to use any but plates of recent manufacture, it is as well to know that old plates need not necessarily be rejected merely because they are old. In illustration of this, the following experiences of the writer may be recorded:—A number of quarter-plates (the old Ilford Rapid, white label) were taken by a friend on a visit to South Africa in 1893, and there exposed in a hand camera. On his return they were handed to the writer to develop. On developing a few, they were found under-exposed and unsatisfactory, and, in consequence of other matters pressing, the remainder were put aside and forgotten. On turning out a lumber-room nine years afterwards these plates came again to notice; a dozen of them were then developed, and the results obtained were certainly surprising under the circumstances, the negatives being, if anything, superior to those obtained nine years previously from the then recently exposed plates. Thus the extraordinary keeping quality of the plate itself was not only proved, but, in addition, the latent image had remained for this long period unimpaired. It certainly cannot be claimed that the negatives obtained were of the best quality; some of the plates had developed a few spots, and nearly all showed iridescence near the edges, but very few were incapable of yielding passable prints; and it may also be remembered that, in addition to the nine years' interval between exposure and development, my friend was not an experienced photographer, and the long sea voyage out and home again and differing climatic influences, however beneficial to the human subject, are scarcely conducive to the healthy condition of the photographic dry plate.

Another instance of plates being kept for a long period before exposure and development occurred about the same time. A box (opened and partially used) of Thomas's lantern plates, which had been lying by for ten years, was found to be in excellent condition, and yielded lantern slides of good tone and brilliancy. The writer has also used cut celluloid films coated with emulsion of medium rapidity five years after purchase. It should, however, be remembered that plates or films coated with the slower emulsions are the least likely to suffer deterioration by long keeping; those coated with the more rapid emulsions, especially those which have been orthochromatised, cannot be depended upon for keeping quality, and should consequently be obtained in as recent a condition as possible.

The Use of Isochromatic Plates Without a Screen or Colour Filter.

We frequently see that plate manufacturers advertise that their isochromatised plates "need no screen." This statement should not be misunderstood; it does not imply more than that isochromatic plates can be used for all purposes that ordinary plates are used, and in the same manner, with the single exception that rather more care is necessary in the illumination of the dark-room. If colour-correct renderings are required, a yellow light-filter is a necessity, which serves the purpose of cutting off a proportion of the ultra-violet and blue-violet rays, which otherwise would complete the exposure before the less actinic rays have had time to act sufficiently upon the silver bromide. There is no doubt, however, that for many subjects and in certain conditions of lighting there is a superiority in a negative obtained upon an isochromatic as compared with one of the same subject upon an ordinary plate, even without a yellow filter. For instance, in studio work the glass of the studio or the blinds employed may act in the same way as the filter, by helping to keep back the excess of violet rays; hence, for this class of work the isochromatic plate has the additional advantage of needing a comparatively shorter exposure than the ordinary. Again, in landscape photography, towards evening, when the light becomes less actinic from the absence of the excess of the violet rays, the isochromatic plate, used without the screen, will be found to need less exposure, and to yield more correct results in colour value, than one coated with an ordinary emulsion.

A New Isochromatic Plate,

for studio and landscape photography, has just been put on the market by Messrs. Elliott and Son, of Barnet. This plate has been recently put to practical tests, and found of excellent quality. The extra-rapid plate issued by this firm has enjoyed for long a well-merited popularity, as, in addition to its extreme sensitiveness, it yields negatives of fine grain and of clean and brilliant quality. The new plate is of approximately the same speed, and will doubtless meet with a good reception, especially now that the advantages of isochromatic plates are becoming more recognised almost daily.

Lustra-Matt Bromide Paper

is another new production by the same firm, which the writer has had an opportunity of practically testing, and finds it to even more than justify all that is claimed for it by its makers. Its advantages are a fine lustrous matt surface, purity of whites, fulness of detail obtainable, and special adaptability to hard or soft negatives. For the trial referred to four half-plate pieces were exposed in contact with negatives which would be usually too harsh in contrast for ordinary bromide printing; the developer used was the metol-hydrokinone, prepared according to the formula given, but without bromide for the stronger negatives, and four excellent prints were obtained. The more difficult negatives were of Swiss alpine scenery, from which prints of equally good quality had only been hitherto obtained by the carbon process. The Lustra-Matt Bromide paper would appear to be especially useful for portraiture and enlarging, and a still further recommendation is the facility with which it is said to yield prints with warm tones, for which the toning method originated by Mr. Blake Smith is recommended.

Sepia Tones on Bromide Paper.

This method, as described in the *Barnet Photographic Record* for January, is briefly as follows:—A pure black and white bromide print is required, fully developed, so that it is rather darker than the finished print is required to be, and it should by preference be developed with amidol, though any clean-working developer, such as metol hydrokinone, may be used. Before toning the print should be washed perfectly free from "hypo.," any remaining traces of which may cause spots, and will certainly result in a reduction of the image. For the toning-bath, stock solutions are made as follow:—

No. 1.

Iodine	45 grains
Potassium iodide	110 grains
Water	10 fluid ounces

No. 2.

Sodium sulphite	1 ounce
Water	4 fluid ounces

No. 3.

Sodium sulphide	1½ ounces
Water	10 fluid ounces

This last should be boiled for ten minutes over a spirit lamp, wit constant stirring, then filtered.

The print is first immersed for about five minutes in the iodine solution, the object being to convert the image into silver iodide, then, without washing, is transferred to a dilute solution of sodium sulphite (one part of the stock solution to seven parts of water). In this the violet or black colour of the image will entirely disappear, the silver iodide being almost invisible on the white paper ground. After being once used the sulphite solution should be thrown away. The print is now transferred, without intermediate washing, to the following:—

Sodium sulphide solution (Stock solution as above)	1 fluid ounce
In Water	20 fluid ounces

In this the image will rapidly develop to a deep rich tone, and the print should be allowed to remain in the solution for at least one minute after the action appears to be complete. Finally, wash thoroughly for half an hour, either in running water or in frequent changes of water.

Platinum Prints,

when dry and finished, are often disappointing in appearance in that they seem to have lost some of the transparency in the deep shadows and the general brilliancy that they appeared to have while still in the washing water. This may be in great measure restored and the print improved by rub-

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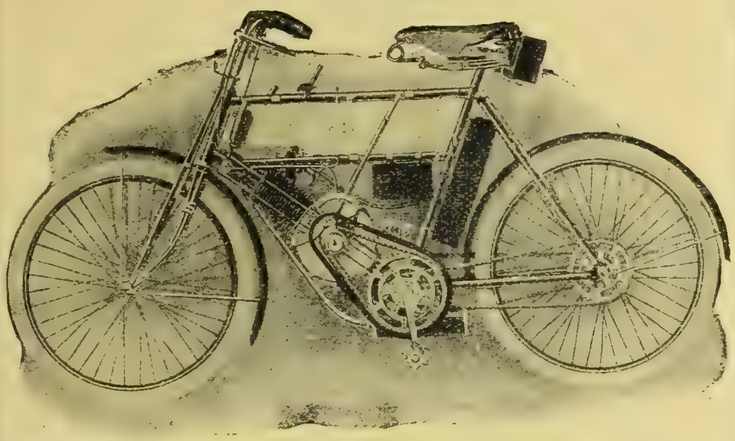

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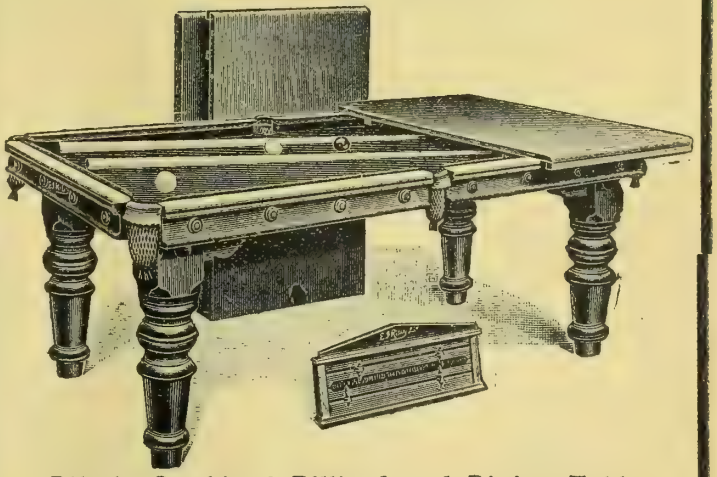

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bing the darker portions with a little encaustic paste; or a paste of about the consistency of furniture polish made by mixing hard paraffin or white wax with turpentine will probably answer equally as well.

Acetone Sulphite.

Amongst recently introduced photographic chemicals acetone sulphite (by the well-known firm of F. Bayer and Co., Elberfeld) seems likely to be of considerable utility. It appears to be especially suited to the preparation of developers for gaslight papers, as with it no bromide is necessary as a restrainer, and while with normal exposure the ordinary black tones are obtained, the warm tones are readily obtained with increased exposure by mere dilution of the developer. Acetone sulphite is also recommended as an addition to the fixing bath for this class of prints, as well as for bromides and prints upon P.O.P. Its condensed form and its property of producing a cleanly developing solution would also appear to indicate a sphere of usefulness in the preparation of cartridge developers for sale.

Plain Matt Printing Papers.

The number of sensitised papers of this class now advertised would seem to indicate a reversion to early photographic days, when previous to the introduction of the albuminised paper, plain salted papers were in general use. As previously pointed out in these notes, the preparation of such papers is a very simple matter, and may be easily practised by any pharmacist who is interested in photography. Moreover, finer tones are always obtainable with greater ease on such papers when freshly sensitised. The writer has now before him a print prepared by himself upon plain Rives paper which has been framed and exposed to light for upwards of ten years without sign of deterioration, and still possesses the tone and vigour of a platinum print, though toned in an ordinary gold-toning bath. A series of such papers was noticed in these columns some time since under the name of "Mattos," and more recent introductions are the "Luna" papers (Messrs. A. Vielle and Co., Lausanne; agents, Messrs. Allegre and Co., 59a, New Oxford Street, W.). These latter are supplied in papers of various textures, and yield good results with the acid potassium chloroplatinite toning bath.

Drying Dry Plates.

In a short article under the above heading by Mr. F. M. Sutcliffe, in a recent issue of the *Amateur Photographer*, the writer confirms the result of some experiments by Mr. Howard Farmer. These experiments show that "pluckier" negatives can be obtained upon gelatin dry plates which have been dried by heat, and exposed in a dry and heated state, than upon the same plates exposed in their normal condition. Probably a similar effect may be obtained by enclosing the plates in an air-tight box with calcium chloride for a short time before exposure.

Deterioration of Sodium Sulphite.

The *Amateur Photographer*, in a short note on this subject, states that sodium sulphite in the anhydrous form has little tendency to oxidation, even when freely exposed to warm dry air, but that damp air affects it more. Sodium sulphite oxidises rapidly in dilute solution, but much more slowly in strong solution; the moral, therefore, is that, if the sulphite is kept in solution, it should be as near saturation as possible.

New Gaslight and Bromide Papers

have been introduced recently by Messrs. Wellington and Ward under the name of "Porcelaine" Matt S.C.P., or slow contact paper. From a sample of this paper received we find it to be coated with an emulsion of excellent quality upon a paper of fine eggshell matt surface, yielding prints with brilliantly clean whites. The paper appears to be rather more sensitive than the other kinds of S.C.P. previously used, and to take a little longer time in development. The developer employed was "Maloite" (Messrs. Waller, Malvine and Co.), which we find excellent for use with this class of paper. Messrs. Wellington and Ward have for some time past supplied a "Whatman" bromide paper, upon which fine broad effects in large prints could be obtained. The only objection to this paper has been its comparatively high price. We note in the latest list of papers produced by this firm that the "Whatman" bromide paper no longer appears, but an extra rough bromide paper takes its place, the price of which is uniform with that of the others.

Platinotype Printing.

At a recent meeting of the Royal Photographic Society, Mr. G. Lamley presiding, Mr. E. T. Holding gave a lecture, with practical demonstration, on platinotype printing. The platinotype process, he said, had four great advantages, viz.:—(1) Quick printing—generally more than double as quick as in the case of P.O.P.; (2) ease of manipulation—under certain conditions very difficult to go wrong; (3) permanence of print—platinum, a metal which could be attacked by scarcely any known reagent; (4) beauty of the tones obtained—blacks, browns, sepia, reds, blues, greens, etc. The formula recommended for developing black tones was as follows:—

Potassium oxalate	2 ounces
Potassium phosphate	½ ounce
Water	14 ounces

The old developing solution might be kept, and used over and over again; in fact, he had found that old developer, replenished with a little new from time to time, worked more satisfactorily than solution freshly made up.

A good formula for the clearing-bath was as under:—

Hydrochloric acid	1 ounce
Water	60 ounces

After the clearing, a pinch of washing soda might be added to the water used for washing, to neutralise any acid that might be left in the paper.

Toning Platinotype Prints.

With regard to toning platinotype prints, Mr. Holding referred to the pleasant tones which might be produced with catechin. It had been stated that "the metallic deposit on a platinotype print has a singular affinity for the organic substance known as 'catechin.'" Nevertheless, the effect of the catechin was not to intensify, but rather to soften the print. Uranium toning had the effect of intensifying, so that very weak prints might often be greatly improved by this toning. With care a large range of colours might be obtained by uranium toning, from sepia to chalk-red, also greens and blues. A good uranium toning-bath might be made up according to the following formula:—

A. Uranium nitrate	10 grains
Glacial acetic acid	1 drachm
Water	5 ounces
B. Ferricyanide of potassium	10 grains
Glacial acetic acid	1 drachm
Water	5 ounces

Mix separately, and, when combined, add sodium sulphite, about the size of a pea.

To obtain the blue or green tones, the same formula was used, but after development in the oxalate bath the print required to be immersed in the clearing-bath for a few seconds—about ten seconds for blue tones—and then transferred to the toning-bath. When toned rather darker than desired in the finished picture, the print was cleared in weak acid, as under:—

Hydrochloric acid	½ ounce
Water	120 ounces

and afterwards washed in two or three changes of water. The shorter the time the print remained in the first clearing-bath the bluer would be the result; the longer the time the greener or browner the result. To turn the brown prints blue, all that was necessary was to immerse them in a solution of—

Sulphite of iron	½ ounce
Water	20 ounces

and then wash.

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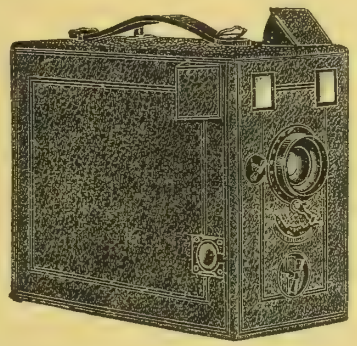

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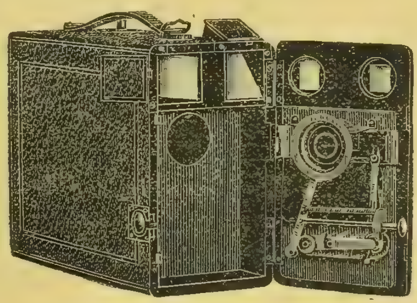

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FOR SOME TIME PAST persons engaged in the photographic trade have felt that there was occasion for manufacturers and distributors of British-made photographic goods to awake and make an effort to combat the invasion of the English market by articles of foreign manufacture. That feeling has now culminated in the amalgamation of several well-known photographic firms which in future will trade as "Houghtons, Limited." The firms in question are Messrs. Geo. Houghton and Son, Limited, of High Holborn; Messrs. Joseph Levi and Co., of Hatton Garden; Messrs. Spratt Brothers, of Hackney; Messrs. Holmes Brothers, of Islington; and Mr. A. C. Jackson, of Stoke Newington (see page xxiii.). This combination of manufacturing and distributing interests will place the new company in the position of being the largest manufacturers of photographic cameras and apparatus, as well as the largest distributors of photographic goods generally, in Great Britain. Referring to the new departure, Mr. Charles Houghton remarked to a representative of the *Pharmaceutical Journal:* "Our object is to place ourselves in a better position to supply the requirements of customers. We shall have between six and seven hundred employees, and we hope to be able to meet the constantly increasing demand for British-made cameras and apparatus. In the height of the season customers have in the past complained about the delay in obtaining goods ordered. We wish to avoid that as much as possible; but when you take into consideration the fact that we supply not only goods of our own manufacture, but also those of some seven hundred other makers, you will understand that delays are occasionally unavoidable. However, we are hoping that this amalgamation will tend to the mutual advantage of our customers and ourselves, and we shall undoubtedly be in a position to supply the chemists of the United Kingdom with all the photographic material they require." Mr. Houghton then introduced the Journal representative to Mr. V. H. C. Baskin, L.P.S.I., who has charge of the export department of Messrs. Houghton and Son's business, and together they made a tour round the various departments. At this time of the year the large show-rooms and warehouses running behind Nos. 88 and 89, High Holborn, are literally packed full with photographic apparatus and sundries. All available space is utilised, and one might reasonaby be excused for thinking that the large quantities of the thousand and one camera accessories there stored would supply the requirements of the photographers of the world. But Mr. Baskin explained that in a few weeks the bulk of the present stock would be cleared out and replaced by new goods. Each class of goods is stored in separate departments, and the arrangements for quick dispatch of orders are excellent. There is a special parcels post department, and in the basement the general packing and dispatching by Carter, Paterson is done. In the basement also is the chemical department, in charge of an assistant trained at a well-known wholesale druggist's in the City. All poisonous chemicals are kept under lock and key, while dangerous acids are stored in recesses guarded by bars, and above each recess the word "Caution" in large letters is exhibited. As practically no manufacturing is done at the Holborn premises the Journal representative travelled to Hackney, where Messrs. Spratt Brothers have for years made many of the cameras, as well as tripods, enlarging apparatus, etc., introduced by Messrs. Houghton and Son and Messrs. J. Levi and Co., which are so well known that they need not be enumerated. Messrs. Holmes Brothers, late of Park Street, Islington, who have hitherto made the "Sanderson" cameras, have also removed to Messrs. Spratt Brothers, so that now the manufacturing is all carried on in one factory. Here Messrs. Spratt Brothers have gradually built up a trade which now finds employment for about four hundred persons. The Tudor Works, situated near the Triangle, Mare Street, Hackney, do not look very imposing from the roadway, but on passing through the offices the visitor finds himself in a little world of industry. Practically everything used in the construction of a camera is made upon the premises—even the tools for stamping out the metal parts, as well as certain special machinery which cannot be obtained in the ordinary way. Three powerful engines and numerous electric dynamos supply the driving force for a very large number of machines of various kinds. Space will not permit of a detailed description of all the processes through which the wood, metal, leather, and glass comprising a high-class camera pass before it is ready for picture-making. But it is sufficient to say that, under the guidance of one of the three brothers the Journal representative traced the progress of a camera from the rough, raw material to the finished article. And not cameras only saw he in course of manufacture, but also Government surveying instruments, telescope stands, and other scientific instruments. The works at present occupy a large extent of ground, but Messrs. Spratt Brothers have secured still more space for extension, and it is not at all unlikely that as the result of the recent amalgamation the whole of the space available will in due course be utilised for the erection of additional factories. On re-entering the offices our representative had an interesting conversation with the three brothers, who are full of confidence in the wisdom which has prompted the combination of interests. Mr. M. L. Isaacs, vice-chairman of the new company, interviewed by a *P.J.* representative, also expressed his belief in the future of the British-made camera and photographic appliances. He pointed out that his firm, Messrs. Joseph Levi and Co., were among the first to produce English-made cameras at sufficiently low prices to compete with the cheap foreign-made articles with which the market was flooded two or three years ago. The "Mascot," the "Ralley," and the "Klito," introduced by his firm, were all London-made cameras, and their superiority over the Continental articles was quickly recognised by the trade. The premises at 97, Hatton Garden, like the warehouses at High Holborn, are at present packed with photographic goods of all descriptions, but in addition Messrs. Levi and Co. also carry a large stock of optical goods, including clinical thermometers, barometers, microscopes, telescopes, marine, field and opera glasses, spectacles and eye-glasses, nautical and surveying instruments, electrical apparatus, etc. There can be no doubt that "Houghtons, Limited," will in future represent a powerful British amalgamation which should be able to meet any competition that may arise in the photographic trade from the pushfulness of the ubiquitous foreigner.

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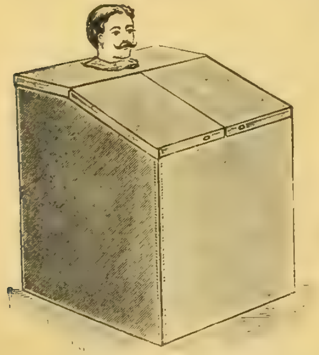

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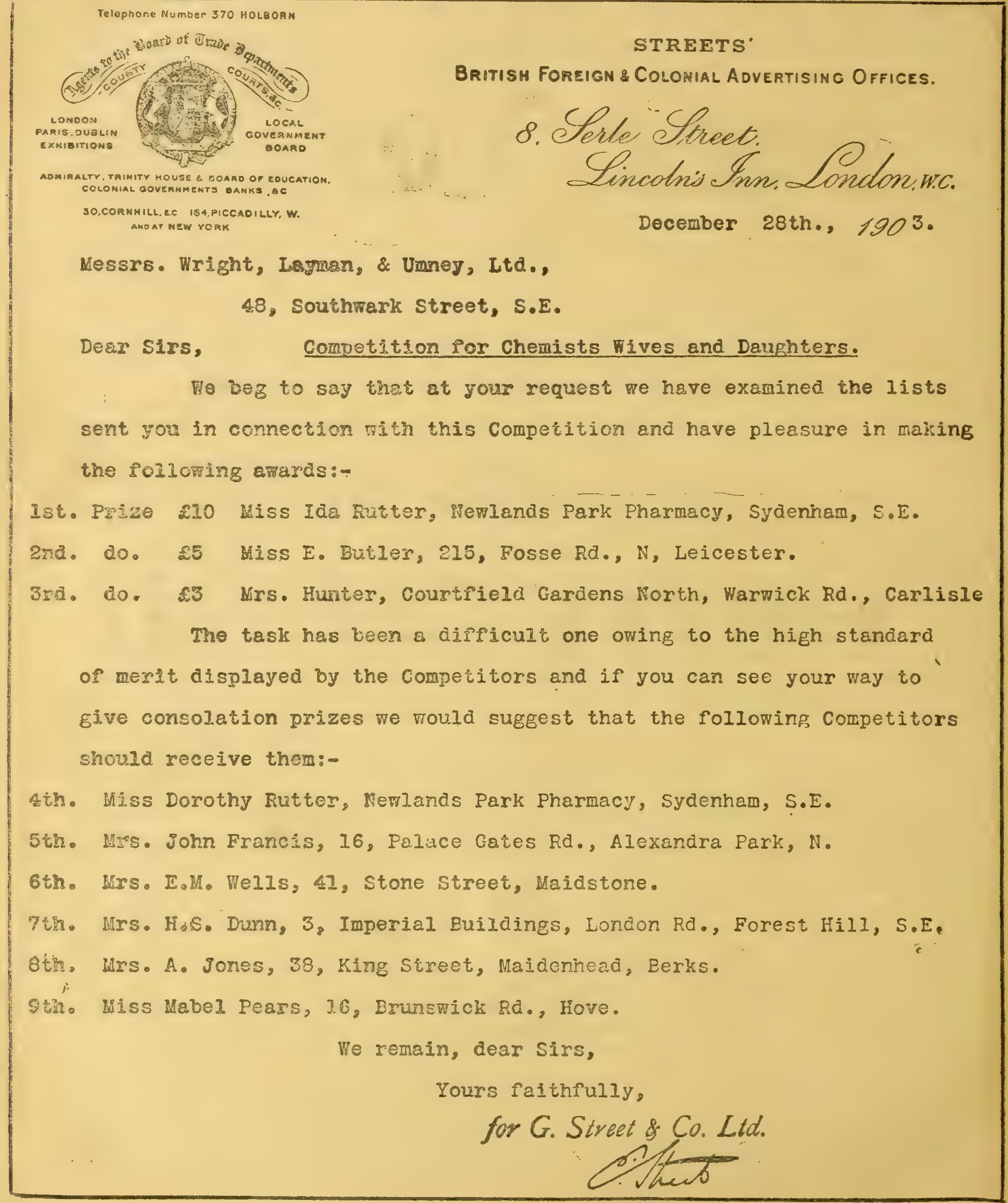

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3rd. do. £3 Mrs. Hunter, Courtfield Gardens North, Warwick Rd., Carlisle

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5th. Mrs. John Francis, 16, Palace Gates Rd., Alexandra Park, N.
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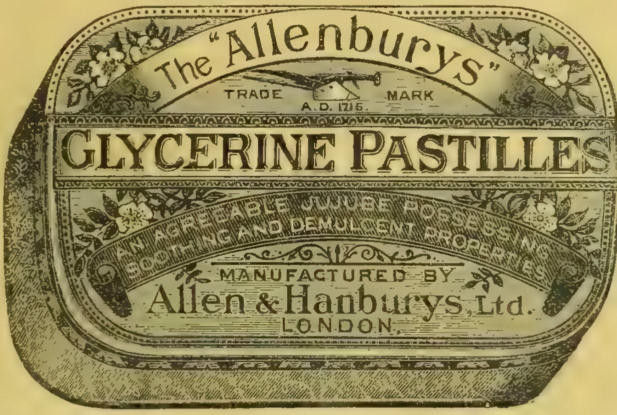

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